

UPSS Decommissioning & Validation Report

The Abel Tasman Village Association
c/- Centurion Project Management Pty Ltd

140 Campbell Hill Road, Chester Hill NSW

Project No. 22137

Version 3

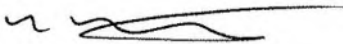
31 October 2023

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UPSS Decommissioning & Validation Report

140 Campbell Hill Road, Chester Hill NSW 2162

DOCUMENT CONTROL

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This report has been prepared for The Abel Tasman Village Association c/- Centurion Project Management in accordance with the terms and conditions of appointment for proposal P22137_v3 dated 28 April 2023.

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Abbreviations

TERM	DEFINITION
° C	Degrees Celsius
ACM	Asbestos Containing Material
AEC	Area of Environmental Concern
AHD	Australian Height Datum
ASC	Assessment of Site Contamination
BGL	Below Ground Level
BTEX	Benzene Toluene Ethylbenzene Xylene
BTOC	Below Top of Casing
CEC	Cation Exchange Capacity
COC	Chain of Custody
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DO	Dissolved Oxygen
DQO	Data Quality Objective
EIL	Ecological Investigation Level
EPA	Environment Protection Authority
ESL	Ecological Screening Level
HIL	Health Investigation Level
HSL	Health Screening Level
LGA	Local Government Area
LOR	Limit-Of-Reporting
ML	Management Limits
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure (2013)
NSW	New South Wales
PAH	Polycyclic Aromatic Hydrocarbons
OCP	Organochloride Pesticides
OPP	Organophosphorus Pesticides
PACM	Potentially Asbestos Containing Material
PCB	Polychlorinated Biphenyls
PID	Photoionisation Detector

TERM	DEFINITION
PPM	Parts Per Million
PQL	Practical Quantification Limit
QA/QC	Quality Assurance / Quality Control
RAP	Remedial Action Plan
RPD	Relative Percentage Difference
SAC	Soil Assessment Criteria
SD	Standard Deviation
SWL	Standing Water Level
TOC	Top-of-Casing
TPH	Total Petroleum hydrocarbons
TRH	Total Recoverable Hydrocarbons
UPSS	Underground Petroleum Storage Systems
USCS	Unified Soil Classification System
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

Executive Summary

Reditus Consulting Pty Ltd (Reditus) was engaged by The Abel Tasman Village Association care of Centurion Project Management (CPM) ('the client') to validate the removal and decommissioning of underground petroleum storage system (UPSS) infrastructure and subsequent soil validation of the resultant excavations at the former service station, located at 140 Campbell Hill Road, Chester Hill NSW (herein referred to as 'the site').

The site is identified as Lots 6 & 7 DP30305. The site location is provided in **Figure 1, Appendix A**.

UPSS infrastructure removed from the site included six underground storage tanks (USTs), product delivery lines, two fuel dispensers, a triple interceptor trap (TIT), and hoist area. It is noted that at the commencement of the validation works by Reditus, all six (6) USTs had already been removed from the site by the Principal Contractor RMA Group.

It is understood prior to redevelopment works commencing at the site, decommissioning and removal of the UPSS infrastructure is required. Further to this the UPSS Decommissioning and Validation Report (this document) will be reviewed and endorsed by the appointed NSW EPA Accredited Site Auditor, Mr James Davis of Enviroview Pty Ltd

The overarching objective of the remediation works was to decommission redundant UPSS via exhumation, excavation, and offsite disposal to a licenced facility, and provide details of the soil validation assessment process following exhumation of the UPSS to determine the contamination status of remaining in-situ site soils and inform the need for further remediation, if necessary.

Based on the UPSS decommissioning works completed and the site validation results, the following key findings were reported:

- A total volume of approximately 21,152 litres (L) of liquid waste was disposed of off-site during the UPSS decommissioning and validation works. Which included:
 - 14.2 tonnes of J120 (waste oily water).
 - 6,000 litres of G110 (Residual petrol and diesel waste).
 - 952 kg of G150 (Residual solvent waste).
- Prior to destruction and/or transportation the USTs were confirmed to be 'gas free' by the Principal Contractor RMA Group. Tank 1 and Tank 2 were destroyed on-site, while Tanks 3, 4, 5 and 6 were transported to Sims Metal where they were confirmed to be destroyed for metal reclamation only.
- Final soil validation samples collected from the walls and base of the resultant tank pit excavation, product delivery lines, dispenser locations, TIT excavation, and former hoist area reported concentrations of contaminants of potential concern (COPC) below the adopted soil validation criteria.
- Where potential exceedances were identified in the field (field screening with photoionisation detector (PID)) or reported in the initial laboratory results, additional excavation and validation works were undertaken until elevated COPC concentrations were confirmed to be removed from in-situ soil at the site.
- Five soil stockpiles were generated during the UPSS validation works and chase out of hydrocarbon impacted soils at the site, which were managed as follows:
 - Stockpiles SP01, SP02, and SP05 were deemed chemically suitable for reuse onsite and the stockpiled soils were used to backfill the large open tank pit excavation.
 - Stockpile SP03 was disposed of off-site as general solid waste (GSW) in accordance with Reditus' Waste Classification Report.
 - Approximately two thirds of stockpile SP04 was disposed of off-site as general solid waste (GSW) in accordance with Reditus' Waste Classification Report. The remaining portion of the stockpile was deemed chemically suitable for reuse onsite.
- A total volume of 18.5 m³ was disposed off-site as GSW in accordance with Reditus Waste Classification Reports.
- Previously reported groundwater monitoring results (Reditus 2022 Detailed Site Investigation) indicated that the UPSS and former service station operations had not resulted in unacceptable impact to groundwater at the site.

Based on the findings and results of the UPSS decommissioning and soil validation works undertaken, Reditus can confirm that the UPSS and redundant infrastructure at the site has been successfully decommissioned, destroyed, and removed from the site.

The resultant excavations have also been successfully validated such that no further assessment or remediation is required to render the site suitable for Residential B (high-density) land use.

1 Introduction & Background

Reditus Consulting Pty Ltd (Reditus) was engaged by The Abel Tasman Village Association care of Centurion Project Management (CPM) ('the client') to validate the removal and decommissioning of underground petroleum storage system (UPSS) infrastructure and subsequent soil validation of the resultant excavations at the former service station, located at 140 Campbell Hill Road, Chester Hill NSW (herein referred to as 'the site').

The site is identified as Lots 6 & 7 DP30305. The site location is provided in **Figure 1, Appendix A**.

UPSS infrastructure removed from the site included six underground storage tanks (USTs), product delivery lines, two fuel dispensers, a triple interceptor trap (TIT), and hoist area. It is noted that at the commencement of the validation works by Reditus all six (6) USTs had already been removed from the site by the Principal Contractor RMA Group. It is understood prior to development works commencing at the site, decommissioning and removal of the UPSS infrastructure is required. Further to this the UPSS Decommissioning and Validation Report (this document) will be reviewed and endorsed by the appointed NSW EPA Accredited Site Auditor, Mr James Davis of Enviroview Pty Ltd.

The proposed 'development site' includes the adjoining properties of 222 Waldron Road & 138 Campbell Hill Road. The proposed development is understood to include the construction of three high-density residential aged care facility apartment buildings with a one-level basement beneath and between the buildings. The proposed development plans (4 September 2023 issue) are provided as **Appendix B**.

The proposed development at the subject site itself is to include a one-level basement carpark and access ramp which will encompass the entirety of the site, with a high-density residential aged care facility proposed from ground level.

1.1 Objectives

The overarching objective of the remediation works was to decommission redundant UPSS via exhumation, excavation, and offsite disposal to a licenced facility, and provide details of the soil validation assessment process following exhumation of the UPSS to determine the contamination status of remaining in-situ site soils and inform the need for further remediation, if necessary.

1.2 Scope of Works

The following works were undertaken by Reditus:

- Collection of soil validation samples from the resultant UPSS excavations as guided by Section 6.3 of NSW EPA (2020) *Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019* and Section 3.2 of NSW EPA (2023) *Contamination assessment of service station sites, minimum sampling requirements*.
- Supervision of chase out of hydrocarbon impacted soils and sampling of additional excavation extents.
- Submission of soil samples to NATA Accredited laboratory for analysis of the following contaminants of potential concern (COPC):
 - Total Recoverable Hydrocarbons (TRH).
 - Benzene, Toluene, Ethylbenzene, Xylene (BTEX).
 - Polycyclic Aromatic Hydrocarbons (PAHs).
 - Heavy metals (including arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni) and zinc (Zn).
 - Volatile Organic Compounds (VOCs) (limited samples).
 - Phenols (limited samples).
- Duplicate and triplicate samples were collected at a frequency of 1:20 and analysed for the above analytes for quality assurance / quality control (QA/QC) purposes.

- Comparison of all soil validation results against the NEPC (2013) NEPM Residential B (high-density) land use guidelines for site suitability assessment and reuse.
- Samples were collected from stockpiled material at a rate of one sample per 25m³ with a minimum of three (3) samples per stockpile to assess suitability to re-use material under Residential B (high-density) land use or if unsuitable, assessed for waste classification purposes.
- Preparation of a UPSS Decommissioning and Validation Report (this document) in general accordance with the following NSW EPA endorsed guidelines and technical documents:
 - NSW EPA (2020) Guidelines for implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019.
 - NSW DECCW (2010) UPSS Technical Note: Site Validation Reporting.
 - NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM).
 - NSW EPA (2020) Consultants Reporting on Contaminated Land.
 - NSW EPA Guidelines for the NSW Site Auditor Scheme (3rd Edition), 2017.
 - Australian Standard AS4482.1-2005. Guide to the Investigation and Sampling of sites with Potentially Contaminated Soil. Part 1: Non-volatile and Semi-volatile Compounds, 2005.
 - Australian Standard AS4482.2-1999. Guide to the Investigation and Sampling of sites with Potentially Contaminated Soil. Part 2: Volatile Substances, 1999.

The report provides a statement on whether the site is considered suitable from a contamination perspective for the proposed redevelopment which includes a Residential B (high-density) land use.

2 Site Characteristic & Description

The site identification details have been prepared in general accordance with the NSW EPA (2020) Consultants Reporting on Contaminated Land and the ASC NEPM (2013) Field Checklist for 'site Information'. The site identification information is summarised in **Table 1** below.

Table 1. Site Identification

ITEM	DETAIL
Address	140 Campbell Hill Road, Chester Hill NSW 2162
Title and Land Information of UPSS Area	Lots 6 & 7 DP30305
Site Area	Approximately 1,630 m ²
Local Government Area	Canterbury-Bankstown Council
Zoning	B2 Local Centre
Current Land Use	Disused service station
Future Land Use	Proposed high density aged care facility development
Trigger for Assessment	Removal and validation of UPSS infrastructure in accordance with specified legislation
Surrounding Land Uses	The land uses currently surrounding the site include: • North: Low density residential buildings. • South: Waldron Road followed by residential apartments • West: ATV Property. • East: Town centre / commercial premises and low density residential.
Site Location	Figure 1, Appendix A
Site Layout	Figure 2, Appendix A

2.1 Site Description

At the commencement of the validation works on 20 July 2023 by Reditus, the site was described as follows:

- The site is situated in a mixed-use area of Chester Hill, NSW.
- The site featured a significant topographical dip to the south.
- The site was occupied by RMA Group (Principal Contractor) who were in the process of decommissioning UPSS infrastructure following the demolition of the previous site structures.
- The site was covered by handstand except for areas where USTs and associated UPSS infrastructure were historically present.

- The majority of the UPSS infrastructure had already been decommissioned and removed from the site at the commencement of the validation works by Reditus.

The layout of the site is presented in **Figure 2, Appendix A** and photographs taken during the course of the validation works at the site are provided as **Appendix B**.

2.2 Site Setting and Surrounding Environment

A summary of the site setting surrounding environment obtained from publicly available sources and the Remedial Action Plan¹ completed by Reditus is provided in **Table 2** below.

Table 2. Site Setting and Surrounding Environment Summary

ITEM	DETAIL
Topography	Approximately 31 m (southwest corner) to 38 m (northeast corner) above Australian Height Datum. The site slope falls approximately 10m from north-east top south-west corner.
Hydrology	The nearest surface water body is a small creek approximately 500 m southwest of the site which acts as a tributary of Prospect Creek which drains to the Georges River. The drainage channel exists in a manmade culvert and appears to be used for regional stormwater collections and drainage.
Regional geology and soils	The Soil Landscapes of the Penrith 1:100,000 Sheet 9030 indicates that the site is underlain by the Blacktown soil landscape comprising gently undulating rises on Wianamatta Group Shales (Bringelly Shale). Local relief to 30 m with slopes usually >5 %. Soils are shallow to moderately deep (>100 cm) hardsetting mottled texture contrast soils with red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and in drainage lines. The Penrith 1:100,000 Sheet 9030 indicates that the site is generally underlain by the Bringelly Shale of the Wianamatta Group including shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal, and tuff. The previous investigation by ES (2016) identified sand and sandy clay fill to 0.4m underlain by natural and reworked natural clays overlying weathered silty claystone and clayey siltstone.
Acid Sulfate Soils (ASS)	The Liverpool Acid Sulfate Soil Risk Map – Edition Two indicates the site is situated within an area of “No known occurrence of acid sulfate soil materials”.
Registered Groundwater Bore Search	A search of registered groundwater bores undertaken by GHD (2018) identified three registered bores (monitoring purposes to Energy Australia Ausgrid) within 500 m of the site, situated between 470 m and 500 m west of the site. The maximum drilling depth of the registered bores was 8.46 mbgl.
Regional Hydrogeology	A review of Hydrogeology map of Australia (Geoscience Australia) indicates that site aquifers are porous aquifers of low to moderate yield.
Inferred Groundwater Flow Direction	Based upon regional topography it is anticipated that groundwater would flow to the southwest of the site, conforming with site topography.
Depth to Water Table	A gauging round undertaken by Reditus on 17 May 2022 recorded groundwater standing levels between 1.145 (MW1) and 1.345 (MW3) metres below top of casing (mbTOC). It is noted that all four wells on the former service station site are screened between 3.8 and 7.5 mbgl.

¹ Reditus Consulting (May 2023) Remedial Action Plan, Abel Tasman Village, 138 & 140 Campbell Hill Road, Chester Hill NSW

ITEM	DETAIL
Yield and Inferred Groundwater Quality	All registered bores within 2 km radius of the site did not report any yield or groundwater quality data, however the Hydrogeology map of Australia (Geoscience Australia) indicates of low to moderate yield.
Groundwater Dependant Ecosystems (GDEs)	Registered bores used for irrigation purposes were not reported within a 2 km radius of the site. No groundwater dependent ecosystems have been identified at or within proximity to the site.
Groundwater Embargoes	No groundwater embargoes apply to the site.
Sensitive Environments	The nearest sensitive environments are summarised as follows: • The Abel Tasman Retirement Village itself (onsite). • Local stormwater network. • Low-density residential dwellings in the immediate surrounding area. • Childcare Centre located 130 m to the south-west. • Sports fields and oval immediately west of the site.

3 Contamination Status & Previous Investigations

Reditus are aware of the following previous contamination investigations pertaining to site, which are summarised in **Table 3** below. They are as follows:

- Environmental Strategies (March 2014) Due Diligence Phase 1 and 2 Environmental Site Assessment, 138-140 Campbell Hill Road, Chester Hill, NSW.
- Environmental Strategies (August 2016) Remediation Action Plan (RAP), 138-140 Campbell Hill Road, Chester Hill, NSW.
- Reditus Consulting Pty Ltd (2022) Detailed Site Investigation, Abel Tasman Village, 222 Waldron Road, 138 & 140 Campbell Hill Road, Chester Hill NSW.
- Reditus Consulting Pty Ltd (Reditus) (2023) Remedial Action Plan, Abel Tasman Village, 138 & 140 Campbell Hill Road, Chester Hill NSW.

Table 3. Summary of Previous Investigations

ITEM	DETAIL
ES (2014) Due Diligence Phase 1 & 2 Environmental Site Assessment	
Document Information	Due Diligence Phase 1 & 2 Environmental Site Investigation Ref: 13126RP01_Rev1
Prepared by	Prepared by: Environmental Strategies (ES) Prepared for: Estate of the Late G J McHale
Purpose	To identify any issues, concerns, and environmental risks associated with the present and historical uses of the site.
Findings and Recommendations	• The investigation included the advancement of ten (10) boreholes to 0.5 m below natural material with three being converted to groundwater monitoring wells which were advanced to a maximum depth of 10 metres. • These wells were positioned downgradient to the in-situ underground storage tanks (USTs) so a baseline of groundwater conditions could be obtained. • The subsurface geology observed across the site was as follows: – Hardstand was present across the site to a depth of 0.15 m, except in the area of the vacant lot (Lot 7 DP 30305), and the area west of the building in Lot 6 DP 30305. – Fill was observed to be present below the hardstand to a depth of between 0.2 to 0.4m across the site. – Reworked natural material below the fill layer was generally a blueish grey to orange silty clay, above brown to greyish-brown silty clays. Weathered silty claystone to clayey siltstone was present at depths below approximately 6.0-7.0m with solid flight auger refusal occurring at 6.8-7.5m. • The highest PID measurement (maximum 953.3ppm) was inferred be due to a leaky fuel line that was removed 15 years prior to the assessment. • The standing water level (SWL) measured in monitoring wells MW1, MW2 and MW3 ranged between 1.195-1.45 m bgl after purging. • The concentrations of contaminants of concern in soil were reported to be below the adopted Soil Assessment Criteria (SAC) in all samples.

- The concentrations of contaminants of concern in groundwater were reported to be below the adopted Groundwater Assessment Criteria (GAC) in all samples, except for lead, which was above the adopted criteria (3.4 mg/L) in MW1 (16 mg/L) and MW3 (6 mg/L). ES considered that these levels were reflective of background conditions and were not likely to pose a risk to site users or ecological receptors.
- No asbestos was detected at the reporting limit of 0.1g/kg and no respirable fibres were detected in the soil samples submitted for analysis.

ES (2016) Remediation Action Plan

Document Information	Remediation Action Plan Ref: 16166 RAP (Rev1)
Prepared by	Prepared by: Environmental Strategies Prepared for: Abel Tasman Village Association Pty Ltd
Purpose	To provide a detailed plan of activities, procedures, and objectives to ensure the effective and controlled remediation of the site.
Findings and Recommendations	• Excavation and off-site disposal of fuel infrastructure to a licensed destruction facility including: – 4 x USTs, 1 x above ground storage tank (AST) and associated infrastructure (i.e., fuel dispensers (6), lines, fill points, vent lines). • Identification and excavation of contaminated backfill sands/surrounding soils. • Validation of the walls and base of the excavated areas with prescribed sampling frequencies for each UST, AST, and workshop area. • Soils identified as contaminated are to be classed under the NSW EPA (2014) Waste Classification Guidelines. • Validation of groundwater from the installed downgradient wells.

Reditus (2022) Detailed Site Investigation ²

Document Information	Detailed Site Investigation Ref: 222065RP01
Prepared by	Prepared by: Reditus Consulting Pty Ltd Prepared for: Asset Geotechnical Engineering Pty Ltd
Purpose	To evaluate the possibility for contamination to be present at 222 Waldron Road (existing Abel Tasman Village aged care facility), and to determine whether the adjacent service station posed a risk to current and future users, inclusive in the redevelopment of the Abel Tasman Village (ATV) complex.
Findings and Recommendations	• An assessment of soils via hand auger at a total of 21 locations; and • An assessment groundwater, including one newly installed well and three existing wells within the adjacent former service station property.

² It is noted while the Reditus 2022 DSI report was primarily for the adjacent property of 222 Waldron Rd, the investigation included a data gap assessment of the former service station site (140 Campbell Hill Rd) to assess potential groundwater contamination risk, so has therefore been included for completeness.

- Based on a review of the site history and previous contamination investigations, observations made during fieldwork, results of laboratory analysis and in the context of the proposed development, Reditus concluded the following:
 - All concentrations of contaminants of potential concern (COPCs) in soil samples were reported below the adopted soil assessment criteria.
 - All concentrations of contaminants in groundwater samples were reported below the adopted groundwater assessment criteria except for copper, reported marginally above the ANZG 2018 ecological criteria. However, due to the marginality of the exceedance and the reported concentration being within an order of magnitude of concentrations typically found within the urban environment (ambient urban conditions), the reported exceedance not considered to warrant further assessment of groundwater at the site. The reported concentration is not considered to pose a risk to the proposed redevelopment at the site.
 - Concentrations of BTEX, TRH/TPH, PAH and VOCs in groundwater were all reported below the laboratory limit of reporting (LOR).
 - The results of the groundwater investigation indicated that the potential source of hydrocarbon contamination in groundwater did not impact groundwater quality to an extent that would preclude the proposed land use, as a result of the former service station and UPSS infrastructure at 140 Campbell Hill Road.
- Reditus considered the site can be made suitable for its proposed land use. The site however does require remedial works prior to redevelopment. Such works primarily relate to removal of UPSS infrastructure at the former service station, therefore it was recommended that:
 - An updated an updated Remedial Action Plan (RAP) be prepared, incorporating the measures outlined by the existing RAP prepared by Environmental Strategies (2016) statutory requirements taken effect since 2016. The Updated RAP will address the removal of UPSS infrastructure in accordance with NSW EPA and SafeWork NSW requirements and include an unexpected finds protocol detailing the methods and procedures to be followed during construction if suspected contamination is encountered.
 - A pre-demolition Hazardous Materials Survey should be completed by a suitably qualified and experienced consultant prior to any demolition works, to identify hazardous materials that may be present within existing structures onsite.
 - Completion of a waste classification assessment in accordance with NSW EPA (2014) Waste Classification Guidelines for any soils to be disposed offsite is to be obtained from a suitably qualified environmental consultant prior to the disposal of the soil materials

Reditus (2023) Remedial Action Plan

Document	Remedial Action Plan
Information	Ref: 22065RP02
Prepared by	Prepared by: Reditus Consulting Pty Ltd Prepared for: Abel Tasman Village Association Limited
Purpose	To document activities, procedures, control measures, contingencies, and validation requirements to facilitate effective remediation of the site for the proposed aged care facility development in accordance with State Environment Protection Policy (Resilience and Hazards) 2021.

**Findings and
Recommendations**

- The areas that have been identified as requiring remediation/management are restricted to the UPSS infrastructure still present at the site, which include:
 - 1 x 70KL UST (unleaded petrol – ULP).
 - 2 x 20KL UST (Premium Unleaded Petrol – PULP and Super).
 - 1 x 30KL UST (automotive diesel oil – ADO).
 - Dispenser pads, vent, and product lines
 - The preferred remediation strategy is provided as follows:
 - Demolition and hazardous materials clearance of onsite structures.
 - UPSS exhumation and excavation of all suspected contaminated material (tank pit backfill sands) to the extent practicable from areas where contaminants have been identified to potentially pose an unacceptable risk to human health.
 - Validation of the resulting excavations through the collection of soil validation samples, visual olfactory, and PID observations.
 - Stockpiling of the excavated soils, creating a separate stockpile for each different source zone, classification of the waste in accordance with the NSW EPA 2014 Waste Classification Guidelines and lawful disposal to an offsite waste facility licenced to accept the waste.
 - Validation of any imported soil materials used for backfilling and general site filling works.
 - Supervision of all remediation and validation works by a suitably experienced environmental professional and compile report/s required to document the site remediation.
 - Appropriate contingencies and controls have been made to accommodate data gaps and unexpected finds during the remediation phase. Validation will be subject to successful implementation of the remediation strategy.
 - The RAP includes suitable design and strategy for off-site disposal of contamination to reduce the risk of exposure to future site users. The proposed remediation is considered appropriate to render the site suitable for the proposed development as an aged care facility, inclusive of basement level parking.
-

4 Data Quality Objectives

The Data Quality Objective (DQO) process is a systematic planning tool based on the scientific method for establishing criteria for data quality and for developing data collection designs. The DQO defines the experimental process required to test a hypothesis. The DQO process has been developed to ensure that efforts relating to data collection are cost effective, by eliminating unnecessary, duplicative or overly precise data whilst at the same time, ensuring the data collected is of sufficient quality and quantity to support defensible decision making.

It is recognised that the most efficient way to accomplish these goals is to establish criteria for defensible decision making before data collection begins and develop a data collection design based on these criteria. By using the DQO process to plan the investigation effort, the relevant parties can improve the effectiveness, efficiency and defensibility of a decision in a resource and cost-effective manner.

The DQO process consists of seven steps, which are designed to clarify the study objectives, define the appropriate type of data and specify tolerable levels of potential decision errors. The seven-step DQO process adopted for this UPSS Decommissioning & Validation can be summarised as:

- **Step 1: State the Problem** – concisely describe the problem to be studied. Review prior studies and existing information to gain a sufficient understanding to define the problem.
- **Step 2: Identify the Decision** – identify what questions the study will attempt to resolve, and what actions may result.
- **Step 3: Identify the Inputs to the Decision** – identify the information that needs to be obtained and the measurements that need to be taken to resolve the decision statement.
- **Step 4: Define the Study Boundaries** – specify the time periods and spatial area to which decisions will apply. Determine when and where data should be collected.
- **Step 5: Develop a Decision Rule** – define the statistical parameter of interest, specify the action level, and integrate the previous DQO outputs into a single statement that describes the logical basis for choosing among alternative actions.
- **Step 6: Specify Tolerable Limits on Decision Errors** – define the decision maker's tolerable decision error rates based on a consideration of the consequences of making an incorrect decision.
- **Step 7: Optimise the Design** – evaluate information from the previous steps and generate alternative data collection designs. Choose the most resource-effective design that meets all DQOs.

The DQOs are provided in **Table 4** below and were derived in accordance with Australian Standard 4482.1-2005 'Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds' (AS 4482.1-1997).

Table 4. Data Quality Objectives

STEP	DETAIL
Step 1: State the problem	UPSS infrastructure is present at the site and requires decommissioning. Exhumation of the UPSS is required to determine the contamination status of the resultant excavation extents as well as undertaking an assessment of the potential impact of underground fuel storage. The result of the works will inform the need for further remediation, if necessary, to ensure that potentially contaminated soils and/or groundwater do not pose an ongoing unacceptable risk to human health or the environment or preclude the site redevelopment and basement installation.
Step 2: Identify the decision	The goal of the study is to validate the resultant tank pit excavation extents, chase out and validate site soils with relation to potential elevated concentrations of contaminants of potential concern (COPC). If elevated concentrations of COPC are identified at the site: • What is the extent of the impact?

STEP	DETAIL
	• Does any COPC at the site occur at concentrations that pose or may pose an unacceptable liability or risk to the environment and/or human health to persons who will utilise the future development? • If so, what is the order of priority to minimise the risk and what additional measures are required to mitigate, remediate, or manage the risk? • Is the site suitable for the proposed land use, in the context of land contamination?
Step 3: Identify the information inputs	Key data required to resolve the project problem included concentrations of COPC in the soil collected in the study area, the structure and depth of the underlying site geology and the historical activities conducted at the site. The COPC selected were based on the known site usage, UPSS details, historical assessments, and the current site condition. Soil validation criteria (SVC) selected for the site are listed below and further explanation is for their selection is provided in Section 5.1. In the case that CoPC are detected that do not currently have a state or nationally endorsed assessment criteria, an appraisal of international guidelines will be conducted to determine an appropriate screening value. Soil Validation Criteria: • NEPM ASC (2013) Health Investigation Levels (HIL) B – High Density Residential. • NEPM ASC (2013) Health Screening Levels (HSLs) A/B for Vapour Intrusion (Clay). • NEPM ASC (2013) Ecological Investigation Levels (EILs) for Urban Residential • NEPM ASC (2013) Ecological Screening Levels (ESLs) for Urban Residential, Fine Soil (0-2 m) • NEPM ASC (2013) Management Limits (ML) Residential/Parkland, Fine soil.
Step 4: Define the boundaries of the study	The investigation will be restricted to the extents of the site boundary as shown in Figure 1, Appendix A. The vertical extent of the study boundaries is limited to a maximum depth of approximately 3.5 mbgl (i.e., base of tank pit excavation). The temporal boundaries of the study are limited to the date that the investigations are completed as detailed in Section 8.1.
Step 5: Develop the analytical approach	If the concentrations of COPCs in the soil validation samples collected from the base and walls of the tank pits are reported to be below the relevant adopted guidelines and there are no other potential environmental or human health risks identified onsite during the works, no further assessment is required. If, however, the concentration of one or more COPCs are greater than the guidelines, further remediation or management of the impacted materials may be necessary.
Step 6: Specify performance or acceptance criteria	The acceptable limits for samples are as follows: • % RPD for laboratory duplicates analysis is laboratory specific and generally 50% or less, noting the allowable RPD may be reported as a range based on the magnitude of the result from the detection limit; and • Recovery of matrix spikes and surrogate spikes is as per the laboratory's Quality Assurance targets accepted under their National Association of Testing Authorities (NATA) accreditation. Precision is measured using the standard deviation 'SD' or Relative Percent Difference '%RPD'. Replicate data for field duplicates of organics is expected to be as follows: • RPD criteria of 50% or less, for concentrations > or = 10 times practical quantitation limits (PQL); • RPD criteria of 75% or less, for concentrations between 5 and 10 times the EQL; and • RPD criteria of 100% or less, for concentrations < 5 times PQL.

STEP	DETAIL
	Replicate data for field duplicates for inorganics, including metals is expected to be as follows: • RPD criteria of 30% or less, for concentrations > or = 10 times PQL; • RPD criteria of 75% or less, for concentrations between 5 and 10 times the EQL; and • RPD criteria of 100% or less, for concentrations < 5 times PQL. Where acceptable limits for field duplicates were not met, a discussion on low biased error will be provided. For this investigation, a decision error of 5% will be considered acceptable This error rate is in accordance with Appendix B of Schedule B(2) of the ASC NEPM. In order to achieve this level of confidence, the investigation has been designed as described below
Step 7: Optimise the design	Soil samples were collected at relevant intervals, changes in geology from each wall and the base of the tank pits, area of soil discolouration and in zones of gross contamination and locations selected for efficient and representative sampling. All media sampling was completed in accordance with Reditus standard operating procedures (SOPs) and relevant industry guidelines. Works performed by Reditus were completed in accordance with Reditus standard operating procedures (SOPs) and relevant industry guidelines, including the NSW EPA (2020) Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019 and NSW EPA guidelines as specified in Section 1.2.

5 Rationale for Selection of Tier 1 Validation Criteria

Tier 1 assessment involves the comparison of monitoring data to published guideline criteria (typically presented as screening levels). Relevant criteria are selected based on the identified viable exposure routes and the available data.

For this assessment, in the absence of site-specific remedial thresholds, these Tier 1 investigation levels have been adopted as site validation criteria. In Australia, appropriate HILs (including interim HILs for vapour and, where applicable, HSLs for petroleum hydrocarbons and assessment criteria for asbestos) are used for Tier 1 screening to provide a rapid assessment of whether the site contamination may be of concern with respect to human health. Should contaminant concentrations at a site occur at levels that are below the Tier 1 levels, this implies that for the majority of the people in the population there is no significant health risk from contamination and that remedial action may not be required to protect human health.

Exceedances of the tier 1 HILs should be identified and considered. Tier 1 HIL exceedances do not imply that a risk is necessarily present, but that further assessment may be justified. Tier 1 HILs are not intended to indicate a clear demarcation between acceptable and unacceptable. Marginal exceedances may not require quantitative Tier 2 risk assessment to conclude that further assessment is not necessary. The magnitude of the exceedance should be considered in the context of the conceptual site model (CSM), that is, whether the exposure pathways are plausible and whether exposure will result in harm.

Tier 1 screening criteria (including HILs & HSLs) should only be used where there has been adequate characterisation of a site (that is, appropriate representative sampling has been carried out). For this investigation the maximum reported concentrations for each sample and analyte will be compared against the tier 1 criteria. Should any individual sample exceedance of the tier 1 criteria exist, the 95% Upper Confidence Limit (UCL) of the analyte for the site data set will be calculated and compared to relevant Tier 1 screening criteria. However, the implications of localised elevated values, the contaminant type and point sources should also be considered. In order to adopt the 95% UCL result, the analyte data set must also meet the following criteria:

- the standard deviation (SD) of the results should be less than 50% of the Tier 1 screening criteria.
- no single value exceeds 250% of the relevant Tier 1 screening criteria (characterised as a 'hot-spot').

Where site data exceeds the screening levels or suitable screening levels cannot be identified, further consideration (Tier 2 assessment) is required.

5.1 Soil Validation Criteria

The tier 1 soil validation criteria were adopted from:

- National Environment Protection Council (NEPC) 1999, 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM), as amended in 2013' (NEPM ASC, 2013).

The soil validation criteria (SVC) adopted for this investigation are detailed below and are based on the proposed future land use of a high density aged care facility in the context of the proposed development at the site where the UPSS decommissioning and validation works have occurred. It is noted that as per the most up to date development plans (see **Appendix B**) the entirety of the site located at 140 Campbell Hill Road (Lots 6 & 7 DP30305) will include a one-level basement carpark and access ramp with a high-density residential aged care facility proposed from ground level. As such, NEPM Residential B (high-density) criteria has been selected as the primary SVC.

It is noted the adopted SVC has deviated slightly from the proposed UPSS validation assessment criteria detailed within the RAP³. However, at the time the RAP was prepared it was unclear whether the aged care facility development was going to be low or high density residential, therefore, the more conservative low-density residential (Residential A) was selected as the validation assessment criteria. Given the most up to date development plans (4 September 2023, see **Appendix B**) are for a high-density residential aged care facility, the SVC detailed below is considered more applicable and valid for assessment purposes.

³ Reditus Consulting (May 2023) Remedial Action Plan, Abel Tasman Village, 138 & 140 Campbell Hill Road, Chester Hill NSW

Residential B (High-Density) Criteria:

- Detected contaminant concentrations in soil have also been assessed against the NEPC (2013) NEPM HIL-B for completeness as the proposed future use of the site includes a high-density residential aged care facility from ground level.
- NEPC (2013) NEPM HSL-B for clay have also been adopted to evaluate the risk posed from potential vapour intrusion. The soil HSLs are based on depth of impacts, overlying soil type, and land use. The inclusion of HSL-B criteria is for completeness based on the high-density residential aged care facility from ground level proposed. Clay soils have been adopted as this was the consistent in-situ soil type encountered during the remediation/validation works at the site.
- Management Limits (MLs) for Residential/Parkland have also been adopted and are used to consider the potential formation of light non-aqueous phase liquids, fire and explosion risks, and damage to buried infrastructure. Fine grained soils have been adopted based on the in-situ soil type of clay at the site.
- The NEPC (2013) NEPM requires a pragmatic risk-based approach should be taken in applying ecological investigation and screening levels (EILs/ESLs) in residential and commercial/industrial land use settings. For completeness, EILs/ESLs for Urban Residential land use have also been adopted for assessment purposes.

Soil validation results in comparison to the soil validation criteria are presented in **Table 1, Appendix C**.

6 Validation Methodology

The methods used for the collection of data for the validation works are presented in the following sections.

6.1 Soil Sampling Methodology

6.1.1 SOIL VALIDATION SAMPLING

All soil validation samples were collected via excavator with soil being collected directly from the excavator bucket. The soil samples were collected into a laboratory supplied 250 ml glass jar using fresh nitrile gloves for each sample to avoid cross-contamination, with the details of the sample, including the sample name, the job number, the date of sample and the sample depth. A portion of the sample was placed into a dedicated zip-lock bag for field screening with a photo-ionisation detector (PID) to detect the presence and magnitude of volatile compounds in the sample.

Sample preservation was undertaken in accordance with NEPC (2013) NEPM and US EPA SW-846, with samples immediately placed and stored in an ice filled esky below 4°C, prior to being couriered to the laboratory under a signed chain of custody (COC) form filled out with the required analysis.

Each soil validation sample was described in general accordance with the Unified Soil Classification System (USCS) and details of any discolouration, staining, odours, or other indicators of contamination were also noted.

In summary, soil validation samples were collected in accordance with Reditus standard operating procedures which are based on the NEPC (2013) NEPM, Australian Standard AS4482.1-2005 and AS4482.2-1999 and EPA requirements.

6.1.2 STOCKPILING AND STOCKPILE SAMPLING METHODOLOGY

Stockpiles were placed on black HDPE plastic and wrapped to prevent the run-off and leaching of contaminants from the stockpile to the underlying ground.

Stockpile samples were collected using either an excavator or directly with a nitrile gloved hand. Sample material was selected such that it was representative of conditions at least halfway into the stockpile. Reditus considers that this is a suitable methodology to obtain representative stockpile soil samples for assessment purposes.

6.2 Soil Laboratory Analyses

Laboratory analytical methods and analyte PQLs are shown in the analytical certificates provided as **Appendix D**. Furthermore, the analytical suites performed during this investigation are provided in **Section 1.2**.

7 Quality Assurance and Quality Control (QA/QC)

For the DQO process, the principal data quality indicators (DQIs) are precision, accuracy, representativeness, comparability, and completeness. For completeness, these DQIs are defined below. Laboratory DQOs are the acceptance thresholds for site data based on the individual DQIs for each matrix and analyte group or analyte.

- Accuracy is a measure of the agreement between an experimental determination and the true values of the parameter being measured.
- Precision is a measure of the agreement between duplicate or replicate samples.
- Representativeness is a measure of how closely the measured results reflect the actual concentration or distribution of the chemical constituent in the matrix sample.
- Comparability is a qualitative assessment made to express the confidence with which one data set may be compared with another.
- Completeness is defined as the percentage of total measurements made that are judged to be valid.

A field QA/QC program must be conducted in accordance with the NEPC (2013) and Australian Standard AS4482.1-2005 requirements to measure the precision of the field and laboratory analyses and to determine the accuracy of the analytical results. All samples will be analysed by NATA accredited laboratories. Field QA will include compliance with appropriate standard operating procedures.

7.1 Reditus Field Quality Assurance

7.1.1 DETAILS OF SAMPLING TEAM

Fieldworks including UPSS exhumation and soil validation sampling (inclusive of stockpile sampling to facilitate waste classification) were performed by Reditus' Senior Environmental Scientist Jack Palma and Environmental Scientist Hassan Elbatoory, whom are both suitably qualified and experienced in the decommissioning of UPSS and collection of environmental samples.

7.1.2 DECONTAMINATION PROCEDURES CARRIED OUT BETWEEN SAMPLING EVENTS

There was no reusable sampling equipment used between sampling events, with the exception of the excavator bucket. However, care was taken to collect soils samples with a nitrile gloved hand directly from the middle of the bucket and if excess soil was present on the bucket between sampling events, the bucket and bucket teeth were cleaned with a wire brush and rinsed with tap water.

Reditus considers this to be a suitable method of decontamination in this context and given the above the collection of equipment rinsate samples was not considered necessary for quality control / quality assurance purposes.

7.1.3 CHAIN OF CUSTODY DETAILS

All soil samples were transported to the laboratory under a chain of custody (CoC). Information on the CoC included the sampler, sample identifier, sample matrix, collection date, analyses to be performed, sample preservation method, sample release date and sample received date.

7.1.4 SAMPLING SPLITTING TECHNIQUES

Soil duplicates and triplicates were collected by taking representative samples of the soil at the same depth interval. Due to the potential loss of volatiles, samples were not mixed or homogenised during collection or splitting.

7.1.5 STATEMENT OF DUPLICATE FREQUENCY

Field duplicates and triplicates were collected at a rate of 1:20 for soil samples collected by Reditus. These rates are within the Australian Standard 4482.1-2005 'Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds and Reditus' QA frequency ranges.

Soil QA/QC samples which were collected during the investigation are presented below in **Table 5**.

Table 5. Soil QA/QC Samples

PRIMARY SAMPLE	INTRA-LABORATORY DUPLICATE	INTER-LABORATORY DUPLICATE
V1-3.0	DUP1	TRIP1
V6-3.0	DUP2	TRIP2
V12-0.3	DUP3	TRIP3
V43-0.3	DUP4	TRIP4
V59-0.5	DUP5	TRIP5
SP01-1	SP-DUP1	SP-TRIP1
SP03-3	SP-DUP3	SP-TRIP3

7.1.6 TRIP BLANKS & TRIP SPIKES

Trip blanks are used to assess contamination from field conditions at the time of the sampling event and that sampling procedures were adequate in preventing cross contamination of VOCs during sample transport and storage. Trip spike samples accompany samples collected in the field and transported to the laboratory to assess the effects of sample storage and transport on the identified concentrations of volatile contaminants of concern.

- One laboratory supplied soil trip blank sample (Trip Blank - Soil) was included during the initial validation works at the site and submitted for laboratory analysis for vTRH and BTEXN.
- One laboratory supplied soil trip spike sample (Trip Spike - Soil) was also included during the initial validation works at the site. The trip spike sample was prepared by the primary laboratory (Envirolab).

It is noted that trip blank and trip spike samples were not included in subsequent soil validation and chase out works conducted at the site as COPCs were semi-volatile in nature, therefore they were not deemed necessary for quality assurance purposes.

7.1.7 FIELD INSTRUMENT CALIBRATIONS

The calibration certificate for the photo-ionisation detector (PID) used during the validations works at the site is provided in **Appendix E**.

7.2 Laboratory QA/QC

Detailed laboratory QA/QC is found within the laboratory reports provided as **Appendix D**.

7.2.1 SAMPLE TECHNICAL HOLDING TIMES

All holding times were reported as being within specified ranges.

7.2.2 LABORATORY ACCREDITATION AND ANALYTICAL METHODS USED

The primary laboratory used for soil samples was Envirolab Services Pty Ltd (Envirolab), while the secondary laboratory was ALS Environmental (ALS).

Envirolab is accredited by NATA with the accreditation number 2901, while ALS is also accredited with the accreditation number 825.

7.2.3 LABORATORY CONTROL SAMPLES

Laboratory control samples were reported within acceptable ranges with exception of the following:

Envirolab 328659

- Two metals analysed exceeded laboratory RPD criteria and therefore a laboratory triplicate was issued in each instance.

Envirolab 328660

- Several metals analysed exceeded laboratory RPD criteria and therefore a laboratory triplicate was issued in each instance.
- Percent recovery was not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However, an acceptable recovery was obtained for the laboratory control spike (LCS).

Envirolab 329488

- Several metals analyses exceeded laboratory RPD criteria and therefore a laboratory triplicate was issued in each instance.
- TRH Soil C₁₀-C₄₀ NEPM: Percent recovery for the surrogate was not possible to report due to the high concentration of analytes in samples 329488-10,11,11d,12 caused interference.

ALS ES2325940

- Laboratory control spike (LCS) recovery was greater than the upper control limit for pentachlorophenol in sample QC-5215828-002.

Reditus notes that laboratory control samples which exceeded adopted QA/QC criteria were generally in exceedance either due to the magnitude of specified analytes within the sample, or due to the high heterogeneity of the sample. Reditus notes that these factors are likely indicative of site-specific conditions and not due to unsatisfactory laboratory performance. Where laboratory RPD exceedances were identified, the analytical laboratory issued an internal triplicate.

7.3 Evaluation of the QA/QC Information Compared to the DQOs

- **Documentation completeness**
 - Soil logs, chain-of-custody forms, calibration were complete and appropriate.
- **Data completeness**
 - All samples were received by the laboratories and analytical results reported including laboratory QA/QC.
- **Data comparability**
 - Reditus standard operating procedures, Australian Standards and industry best practice were followed during sampling.
 - Consistent field conditions and similarly trained staff were used during sampling.
 - The limits of reporting are appropriate and generally consistent from each laboratory.
- **Data representativeness**
 - Reditus is confident that cross contamination has not occurred, and primary samples are representative of actual soil conditions.
 - The frequency of laboratory blanks was acceptable, and the results were within specified ranges.
- **Precision**
 - Intra-laboratory and inter-laboratory duplicates were generally collected at a frequency of at least 1:20.
 - QA/QC sample collection rate follows the guidance provided in the Australian Standard Field procedures (AS1482.1 1997).

7.3.1 RELATIVE PERCENT DIFFERENCE

Refer to **Appendix D, Table 3 and Table 4** for Relative Percent Difference (RPD) calculations for both the validation samples and stockpile samples collected by Reditus. Reditus notes that RPDs were only calculated for groups of

compounds with detections above the laboratory detection limits. RPDs for soil were reported within acceptable ranges, with exception to the following:

- V1/DUP1
 - Copper – 47%
 - Lead – 46%
- V1/TRIP1
 - Copper – 41%
 - Lead – 33%
- V6/TRIP2
 - Copper – 42%
 - Nickel – 43%
 - Zinc – 31%
- V12/DUP3
 - Copper – 62%
- V12/TRIP3
 - Lead – 46%
- V43/TRIP4
 - Zinc – 34%
- V59_0.5/TRIP5
 - Chromium – 62%
 - Copper – 40%
- SP03-1/SP-DUP3
 - TRH C₆-C₁₀ Fraction (F1) – 149%
 - TRH C₆-C₁₀ Fraction (F1 minus BTEX) – 149%
 - TRH C₁₀-C₁₆ Fraction (F2) – 157%
 - TRH C₁₀-C₁₆ Fraction (F2 minus Naphthalene) – 159%
 - TRH C₁₆-C₃₄ Fraction (F3) – 60%
 - TRH C₁₀-C₄₀ Fraction (Sum) – 102%
 - TPH C₁₀-C₁₄ Fraction – 162%
 - TPH C₁₀-C₃₆ Fraction (Sum) – 108%
 - Naphthalene – 109%
 - PAHs (Sum of positives) – 117%
 - Arsenic – 116%
 - Chromium – 73%
 - Copper – 49%
 - Lead – 125%
 - Zinc – 111%
- SP03-1/SP-TRIP3
 - TRH C₆-C₁₀ Fraction (F1) – 160%
 - TRH C₆-C₁₀ Fraction (F1 minus BTEX) – 160%

- TRH C₁₀-C₁₆ Fraction (F2) – 123%
- TRH C₁₀-C₁₆ Fraction (F2 minus Naphthalene) – 123%
- TRH C₁₀-C₄₀ Fraction (Sum) – 57%
- TPH C₆-C₉ Fraction – 115%
- TPH C₁₀-C₁₄ Fraction – 131%
- TPH C₁₀-C₃₆ Fraction (Sum) – 65%
- Naphthalene – 109%
- Lead – 67%
- Zinc – 111%

Reditus notes that the minor RPD exceedances reported for metals ranging from 31-62% for the validation sample duplicates collected are likely to be due to the heterogeneity of the sampled soil, rather than unsatisfactory laboratory performance or sampling methodology. Furthermore, all concentrations reported for metals are significantly below the soil validation criteria for the site. Reditus therefore does not consider that the minor RPD exceedances have affected the integrity of the analytical results or their suitability to be used for assessment purposes.

Stockpile sample duplicates SP-DUP3 and SP-TRIP3 reported several RPD exceedances for both TRH, naphthalene, and metals. Reditus note this is likely due to the heterogeneity of the stockpiled soil, rather than unsatisfactory laboratory performance or sampling methodology. Furthermore, all intra-laboratory and inter-laboratory duplicate sample results have been included in the analytical results summary tables so that the highest concentrations reported have been assessed against the adopted soil validation criteria. Reditus does not consider that the RPD exceedances have affected the integrity of the analytical results or their suitability to be used for assessment purposes.

7.3.2 TRIP BLANKS & TRIP SPIKES

The laboratory analytical results of the trip blank sample (Trip Blank - Soil) included during the initial validation works at the site reported the concentrations of vTRH and BTEXN below the laboratory limit of reporting. The results indicate that field conditions, sample storage, and transport procedures were adequate.

The laboratory analytical results of the trip spike sample (Trip Spike - Soil) included during the initial validation works at the site reported all analytes within acceptable recovery percentages (between 70-130%), indicating that sample storage and transport was adequate to minimise volatile contaminant loss.

The trip blank and trip spike analytical results are reported within Envirolab report 328660, supplied in **Appendix D**.

8 Field Observations

Field observations made at the commencement of the validation works on 20 July 2023 by Reditus included the following:

- Each of the six (6) previously in-situ USTs had been exposed and excavated from their pits and were removed from the site by the Principal Contractor RMA Group prior to Reditus attendance. It is noted that the two smaller USTs (Tank 1 and 2) were unexpected finds and assumed to have historically been used for the collection of waste oil.
- A large and predominately continuous excavation was present across the approximate centre of the site where the USTs had been excavated. Natural clay material was present along the walls and base of the excavation. Weathered shale bedrock and weathered clay was present at the base of the excavation. Some remnant backfill sands were in the process of being removed from the base and walls of the excavation, which formed stockpile SP01 and SP02 (see schedule of works in **Section 8.1** below).
- A small trench was present where fuel delivery lines had led from the fuel dispensers to the USTs, and the lines and dispensers had been removed from the site.
- Another small trench which was oriented north/south was present near the north-western corner of the tank pit excavation. An unspecified line ran along this trench and had already been removed from the site.
- Two stockpiles (SP01 & SP02) were already present on the site at the commencement of the validation works on 20 July 2023 by Reditus. Each of the stockpiles were established on HDPE plastic. The stockpiles were described as follows:
 - SP01: Sand and clay which was overburden between the top of the USTs and the bottom of the concrete hardstand. The stockpile was covered in HDPE plastic and pinned down.
 - SP02: Stockpiled backfill sands and clay which surrounded the tanks on their sides and bottoms.
- Groundwater ingress was present at the bottom of the excavation, and pooled groundwater was in the process of being pumped out by a suction truck.
- The remainder of the site was covered in concrete hardstand.
- No remnant above-ground site structures were present, and each had been demolished with their constituent materials removed from the site.
- A triple interceptor trap (TIT) was present in-situ towards the north-western corner of the site.
- Chain-link fencing was present across the northern, eastern, and southern site boundaries, with wooden fencing present along the western boundary.
- Temporary site structures including a demountable office and amenities were established on-site.
- No signs of vegetation stress were observed.

Photographs taken at the time of the validation works at the site are provided as **Appendix D** and the site layout is presented in **Figure 2, Appendix A**.

8.1 Schedule of Works

A summary of site activities completed by Reditus is provided in **Table 6** below.

Table 6. Schedule of Works

DATE	DESCRIPTION OF SITE ACTIVITIES AND OBSERVATIONS
20 July 2023	• Water accumulated in open tank pits pumped out using vacuum truck. • Remnant tank pit sands removed and stockpiled (SP01 and SP02). • Validation samples V1 to V47 collected from the six tank pits, delivery line locations, and former dispenser locations.

DATE	DESCRIPTION OF SITE ACTIVITIES AND OBSERVATIONS
	- Hydrocarbon impacted soil identified at sample location V22_0.3 (Tank Pit 6) further chased out and additional validation samples collected. - Begin excavation of in-situ TIT. - Impacted soil encountered beneath TIT excavated and stockpiled separately (SP03). - Sampling of SP01, SP02, and SP03. - Surveying extent of excavations.
21 July 2023	- Further excavation and stockpiling of impacted soil beneath the former TIT. - Validation samples collected from completed TIT excavations. - Hydrocarbon impacted soil identified at sample location V15_0.3 (Tank Pit 4) further chased out and additional validation samples collected. - Additional soil sample collected from SP02 of V15 chased out material. - Further surveying extent of excavations.
1 August 2023	- Further excavations of the northern wall of the TIT excavation after validation sample V50-0.6 reported elevated hydrocarbon concentrations. - Additional validation sample V50a-0.6 collected after a further 0.3 m excavated from the northern wall of the TIT excavation. - The Principal Contractor (RMA) advised that the liquid waste facility had detected VOCs in wastewater and wash waters from the two additional tanks identified during UPSS decommissioning works. The material within stockpiles SP01 and SP02 consisting of soil excavated from around the two additional tanks had already been confirmed as suitable from placement back into the excavations. During discussion with the with the Site Auditor on 1 August 2023 it was agreed that a minimum of 25% of the samples (still within holding time) would be analysed for VOCs to confirm suitability to remain in the excavation. Soil validation samples collected from around the two additional tanks, still within holding times, were also re-batched for VOC analysis.
2 August 2023	- Excavation of former hoist location post completion of demolition works. - Collection of validation samples V56 to V60 from hoist area excavations. - Creation and sampling of SP04 from excavated material.
8 August 2023	- Further excavations of northern wall of the TIT excavation after validation sample V50a-0.6 still reported elevated hydrocarbon concentrations. - Additional validation sample V50b-0.6 collected after a further 1.5 m excavated from the northern wall of the TIT excavation. - Creation and sampling of SP05 from excavated material.

8.2 Sampling Register

Collection of soil validation samples from the resultant tank pit excavations, delivery line trenches, former fuel dispenser locations, triple interceptor trap (TIT), and hoist were conducted in general accordance with Section 6.3 of NSW EPA (2020) *Guidelines for implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019*, Section 3.2 of NSW EPA (2023) *Contamination assessment of service station sites, minimum sampling requirements*, and the Validation Sampling Plan proposed within the RAP (Reditus, 2023).

Laboratory analysis of samples was conducted with reference to known or anticipated COPCs associated with bulk fuel storage and service station operations. The soil validation sampling and analytical program is outlined in **Table 7** below and the sample locations are presented in **Figure 3, Appendix A**.

It is noted where potential exceedances were identified from field screening or reported from initial soil validation results, further excavation and validation works were undertaken until elevated COPC concentrations were confirmed to be removed from in-situ soil at the site (detailed in **Section 9.1**).

Table 7. Sample Register

LOCATION	ANALYTES	TYPE	SAMPLE ID	SAMPLE FREQUENCY ¹
Tank Pit 1	TRH, BTEX, PAH, metals (8) VOCs & phenols (limited)	Wall	V26-0.3, V26-2.5, V27-0.3, V27-2.5	1 fill and natural sample per 5 m of wall
		Base	V32-3.0	1 base sample, adequate for tank length < 4 m
Tank Pit 2		Wall	V25-0.3, V25-2.5	1 fill and natural sample per 5 m of wall
		Base	V33-3.0	1 base sample, adequate for tank length < 4 m
Tank Pit 3	TRH, BTEX, PAH, metals (8)	Wall	V12-0.3, V12-2.5, V13-0.3, V13-2.5, V14-0.3, V14-2.5, V28-0.3, V28-2.5, V29-0.3, V29-2.5	1 fill and natural sample per 5 m of wall
		Base	V1-3.0, V2-3.0, V3-3.0	3 base samples (tank length ~10 m)
Tank Pit 4	TRH, BTEX, PAH, metals (8)	Wall	V15-3.0, V24-0.3, V24-2.5, ,	1 fill and natural sample per 5 m of wall
		Base	V4-3.5, V5-3.0,	2 base samples (tank length 4-10 m)
		Exceedance	V15-0.3 (<i>field screening with PID</i>)	Additional validation samples collected: V53-0.3, V54-1.0, V55-0.6
Tank Pit 5	TRH, BTEX, PAH, metals (8)	Wall	V16-0.3, V16-2.5, V23-0.3, V23-2.5, V31-0.3, V31-2.5	1 fill and natural sample per 5 m of wall
		Base	V6-3.0, V7-3.5	2 base samples (tank length 4-10 m)
Tank Pit 6	TRH, BTEX, PAH, metals (8)	Wall	V17-0.3, V17-3.0, V18-0.3, V18-3.0, V19-0.3, V19-3.0, V20-0.3, V20-3.0, V21-0.3, V21-3.0, , V22-3.0, V30-0.3, V30-3.0,	1 fill and natural sample per 5 m of wall
		Base	V8-3.0, V9-3.0, V10-3.0, V11- 3.0	4 base samples (tank length >10 m)
		Exceedance	V22-0.3 (<i>field screening with PID</i>)	Additional validation samples collected: V34-0.5, V35-0.5, V36-0.5, V40-1.0
Delivery Lines	TRH, BTEX, PAH, metals (8)	Base	V37-0.3, V38-0.3, V39-0.3, V41-0.3, V42-0.3, V45-0.5, V46-0.5, V47-0.5	1 sample per 5 linear metres
Fuel Dispensers	TRH, BTEX, PAH, metals (8)	Base	V43-0.3, V44-0.5	1 base sample per dispenser
Triple Interceptor Trap (TIT)	TRH, BTEX, PAH, metals (8), phenols	Wall	V49-0.6, , V51-0.6, V52-0.6, V61-1.8, V62-0.9, V63-0.9, V50b-0.6	1 fill and natural sample per 5 m of wall
		Base	V48-1.2	1 base sample

LOCATION	ANALYTES	TYPE	SAMPLE ID	SAMPLE FREQUENCY ¹
		Exceedance	V50-0.6, V50a-0.6 (laboratory analytical results)	Additional V50-0.6 validation samples collected
Hoist	TRH, BTEX, PAH, metals (8), phenols	Wall	V56-0.2, V56-2.0, V57-0.5, V57-2.0, V58-0.5, V58-2.0, V59-0.5, V59-2.0,	1 fill and natural sample per 5 m of wall
		Base	V60-2.0	1 base sample
SP01	TRH, BTEX, PAH, metals (8)	-	SP01-1, SP01-2, SP01-3, SP01-4	1 sample per 18.75 m ²
SP02	TRH, BTEX, PAH, metals (8), VOCs (limited)	-	SP02-1, SP02-2, SP02-3, SP02-4, SP02-5, SP02-6, SP02-7, SP02-8, SP02-9, SP02-10, SP02-11, SP02-12, SP02-13	1 sample per 19.23 m ²
SP03	TRH, BTEX, PAH, metals (8), phenols, OCP, OPP, PCB, asbestos (ID)	-	SP03-1, SP03-2, SP03-3	1 sample per 4.5 m ²
SP04	TRH, BTEX, PAH, metals (8), phenols	-	SP04-1, SP04-2, SP04-3	1 sample per 1.67 m ²
SP05	TRH, BTEX, PAH, metals (8), asbestos (ID)	-	SP05-1, SP05-2, SP05-3	1 sample per 15 m ²

¹ It is noted that due to the large and predominately continuous excavation resulting from the removal of the former USTs, this meant that validation wall samples were unable to be collected from each 'wall' of the former USTs located at the site. However, validation wall samples from the resultant tank pit excavation, which encompassed all USTs formally located at the site (Tank 1 to Tank 6) were collected at a rate of 1 sample per 5 linear metres of excavation wall. This is noted to be in general accordance with Section 6.3 of NSW EPA (2020) *Guidelines for implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019*, Section 3.2 of NSW EPA (2023) *Contamination assessment of service station sites, minimum sampling requirements*, and the Validation Sampling Plan proposed within the RAP (Reditus, 2023) and considered suitable for validation purposes.

8.3 Groundwater

It is noted that groundwater ingress was observed at the bottom of the tank pit excavations during commencement of the validation works on 20 July 2023 by Reditus.

Previous investigations at the site (see **Section 3**) reported all COPC below the adopted groundwater assessment criteria expect for concentrations of lead and copper which were considered representative of concentrations typically found within the urban environment (ambient urban conditions). Furthermore, concentrations of BTEX, TRH/TPH, PAH and VOCs reported during the 2022 groundwater monitoring event (GME) conducted by Reditus (DSI, 2022) were all reported below the laboratory limit of reporting (LOR).

Given groundwater at this site is considered to be under confined to semi-confined conditions (DSI, 2022), and the tank pit excavations predominately encountered natural clay with some weathered shale bedrock exposed at the base of the excavations, potential migration of residual hydrocarbon contamination identified during the assessment (see **Section 9.1**) from soil to groundwater is considered unlikely and does not warrant the need for further assessment of groundwater at the site.

It is noted upon completion of the remediation and validation works at the site all potential contamination sources related to the UPSS infrastructure have been removed from the site and successfully validated.

9 Soil Validation Results

Final soil validation results in comparison to the adopted soil validation criteria are presented in **Table 1, Appendix D** and sample locations are presented in **Figure 3, Appendix A**.

All final soil validation results were reported below the adopted Residential B (high-density) soil validation criteria.

9.1 Exceedances

Where potential exceedances were identified in the field (field screening with PID) or reported in the initial laboratory results, additional excavation and validation works were undertaken until elevated COPC concentrations were confirmed to be removed from in-situ soil at the site. Sample locations where additional excavation and validation works were undertaken are summarised in **Table 8** below.

Table 8. Summary of Additional Remediation and Validation Works

SAMPLE ID	RATIONALE FOR FURTHER REMEDIATION	CRITERIA EXCEEDED	LOCATION	ADDITIONAL VALIDATION SAMPLES COLLECTED AFTER FURTHER EXCAVATION COMPLETED
V15-0.3	Field Screening with PID 108 ppm	-	Tank Pit 4 Southern Wall	V53-0.3, V54-1.0, V55-0.6
V22-0.3	Field Screening with PID 1,750 ppm	-	Tank Pit 6 Northern Wall	V34-0.5, V35-0.5, V36-0.5, V40-1.0
V50-0.6	Laboratory analytical results TRH F2 >C ₁₀ -C ₁₆ 1600 mg/kg	HSL A/B, ML	TIT Northern Wall	V50a-0.6
V50a-0.6	Laboratory analytical results TRH F2 >C ₁₀ -C ₁₆ 1600 mg/kg	HSL A/B, ML	TIT Northern Wall	V50b-0.6

9.1 Extent of Uncertainties in the Results

The sampling methodologies used by Reditus during this investigation have been designed to limit uncertainty in the results. Reditus is confident that the results of this investigation give an accurate representation of the current status of the site but note that in all subsurface investigations the potential remains for variability between sampling points and for conditions to be different on-site from the conditions reported herein.

10 Discussion of Final Soil Validation Results

10.1.1 HEALTH INVESTIGATION LEVELS (HIL) B

The results of the laboratory analysis indicate that concentrations of contaminants of potential concern in each final soil validation sample submitted for analysis were reported below the applicable adopted NEPC (2013) NEPM HIL-B guideline.

10.1.2 HEALTH SCREENING LEVELS (HSL) A/B FOR VAPOUR INTRUSION

The results of the laboratory analysis indicate that concentrations of contaminants of potential concern in each final soil validation sample submitted for analysis were reported below applicable adopted NEPC (2013) NEPM HSL-A/B guidelines for vapour intrusion.

10.1.3 MANAGEMENT LIMITS (ML) RESIDENTIAL

The results of the laboratory analysis indicate that the concentrations of contaminants of potential concern in each final soil validation sample submitted for analysis were reported below the applicable adopted NEPC (2013) NEPM ML residential/parkland guidelines.

10.1.4 ECOLOGICAL INVESTIGATION LEVELS (EIL) URBAN RESIDENTIAL

The results of the laboratory analysis indicate that concentrations of contaminants of potential concern in each final soil validation sample submitted for analysis were reported below the applicable adopted NEPC (2013) NEPM EIL urban residential and public open space guidelines.

10.1.5 ECOLOGICAL SCREENING LEVELS (ESL) URBAN RESIDENTIAL

The results of the laboratory analysis indicate that concentrations of contaminants of potential concern in each final soil validation sample submitted for analysis were reported below the applicable adopted NEPC (2013) NEPM ESL urban residential (fine soil) guidelines.

11 Soil Stockpiles

Soil analytical results for the soil stockpiles created during the works in comparison to the adopted soil validation criteria are presented in **Table 2, Appendix D** and sample locations are presented in **Figure 3, Appendix A**.

It is noted that soil stockpiles that reported analytical results below the adopted soil validation criteria were retained onsite and used to reinstate the large tank pit excavation, while stockpiles that reported analytical results above the adopted soil validation criteria were disposed off-site in accordance with NSW EPA (2014) Waste Classification Guidelines. Five soil stockpiles were generated during the UPSS validation works and chase out of hydrocarbon impacted soils at the site, which are summarised in **Table 9** below.

Table 9. Soil Stockpile Summary

STOCKPILE	SOURCE	APPROX. VOLUME	SAMPLE FREQUENCY	REINSTATED ON-SITE / DISPOSED OFF-SITE
SP01	Excavated tank pit sands	75 m ³	1 sample per 18.75 m ²	Reinstated on-site
SP02	Excavated tank pit sands	250 m ³	1 sample per 19.23 m ²	Reinstated on-site
SP03	Excavated TIT soils	13.5 m ³	1 sample per 4.5 m ²	Disposed off-site as GSW
SP04	Excavated hoist soils	5 m ³	1 sample per 1.67 m ²	Approximately 2.95 m ³ disposed off-site as GSW and 2.05 m ³ retained on-site
SP05	Excavated additional TIT soils	45 m ³	1 sample per 15 m ²	Reinstated on-site

All stockpile sampling frequencies are noted to conform with the Validation Sampling Plan outlined within the RAP (Reditus, 2023).

Stockpiles SP01, SP02, and SP05 were deemed chemically suitable for reuse onsite to reinstate the resultant large tank pit excavation. It is noted that sample SP05-3, included in the material reinstated on-site, is noted to have exceeded the following Residential B Criteria:

- Res A/B Soil HSL for Vapour Intrusion in Clay (0-1m): TRH C10-C16 Fraction (F2 minus Naphthalene)
- ESL for Urban Residential, Fine Soil (0-2 m): TRH C10-C16 Fraction (F2)

However, given soils from SP05 were reinstated in the resultant large tank pit excavation at a depth greater than 2m below the ground surface, the exceedance of the Res A/B Soil HSL for Vapour Intrusion in Clay (0-1m) is not considered applicable to the soil. It is noted that at greater than 2m below ground surface the guideline value for TRH C10-C16 Fraction (F2 minus Naphthalene) is 'not limiting'. Additionally, given the proposed development is to cover the entirety of the site located at 140 Campbell Hill Road (Lots 6 & 7 DP30305), ESLs for these soils are not considered applicable.

Stockpile SP03 was disposed of off-site as general solid waste (GSW) in accordance with Reditus' Waste Classification Report⁴ due to the elevated TRH concentrations which exceeded the NEPC (2013) NEPM ML commercial/industrial guidelines.

⁴ Reditus (2 August 2023) Waste Classification, 138-140 Campbell Hill Road, Chester Hill NSW

The soil sample analytical results for stockpile SP04 reported elevated TRH concentrations which exceeded the adopted soil validation criteria (SVC) in soil sample SP04-1 and SP04-2. Sample SP04-3 reported all analytical results below the adopted SVC. It is noted that the total volume of stockpile SP04 was estimated to be approximately 5 m³, equivalent to approximately 10 tonnes (t). Given the soil analytical results, Reditus advised RMA to remove the impacted soils unsuitable for reuse onsite to the cleanest sample location (SP04-3). This resulted in a total of 5.9 t (or 2.95 m³) been disposed of off-site as general solid waste (GSW) in accordance with Reditus' Waste Classification Report⁵, equivalent to almost two-thirds of the total volume of the stockpile. Given the over excavation of the TRH impacted soils in stockpile SP04, Reditus are satisfied that the soil which was retained onsite (approximate 4.1 t or 2.05 m³) was suitable for onsite reuse. It is also noted that the additional material generated during the excavation and validation of sample location V50a-0.6 was added to SP04 and included in the material disposed off-site.

⁵ Reditus (9 August 2023) Waste Classification, 138-140 Campbell Hill Road, Chester Hill NSW (SP04)

12 Waste Disposal

12.1 Tank Destruction Certificates

It is noted that exhumation and removal of the USTs was conducted by the Principal Contractor RMA Group, the following details regarding tank destruction were provided:

- All tanks were certified as 'gas free' on the 13 July 2023 (Gas Freeing Certificate provided in **Appendix F**).
- Tank 1 and Tank 2 were destroyed on-site (photographs provided in **Appendix F**).
- Tanks 3, 4, 5 and 6 were transported to Sims Metal where they were confirmed to be destroyed for metal reclamation only (Certificate of Destruction provided in **Appendix F**).

12.2 Soils

A total mass of 30 t of soil was disposed off-site as General Solid Waste (GSW) in accordance with the following Reditus Waste Classification Reports for SP03 and the impacted soils of SP04 (5.9 t):

- Reditus (2 August 2023) Waste Classification, 138-140 Campbell Hill Road, Chester Hill NSW.
- Reditus (9 August 2023) Waste Classification, 138-140 Campbell Hill Road, Chester Hill NSW (SP04).

Waste tracking documentation is provided in **Appendix G**.

12.3 Liquid

A total volume of approximately 21,152 litres (L) of liquid waste was disposed of off-site during the UPSS decommissioning and validation works, summarised in **Table 10** below.

Table 10. Liquid Waste Summary

DATE	WASTE TYPE	SOURCE	QUANTITY	TRANSPORTER	DISPOSAL FACILITY
13 July 2023	-	Residual UST liquids pumped to IBCs (disposed on 26 July 2023)	-	-	-
	J120	UST wash out water	0.52 t	Rangedale Drainage & Industrial Services Pty Ltd	Bulk Recovery Solutions – Ingleburn 16 Kerr Road, Ingleburn NSW 2565
20 July 2023	J120	Water accumulated in open tank pits	13.68 t		
	G110	Residual petrol waste in IBCs	4,000 L	Cleanaway Operations Pty Ltd	Cleanaway Operations Pty Ltd 8 Rayben Street, Glendenning NSW 2761
26 July 2023	G110	Residual diesel waste in IBCs	2,000 L		
	G150	Residual solvent waste in IBC	952 kg		

Waste tracking documentation is provided in **Appendix G**.

13 Conclusions & Recommendations

Based on the UPSS decommissioning works completed and the site validation results, the following key findings were reported:

- A total volume of approximately 21,152 litres (L) of liquid waste was disposed of off-site during the UPSS decommissioning and validation works. Which included:
 - 14.2 t of J120 (waste oily water).
 - 6,000 L of G110 (Residual petrol and diesel waste).
 - 952 kg of G150 (Residual solvent waste).
- Prior to destruction and/or transportation the USTs were confirmed to be 'gas free' by the Principal Contractor RMA Group. Tank 1 and Tank 2 were destroyed on-site, while Tanks 3, 4, 5 and 6 were transported to Sims Metal where they were confirmed to be destroyed for metal reclamation only.
- Final soil validation samples collected from the walls and base of the resultant tank pit excavation, product delivery lines, dispenser locations, TIT excavation, and former hoist area reported concentrations of COPC below the adopted soil validation criteria.
- Where potential exceedances were identified in the field (field screening with PID) or reported in the initial laboratory results, additional excavation and validation works were undertaken until elevated COPC concentrations were confirmed to be removed from in-situ soil at the site.
- Five soil stockpiles were generated during the UPSS validation works and chase out of hydrocarbon impacted soils at the site, which were managed as follows:
 - Stockpiles SP01, SP02, and SP05 were deemed chemically suitable for reuse onsite and the stockpiled soils were used to backfill the large open tank pit excavation.
 - Stockpile SP03 was disposed of off-site as general solid waste (GSW) in accordance with Reditus' Waste Classification Report.
 - Approximately two-thirds of stockpile SP04 was disposed of off-site as general solid waste (GSW) in accordance with Reditus' Waste Classification Report. The remaining portion of the stockpile was deemed chemically suitable for reuse onsite.
- A total volume of 18.5 m³ was disposed off-site as GSW in accordance with Reditus Waste Classification Reports.
- Previously reported groundwater monitoring results (Reditus 2022 Detailed Site Investigation) indicated that the UPSS and former service station operations had not resulted in unacceptable impact to groundwater at the site.

Based on the findings and results of the UPSS decommissioning and soil validation works undertaken, Reditus can confirm that the UPSS and redundant infrastructure at the site has been successfully decommissioned, destroyed, and removed from the site.

The resultant excavations have also been successfully validated such that no further assessment or remediation is required to render the site suitable for Residential B (high-density) land use.

14 References

Site Contamination

- NSW Contaminated Land Management Act (the CLM Act 1997).
- NSW EPA Guidelines for the NSW Site Auditor Scheme (3rd Edition), 2017.
- NSW EPA Guidelines for Consultants Reporting on Contaminated Land, 2020.
- NSW EPA Sampling Design Guidelines, 1995.
- NSW EPA Guidelines for the Assessment and Management of Groundwater Contamination, 2007.
- NSW EPA Guidelines for Assessment and Management of Hazardous Ground Gases, 2020.
- NSW EPA Environmental Guidelines. Solid waste landfills (Second edition), 2016.
- National Environment Protection Council (1999, Revised 2013) National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 – Schedule B1 Guideline on Investigation levels for Soil and Groundwater (NEPC, 2013).
- Australian and New Zealand Governments Guidelines for Fresh and Marine Water Quality 2018.
- Australian Standard AS4482.1-2005. Guide to the Investigation and Sampling of sites with Potentially Contaminated Soil. Part 1: Non-volatile and Semi-volatile Compounds, 2005.
- Australian Standard AS4482.2-1999. Guide to the Investigation and Sampling of sites with Potentially Contaminated Soil. Part 2: Volatile Substances, 1999.

Waste

- NSW EPA Waste Classification Guidelines, Part 1 Classifying Waste, 2014.

Asbestos

- NSW Work Health and Safety Act, 2011 (WHS Act 2011).
- NSW Work Health and Safety Regulations, 2017 (WHS Reg 2017), Chapter 8 Asbestos, 2017 (NSW WHS Reg 2017).
- NSW EPA Managing Asbestos in or on Soil, 2014 (NSW EPA 2014).
- Western Australia Department of Health Guidelines for the Assessment Remediation and Management of Asbestos Contaminated Sites in Western Australia 2009 (WA DoH, 2009) as referred to by NEPM 2013.

Previous Reports

- Environmental Strategies (March 2014) Due Diligence Phase 1 and 2 Environmental Site Assessment, 138-140 Campbell Hill Road, Chester Hill, NSW.
- Environmental Strategies (August 2016) Remediation Action Plan (RAP), 138-140 Campbell Hill Road, Chester Hill, NSW.
- Reditus Consulting Pty Ltd (2022) Detailed Site Investigation, Abel Tasman Village, 222 Waldron Road, 138 & 140 Campbell Hill Road, Chester Hill NSW.
- Reditus Consulting Pty Ltd (2023) Remedial Action Plan, Abel Tasman Village, 138 & 140 Campbell Hill Road, Chester Hill NSW
- Reditus (2 August 2023) Waste Classification, 138-140 Campbell Hill Road, Chester Hill NSW
- Reditus (9 August 2023) Waste Classification, 138-140 Campbell Hill Road, Chester Hill NSW (SP04)

15 Limitations

This report has been prepared in accordance with the scope of services described in the Section 1.2. The report has been prepared for the sole use of the client and has been prepared in accordance with a scope of work agreed by the client.

The report or document does not purport to provide legal advice and any conclusions or recommendations made should not be relied upon as a substitute for such advice.

The report does not constitute a recommendation by Reditus for the client or any other party to engage in any commercial or financial transaction and any decision by the client or other party to engage in such activities is strictly a matter for the client.

The report relies upon data, surveys, measurements, and results taken at or under the site at particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the client. Furthermore, the report has been prepared solely for use by the client and Reditus accepts no responsibility for its use by other parties. The client agrees that Reditus' report or associated correspondence will not be used or reproduced in full or in part for promotional purposes and cannot be used or relied upon by any other individual, party, group or company in any prospectus or offering. Any individual, party, group or company seeking to rely on this report cannot do so and should seek their own independent advice.

No warranties, express or implied, are made. Subject to the scope of work undertaken, Reditus assessment is limited strictly to identifying typical environmental conditions associated with the subject property based on the scope of work and testing undertaken and does not include and evaluation of the structural conditions of any buildings on the subject property or any other issues that relate to the operation of the site and operational compliance of the site with state or federal laws, guidelines, standards or other industry recommendations or best practice. Scope of work undertaken for assessments are agreed in advance with the client and may not necessarily comply with state or federal laws or industry guidelines for the type of assessment conducted.

Additionally, unless otherwise stated Reditus did not conduct soil, air or wastewater analyses including asbestos or perform contaminated sampling of any kind. Nor did Reditus investigate any waste material from the property that may have been disposed off the site, or undertake an assessment or review of related site waste management practices.

The results of this assessment are based upon (if undertaken as part of the scope work) a site inspection conducted by Reditus personnel and/or information from interviews with people who have knowledge of site conditions and/or information provided by regulatory agencies. All conclusions and recommendations regarding the property are the professional opinions of the Reditus personnel involved with the project, subject to the qualifications made above.

While normal assessments of data reliability have been made, Reditus assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Reditus, or developments resulting from situations outside the scope of this project/assessment.

Reditus is not engaged in environmental auditing and/or reporting of any kind for the purpose of advertising sales promoting, or endorsement of any client's interests, including raising investment capital, recommending investment decisions, or other publicity purposes. Reditus assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Reditus, or developments resulting from situations outside the scope of this project.

In relation to the conduct of Asbestos inspections or the preparation of hazardous materials reports Reditus has conducted inspections and the identification of hazardous material within the constraints presented by the property. Whilst efforts are made to access areas not normally accessed during normal use of the site to identify the presence of asbestos or other hazardous material, unless explicitly tested no guarantee can be provided that such material is or is not present.

Reditus' professional opinions are based upon its professional judgment, experience, and training. These opinions are also based upon data derived from the limited testing and analysis described in this report or reports reviewed. It is possible that additional testing and analysis might produce different results and/or different opinions or other opinions. Reditus has limited its investigation(s) to the scope agreed upon with its client. Reditus believes that its opinions are reasonably supported by the testing and analysis that has been undertaken (if any), and that those

opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at this time. Other opinions and interpretations may be possible. That standard of care may change and new methods and practices of exploration, testing and analysis may develop in the future, which might produce different results.

A

Figures





Map 22137_rp02_f01_siteloc_v01		Legend  Lot Boundaries  Major Roads  Railways  Surface Water  Rivers  Streams  Minor Channels	Figure 1 - Site Location 140 Campbell Hill Road, Chester Hill NSW 22137 - UPSS Decomissioning & Validation Report The Abel Tasman Village Association Limited
Date of Export 24/08/2023			
Author JP	Approver GB		
Data Source Metromap, Google Maps, Open Street Map, NSW Government			



Map 22137_RP02_f02_sitelayout_v01		Legend Site Boundary UST Locations TIT Location Hoist Location Dispenser Locations Delivery Lines Surveyed UST Excavation Surveyed UST Excavation Chase Out Areas		Figure 2 - Site Layout 140 Campbell Hill Road, Chester Hill NSW 22137 - UPSS Decomissioning & Validation Report The Abel Tasman Village Association Limited	
Date of Export 08/09/2023	Map Scale (approx. at A3) 1:180				
Author JP	Approver GB				
Data Source Metromap, Google Maps, Open Street Map, Geoscience Australia					



Map 22137_RP02_f03_valsamples_v01		Legend Site Boundary UST Locations TIT Location Hoist Location Dispenser Locations Delivery Lines Surveyed UST Excavation UST Excavation Chase Out Areas Validation Sample Locations Wall Sample Base Sample Dispenser Sample Delivery Line Sample	
Date of Export 08/09/2023	Map Scale (approx. at A3) 1:170		
Author JP	Approver GB		
Data Source Metromap, Google Maps, Open Street Map, Geoscience Australia			

Figure 3 - Validation Sample Locations

140 Campbell Hill Road, Chester Hill NSW

22137 - UPSS Decomissioning & Validation Report

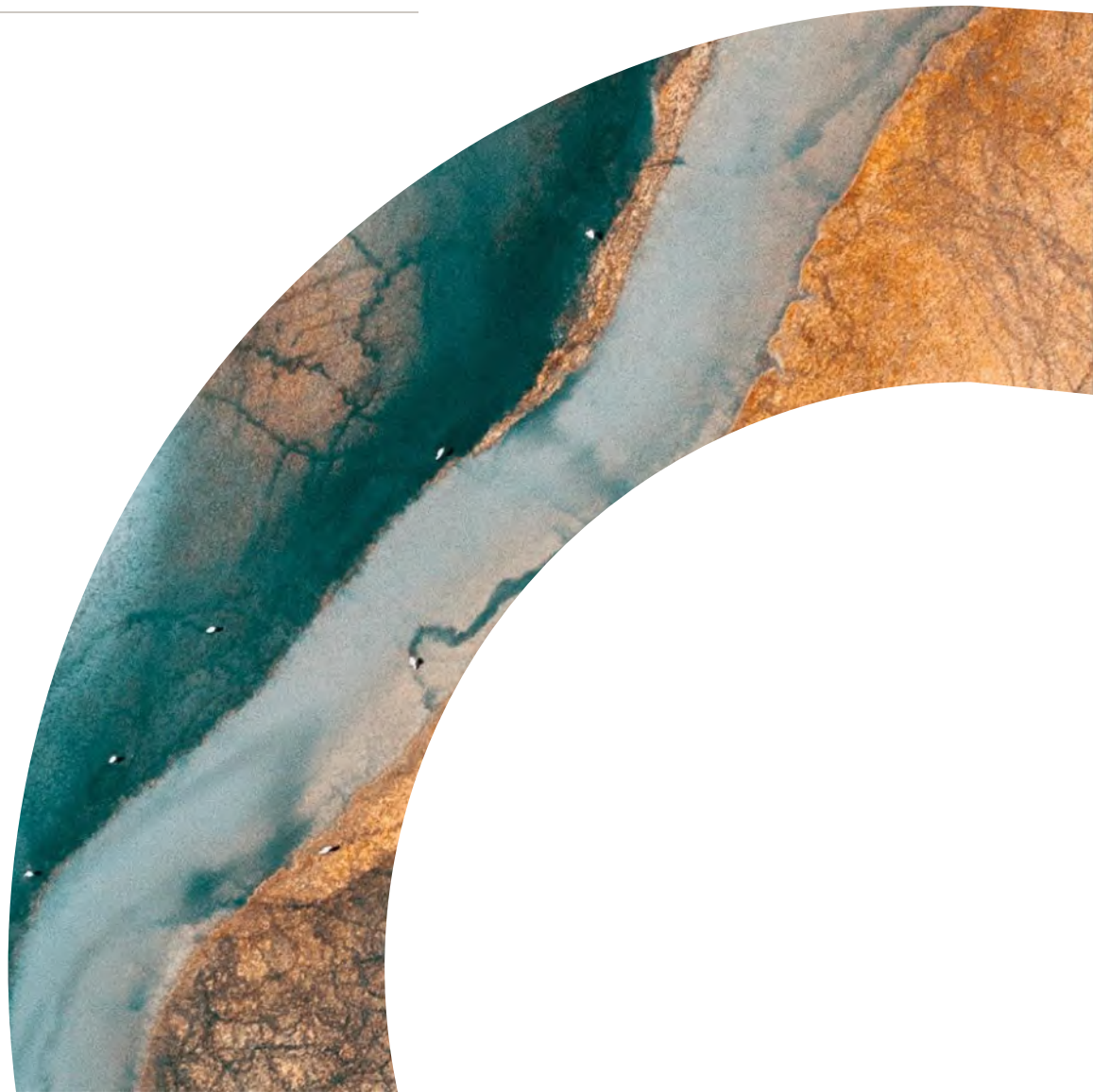
The Abel Tasman Village Association Limited



Map 22137_RP02_f04_spsamples_v01		Legend Site Boundary Stockpile Locations Stockpile Samples Locations	Figure 4 - Stockpile Sample Locations 140 Campbell Hill Road, Chester Hill NSW 22137 - UPSS Decomissioning & Validation Report The Abel Tasman Village Association Limited
Date of Export 08/09/2023	Map Scale (approx. at A3) 1:170		
Author JP	Approver GB		
Data Source Metromap, Google Maps, Open Street Map, Geoscience Australia			

B

Development Plans



Existing trees to remain

Existing trees to remove

Proposed trees

TPZ

SRZ

SCALE: 1:100

B	Preliminary Issue	04.09.23
No.	Amendment	Date

Project
ATV REDEVELOPMENT
222 Waldron Road & 138 Campbell Hill Road, Chester Hill

Drawing
GROUND FLOOR PLAN - OVERALL

TRUSTED ADVISOR



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	Date	08/09/22	Job No. : Drawing 2108/A1DA05
	Scale As indicated @		
	Drawn	Author	
	Amendment	B	





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SCALE: 1:100

Project
ATV REDEVELOPMENT
222 Waldron Road & 138 Campbell Hill Road, Chester Hill

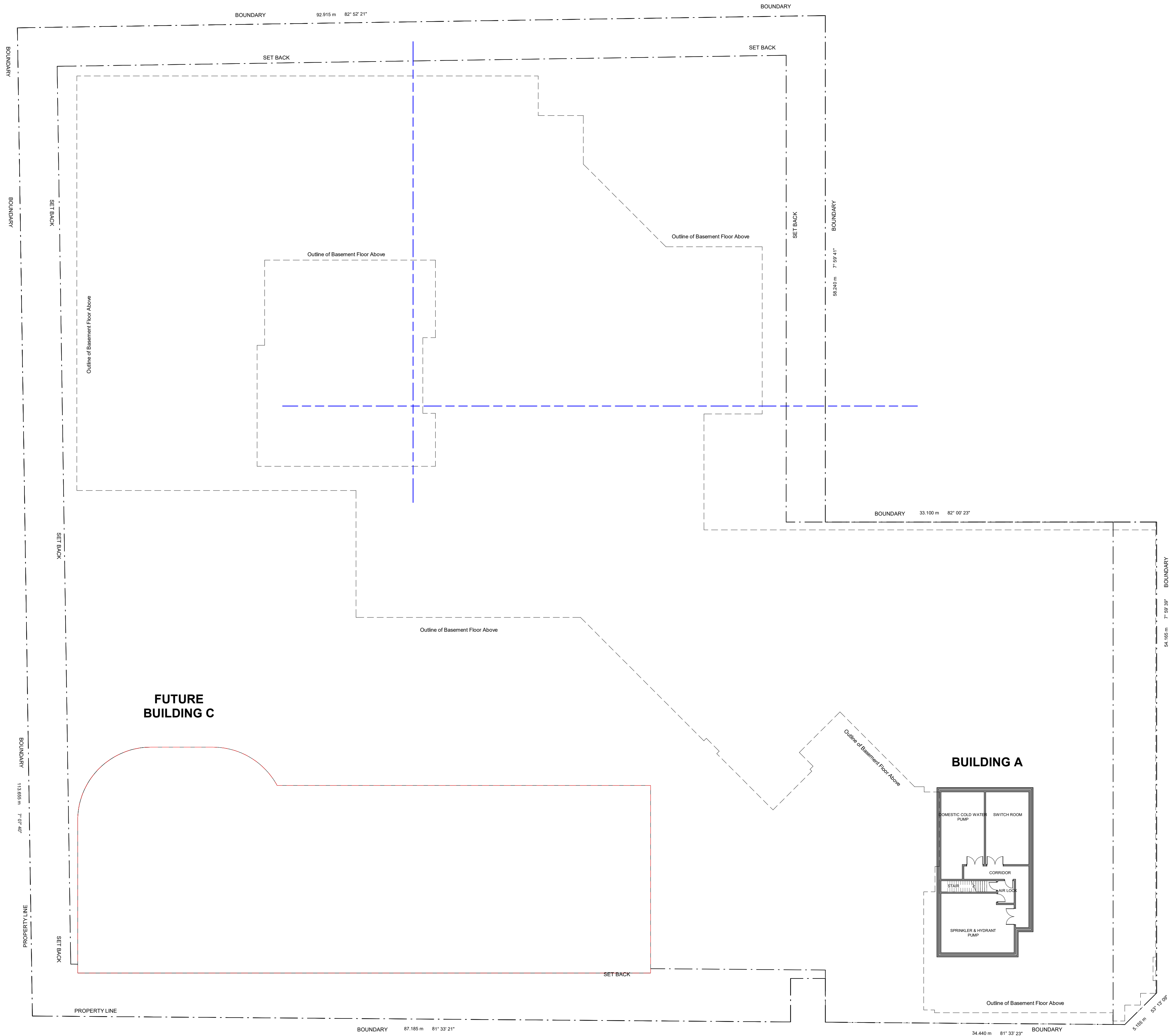
CENTURION GROUP
YOUR TRUSTED ADVISOR



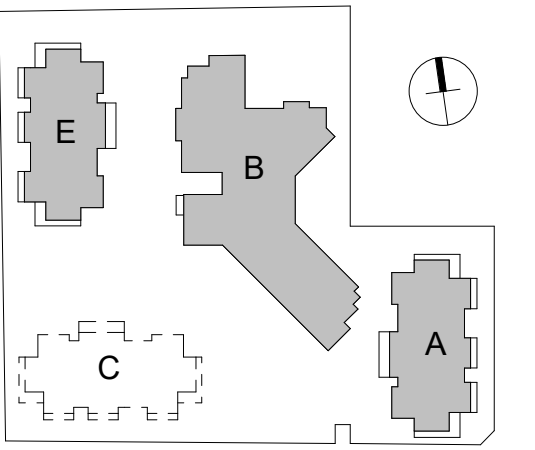
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	Date	08/09/22	Job No. : Drawing 2108/A1DA04
	Scale	1 : 250 @ A1	
	Drawn	Author	
	Amendment	B	



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PRELIMINARY



B	Preliminary Issue	04.09.23
No.	Amendment	Date

Project
ATV REDEVELOPMENT
222 Waldron Road & 138 Campbell Hill Road, Chester Hill

LOWER BASEMENT FLOOR PLAN -
OVERALL

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YOUR TRUSTED ADVISOR



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Date	03/16/23	Job No.	: Drawing
Scale	1 : 250 @ A1		
Drawn	Author		2108/A1DA03
Amendment	B		

C

Photo Board



APPENDIX C SITE PHOTOGRAPHS		
Report Title UPSS Decommissioning & Validation Report		
Client Name The Abel Tasman Village Association c/- Centurion Project Management Pty Ltd	Site Location 140 Campbell Hill Road, Chester Hill NSW	Project Number 22137

Photo No.	Date	
1	20 Jul 2023	
Direction Facing		
Southwest		
Description		
Pumping out of accumulated water in open tank pits.		

Photo No. 2	Date 20 Jul 2023	
Direction Facing Northeast		
Description Removal of remnant tank pit sands.		

APPENDIX C SITE PHOTOGRAPHS		
Report Title UPSS Decommissioning & Validation Report		
Client Name The Abel Tasman Village Association c/- Centurion Project Management Pty Ltd	Site Location 140 Campbell Hill Road, Chester Hill NSW	Project Number 22137

Photo No. 3	Date 20 Jul 2023	
Direction Facing -		
Description Hydrocarbon impacted soils beneath the former triple interceptor trap (TIT).		

Photo No. 4	Date 21 Jul 2023	
Direction Facing South		
Description Chasing out of hydrocarbon impacted soil identified with PID at sample location V15_0.3 (Tank Pit 4).		

APPENDIX C SITE PHOTOGRAPHS			
Report Title UPSS Decommissioning & Validation Report			
Client Name The Abel Tasman Village Association c/- Centurion Project Management Pty Ltd	Site Location 140 Campbell Hill Road, Chester Hill NSW	Project Number 22137	

Photo No.	Date	
5	21 Jul 2023	
Direction Facing Northwest		
Description Further excavations of the hydrocarbon impact soil identified beneath the former TIT. SP03 created of excavated material, evident next to excavator.		

Photo No.	Date	
6	1 Aug 2023	
Direction Facing North		
Description V50a sample location, collected from the northern wall of the TIT excavation after a further 0.3 m of material removed.		

APPENDIX C SITE PHOTOGRAPHS		
Report Title UPSS Decommissioning & Validation Report		
Client Name The Abel Tasman Village Association c/- Centurion Project Management Pty Ltd	Site Location 140 Campbell Hill Road, Chester Hill NSW	Project Number 22137

Photo No. 7	Date 2 Aug 2023	
Direction Facing West		
Description Former hoist location excavation and validation.		

Photo No.	Date	
8	2 Aug 2023	
Direction Facing		
Northeast		
Description		
SP04, created from excavation of hoist soils.		

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Report Title UPSS Decommissioning & Validation Report			
Client Name The Abel Tasman Village Association c/- Centurion Project Management Pty Ltd	Site Location 140 Campbell Hill Road, Chester Hill NSW	Project Number 22137	

Photo No.	Date	
9	8 Aug 2023	
Direction Facing		
Northeast		
Description		
Final excavation and validation of the former TIT location. Additional 1.5 m excavated from the northern wall. Validation sample V50b collected.		

Photo No.	Date	
10	8 Aug 2023	
Direction Facing		
Northeast		
Description		
SP05, created from the additional TIT excavations.		

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D

Analytical Results Tables

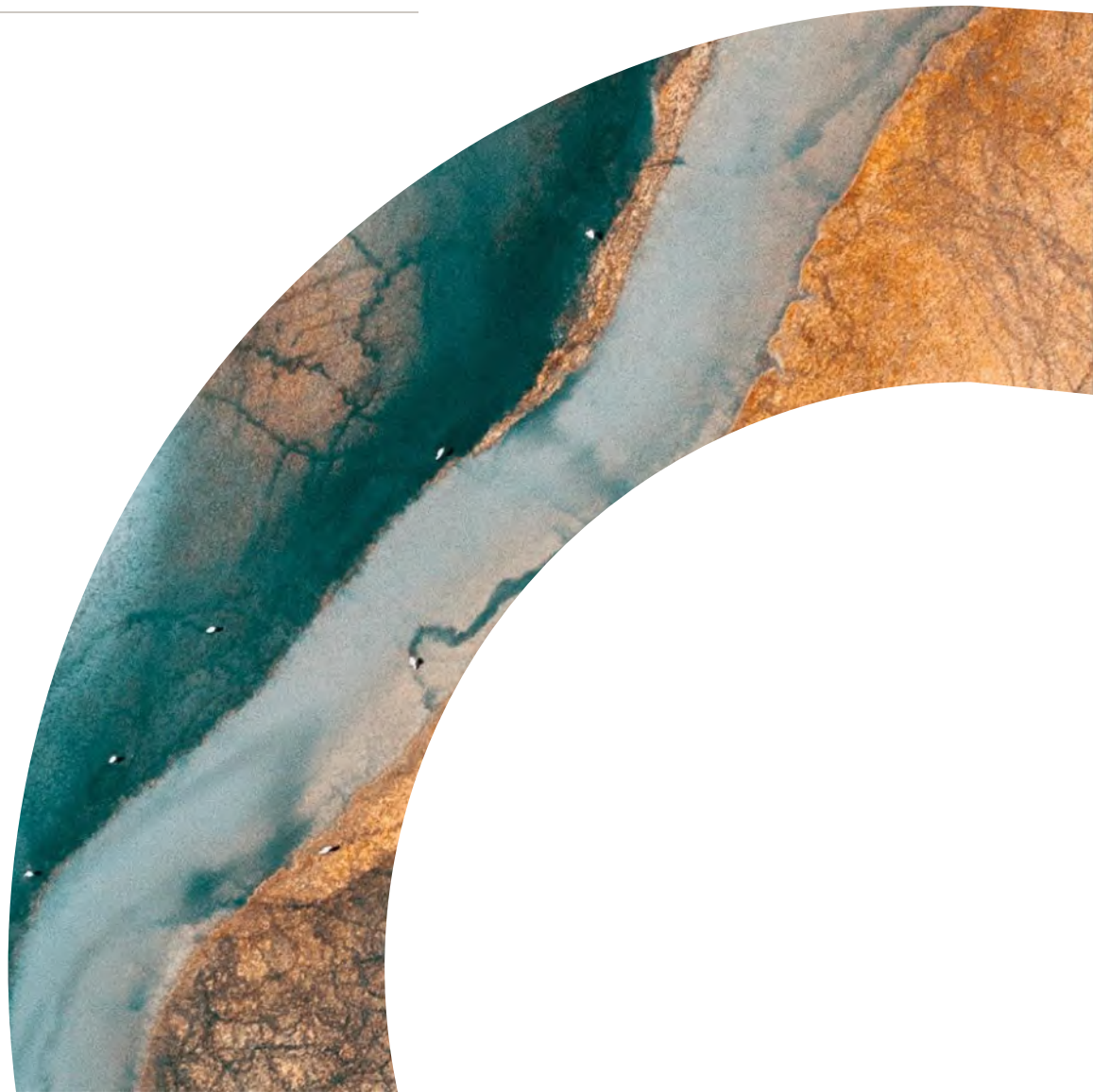


Table 1
Final Soil Validation Results
(Residential B Criteria)

						Asbestos	BTEX								TRH							TPH								
						Asbestos Identification in Soil	Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	C10-C16 Fraction (F2)	C10-C16 Fraction (F2 minus Naphthalene)	C16-C34 Fraction (F3)	C34-C40 Fraction (F4)	C10-C40 Fraction (Sum)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)				
						Comment	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
LOR							1	0.2	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	10	50	100	100	50				
NEPM 2013 Table 1A(1) HILs Res B Soil																														
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=0m, <1m >=1m, <2m >=2m, <4m							5	0.7	480	NL ^{#7}			110			50 ^{#8}		280 ^{#9}												
							NL ^{#7}	1	NL ^{#7}	NL			310			90		NL ^{#7}												
							NL	2	NL	NL			NL ^{#7}			150		NL												
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space							170																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil (0-2 m)								65	105	125			45			180 ^{#11}	120 ^{#12}	120 ^{#13}	1,300	5,600										
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil															800 ^{#14}		1,000 ^{#14}		3,500	10,000										
Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code																									
V1	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V1 - [TRIPLICATE]	3	20 Jul 2023	328660	Soil																										
DUP1	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
TRIP1	3	20 Jul 2023	ES2324574	Soil			<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50				
V2	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V3	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V4	3.5	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V5	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V6	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
DUP2	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
TRIP2	3	20 Jul 2023	ES2324574	Soil			<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50				
V7	3.5	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V8	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V9	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V10	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V11	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V11 - [TRIPLICATE]	3	20 Jul 2023	328660	Soil																										
V12	0.3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V12	2.5	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
DUP3	0.3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
TRIP3	0.3	20 Jul 2023	ES2324574	Soil			<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50				
V13	0.3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V13	2.5	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V14	0.3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V14	2.5	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V15	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V16	0.3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V16	2.5	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V16 - [TRIPLICATE]	2.5	20 Jul 2023	328660	Soil																										
V17	0.3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V17	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V18	0.3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50				
V18	3	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	&lt							

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Final Soil Validation Results
(Residential B Criteria)

						Asbestos									BTEX									TRH							TPH				
						Asbestos Identification in Soil									Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	
						Comment	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR							1	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	10	50	100	100	50								
NEPM 2013 Table 1A(1) HILs Res B Soil																																			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=0m, <1m >=1m, <2m >=2m, <4m																																			
							5	0.7	480	NL ^{#7}				110			50 ^{#8}		280 ^{#9}																
							NL ^{#7}	1	NL ^{#7}	NL				310			90		NL ^{#7}																
							NL	2	NL	NL				NL ^{#7}			150																		
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space							170																												
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil (0-2 m)								65	105	125			45				180 ^{#11}	120 ^{#12}	120 ^{#13}	1,300	5,600														
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil															800 ^{#14}		1,000 ^{#14}		3,500	10,000															
Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code																														
V32	3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V32	3	20 Jul 2023	328660-B	Soil					<0.2	<0.5	<1	<2	<1																						
V33	3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V33	3	20 Jul 2023	328660-B	Soil					<0.2	<0.5	<1	<2	<1																						
V34	0.5	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V35	0.5	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V36	0.5	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V37	0.3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V38	0.3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V39	0.3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V40	1	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V41	0.3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V42	0.3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V43	0.3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
DUP4	0.3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
TRIP4	0.3	20 Jul 2023	ES2324574	Soil				<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50								
V44	0.5	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V45	0.5	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V46	0.5	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V47	0.5	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V50b	0.9	08 Aug 2023	329997	Soil												<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V53	0.3	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V53 - (TRIPLICATE)	2	02 Aug 2023	329488	Soil																															
V54	1	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V55	0.6	20 Jul 2023	328660	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V56_0.5	0.5	02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V56_2.0	2	02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V57_0.5	0.5	02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V57_2.0	2	02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V58_0.5	0.5	02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	220	<100	220	<25	<50	220	<100	220								
V58_2.0	2	02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V59_0.5	0.5	02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	340	<100	340	<25	<50	320	<100	320								
DUP5		02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
TRIP5		02 Aug 2023	ES2325940	Soil				<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50								
V59_2.0	2	02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	290	110	400	<25	<50	120	230	350								
V60	2	02 Aug 2023	329488	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50								
V61	1.8	08 Aug 2023	329997	Soil												<25		75		<100	<100	80	<25	64	<100	<100	60								
V62	0.9																																		

Comments

ND = Non-detect

#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each carc. PAH in sample by its BaP TEF (ref Table 1A(1)) & summing

#2 Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs (should meet BaP TEQ HIL) & naphthalene (should meet relevant HSL)

#3 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate (refer Schedule B7).

#4 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-specific bioavailability should be considered where appropriate.

#5 Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be considered if elemental mercury is present, or suspected to be present.

#6 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure to all PCBs (inc dioxin like PCBs) should be undertaken

#7 Derived soil HSL exceeds soil saturation concentraiton

#8 To obtain

Table 1
Final Soil Validation Results
(Residential B Criteria)



						PAH																	Metals												
						Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b+j)fluoranthene	Benzo(b+h-i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	PAHs (Sum of total)	PAHs (Sum of positives)	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.2	0.1	0.1	0.1	0.1	0.05	0.5	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.05	4	0.4	1	1	1	0.1	1	1
NEPM 2013 Table 1A(1) HILs Res B Soil																							4 ¹¹	4 ¹¹	400 ¹²		500 ¹³	150	500 ¹¹⁵	30,000	1,200 ¹⁴	120 ¹⁵	1,200	60,000	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																			
>=0m, <1m																				5															
>=1m, <2m																				NL ¹⁷															
>=2m, <4m																				NL															
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																				170							100 ¹¹⁰								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil (0-2 m)											0.7																								
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																			

Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code																													
V1	3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05			<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	7	33	15	<0.1	19	64
V1 - [TRIPLICATE]	3	20 Jul 2023	328660	Soil																						<4	<0.4	7	31	12	<0.1	33	54	
DUP1	3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	10	53	24	<0.1	18	81
TRIP1	3	20 Jul 2023	ES2324574	Soil			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.05	<5	<1	9	50	21	<0.1	20	65
V2	3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	9	42	14	<0.1	23	47
V3	3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	8	40	25	<0.1	40	69
V4	3.5	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	7	28	19	<0.1	16	52
V5	3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	9	40	19	<0.1	19	78
V6	3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	8	<0.4	10	52	18	0.1	17	98
DUP2	3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	8	<0.4	10	56	18	<0.1	19	110
TRIP2	3	20 Jul 2023	ES2324574	Soil			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.05	<5	<1	9	34	17	<0.1	11	72
V7	3.5	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	14	<0.4	10	73	29	0.2	24	120
V8	3	20 Jul 2023	328660	Soil		<0.2	1.8	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	0.8	<0.1	<0.1	0.4	<0.1	<0.5	<0.5		2.9	<4	<0.4	3	39	18	<0.1	6	26
V9	3	20 Jul 2023	328660	Soil		<0.2	0.5	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	0.4	<0.1	<0.1	0.1	<0.1	<0.5	<0.5		1.0	<4	<0.4	3	17	11	<0.1	5	19
V10	3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	11	52	21	<0.1	26	110
V11	3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	13	39	21	<0.1	22	120
V11 - [TRIPLICATE]	3	20 Jul 2023	328660	Soil																						<4	<0.4	14	36	18	<0.1	22	110	
V12	0.3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	8	<0.4	22	19	15	<0.1	6	25
V12	2.5	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	23	<0.4	15	29	10	<0.1	10	69
DUP3	0.3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	10	<0.4	24	10	19	<0.1	6	21
TRIP3	0.3	20 Jul 2023	ES2324574	Soil			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.05	12	<1	29	14	24	<0.1	8	24
V13	0.3	20 Jul 2023	328660	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.																	

Table 1
Final Soil Validation Results
(Residential B Criteria)

[illegible][illegible]

Comments

ND = Not-detect

#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each

#2 Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs

#3 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate

#4 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-s

#5 Elemental mercury: HIL does not address elemental mercury, a site specific assessment should be considered if elemental mercury

#6 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exp

#7 Derived soil HSL exceeds soil saturation concentration

#8 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#9 To obtain F2 subtract naphthalene from the >C10 - C16 fraction.

#10 Age values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5c for < 2 years.

#11 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#12 ERRATA Updated 30 April 2014 - Naphthalene should not be subtracted.

#13 Errata 30 April 2014. Naphthalene should not be subtracted from >C

#14 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fraction

#15 NEPM HIL-B criteria for Chromium (VI) adopted in the absence of criteria for Chromium (III+IV)

Environmental Standards

2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 1
Final Soil Validation Results
(Residential B Criteria)

[illegible]

Table 1
Final Soil Validation Results
(Residential B Criteria)

[illegible]

Comments

ND = Non-detect

#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs and their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each PAH by its TEF and summing the results.

#2 Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs.

#3 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate.

#4 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-specific bioavailability should be considered where appropriate.

#5 Elemental mercury: HIL does not address elemental mercury, a site specific assessment should be considered if elemental mercury is present.

#6 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure should be considered.

#7 Derived soil HSL exceeds soil saturation concentration

#8 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#9 To obtain F2 subtract naphthalene from the >C10 - C16 fraction.

#10 Age values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5c for < 2 years.

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#15 NEPM HIL-B criteria for Chromium (VI) adopted in the absence of criteria for Chromium (III+VI)

Environmental Standards
 2013, NEPM 2013 Table 1A(1) HILs Res B Soil
 2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
 2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
 NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 1
Final Soil Validation Results
(Residential B Criteria)

					VOCs																										
					Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Cyclohexane	Dibromomethane	Dichlorodifluoromethane	Hexachlorobutadiene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	Trichloroethene	tert-butylbenzene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichlorofluoromethane	Vinyl chloride			
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
LOR					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
NEPM 2013 Table 1A(1) HILs Res B Soil																															
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay >=0m, <1m >=1m, <2m >=2m, <4m																															
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil (0-2 m)																															
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																															
Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code																										
V1	3	20 Jul 2023	328660	Soil																											
V1 - [TRIPLICATE]	3	20 Jul 2023	328660	Soil																											
DUP1	3	20 Jul 2023	328660	Soil																											
TRIP1	3	20 Jul 2023	ES2324574	Soil																											
V2	3	20 Jul 2023	328660	Soil																											
V3	3	20 Jul 2023	328660	Soil																											
V4	3.5	20 Jul 2023	328660	Soil																											
V5	3	20 Jul 2023	328660	Soil																											
V6	3	20 Jul 2023	328660	Soil																											
DUP2	3	20 Jul 2023	328660	Soil																											
TRIP2	3	20 Jul 2023	ES2324574	Soil																											
V7	3.5	20 Jul 2023	328660	Soil																											
V8	3	20 Jul 2023	328660	Soil																											
V9	3	20 Jul 2023	328660	Soil																											
V10	3	20 Jul 2023	328660	Soil																											
V11	3	20 Jul 2023	328660	Soil																											
V11 - [TRIPLICATE]	3	20 Jul 2023	328660	Soil																											
V12	0.3	20 Jul 2023	328660	Soil																											
V12	2.5	20 Jul 2023	328660	Soil																											
DUP3	0.3	20 Jul 2023	328660	Soil																											
TRIP3	0.3	20 Jul 2023	ES2324574	Soil																											
V13	0.3	20 Jul 2023	328660	Soil																											
V13	2.5	20 Jul 2023	328660	Soil																											
V14	0.3	20 Jul 2023	328660	Soil																											
V14	2.5	20 Jul 2023	328660	Soil																											
V15	3	20 Jul 2023	328660	Soil																											
V16	0.3	20 Jul 2023	328660	Soil																											
V16	2.5	20 Jul 2023	328660	Soil																											

Table 1
Final Soil Validation Results
(Residential B Criteria)

						VOCs																											
						Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Cyclohexane	Dibromomethane	Dichlorodifluoromethane	Hexachlorobutadiene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	Trichloroethene	tert-butylbenzene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichlorofluoromethane	Vinyl chloride				
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
LOR						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
NEPM 2013 Table 1A(1) HILs Res B Soil																																	
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NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil (0-2 m)																																	
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																	
Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code																												
V32	3	20 Jul 2023	328660	Soil																													
V32	3	20 Jul 2023	328660-B	Soil		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
V33	3	20 Jul 2023	328660	Soil																													
V33	3	20 Jul 2023	328660-B	Soil		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
V34	0.5	20 Jul 2023	328660	Soil																													
V35	0.5	20 Jul 2023	328660	Soil																													
V36	0.5	20 Jul 2023	328660	Soil																													
V37	0.3	20 Jul 2023	328660	Soil																													
V38	0.3	20 Jul 2023	328660	Soil																													
V39	0.3	20 Jul 2023	328660	Soil																													
V40	1	20 Jul 2023	328660	Soil																													
V41	0.3	20 Jul 2023	328660	Soil																													
V42	0.3	20 Jul 2023	328660	Soil																													
V43	0.3	20 Jul 2023	328660	Soil																													
DUP4	0.3	20 Jul 2023	328660	Soil																													
TRIP4	0.3	20 Jul 2023	ES2324574	Soil																													
V44	0.5	20 Jul 2023	328660	Soil																													
V45	0.5	20 Jul 2023	328660	Soil																													
V46	0.5	20 Jul 2023	328660	Soil																													
V47	0.5	20 Jul 2023	328660	Soil																													
V50b	0.9	08 Aug 2023	329997	Soil																													
V53	0.3	20 Jul 2023	328660	Soil																													
V53 - (TRIPLICATE)	2	02 Aug 2023	329488	Soil																													
V54	1	20 Jul 2023	328660	Soil																													
V55	0.6	20 Jul 2023	328660	Soil																													
V56_0.5	0.5	02 Aug 2023	329488	Soil																													
V56_2.0	2	02 Aug 2023	329488	Soil																													
V57_0.5	0.5	02 Aug 2023	329488	Soil																													
V57_2.0	2	02 Aug 2023	329488	Soil																													
V58_0.5	0.5	02 Aug 2023	329488	Soil																													
V58_2.0	2	02 Aug 2023	329488	Soil																													
V59_0.5	0.5	02 Aug 2023	329488	Soil																													
DUP5		02 Aug 2023	329488	Soil																													
TRIP5		02 Aug 2023	ES2325940	Soil																													
V59_2.0	2	02 Aug 2023	329488	Soil																													
V60	2	02 Aug 2023	329488	Soil																													
V61	1.8	08 Aug 2023	329997	Soil																													
V62	0.9	08 Aug 2023	329997	Soil																													
V63	0.9	08 Aug 2023	329997	Soil																													

Comments
ND = Non-detect
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each
#2 Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs
#3 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appr
#4 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-s
#5 Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be considered if elemental mercur
#6 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exp
#7 Derived soil HSL exceeds soil saturation concentratlon
#8 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#9 To obtain F2 subtract naphthalene from the >C10 - C16 fraction.
#10 Aged values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5c for < 2 years.
#11 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#12 ERRATA Updated 30 April 2014. Naphthalene should not be subtracted.
#13 Errata 30 April 2014. Naphthalene should not be subtracted from >C
#14 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fractio
#15 NEPM HIL-B criteria for Chromium (VI) adopted in the absence of criteria for Chromium (III+VI)

Environmental Standards
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 1
Final Soil Validation Results
(Residential B Criteria)

						Phenols												
						3,4-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	Phenolics Total
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	5
NEPM 2013 Table 1A(1) HILs Res B Soil																130	45,000	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																		
>=0m, <1m																		
>=1m, <2m																		
>=2m, <4m																		
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																		
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil (0-2 m)																		
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																		

Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code													
V1	3	20 Jul 2023	328660	Soil														
V1 - [TRIPLICATE]	3	20 Jul 2023	328660	Soil														
DUP1	3	20 Jul 2023	328660	Soil														
TRIP1	3	20 Jul 2023	ES2324574	Soil														
V2	3	20 Jul 2023	328660	Soil														
V3	3	20 Jul 2023	328660	Soil														
V4	3.5	20 Jul 2023	328660	Soil														
V5	3	20 Jul 2023	328660	Soil														
V6	3	20 Jul 2023	328660	Soil														
DUP2	3	20 Jul 2023	328660	Soil														
TRIP2	3	20 Jul 2023	ES2324574	Soil														
V7	3.5	20 Jul 2023	328660	Soil														
V8	3	20 Jul 2023	328660	Soil														
V9	3	20 Jul 2023	328660	Soil														
V10	3	20 Jul 2023	328660	Soil														
V11	3	20 Jul 2023	328660	Soil														
V11 - [TRIPLICATE]	3	20 Jul 2023	328660	Soil														
V12	0.3	20 Jul 2023	328660	Soil														
V12	2.5	20 Jul 2023	328660	Soil														
DUP3	0.3	20 Jul 2023	328660	Soil														
TRIP3	0.3	20 Jul 2023	ES2324574	Soil														
V13	0.3	20 Jul 2023	328660	Soil														
V13	2.5	20 Jul 2023	328660	Soil														
V14	0.3	20 Jul 2023	328660	Soil														
V14	2.5	20 Jul 2023	328660	Soil														
V15	3	20 Jul 2023	328660	Soil														
V16	0.3	20 Jul 2023	328660	Soil														
V16	2.5	20 Jul 2023	328660	Soil														
V16 - [TRIPLICATE]	2.5	20 Jul 2023	328660	Soil														
V17	0.3	20 Jul 2023	328660	Soil														
V17	3	20 Jul 2023	328660	Soil														
V18	0.3	20 Jul 2023	328660	Soil														
V18	3	20 Jul 2023	328660	Soil														
V19	0.3	20 Jul 2023	328660	Soil														
V19	3	20 Jul 2023	328660	Soil														
V20	0.3	20 Jul 2023	328660	Soil														
V20	3	20 Jul 2023	328660	Soil														
V21	0.3	20 Jul 2023	328660	Soil														
V21	3	20 Jul 2023	328660	Soil														
V21 - [TRIPLICATE]	3	20 Jul 2023	328660	Soil														
V22	3	20 Jul 2023	328660	Soil														
V23	0.3	20 Jul 2023	328660	Soil														
V23	2.5	20 Jul 2023	328660	Soil														
V24	0.3	20 Jul 2023	328660	Soil														
V24	2.5	20 Jul 2023	328660	Soil														
V25	0.3	20 Jul 2023	328660	Soil														
V25	0.3	20 Jul 2023	328660-B	Soil														<5
V25	2.5	20 Jul 2023	328660	Soil														
V25	2.5	20 Jul 2023	328660-B	Soil														<5
V26	0.3	20 Jul 2023	328660	Soil														
V26	0.3	20 Jul 2023	328660-B	Soil														<5
V26	2.5	20 Jul 2023	328660	Soil														
V26	2.5	20 Jul 2023	328660-B	Soil														<5
V26 - [TRIPLICATE]	2.5	20 Jul 2023	328660	Soil														
V27	0.3	20 Jul 2023	328660	Soil														
V27	0.3	20 Jul 2023	328660-B	Soil														<5
V27	2.5	20 Jul 2023	328660	Soil														
V27	2.5	20 Jul 2023	328660-B	Soil														<5
V28	0.3	20 Jul 2023	328660	Soil														
V28	2.5	20 Jul 2023	328660	Soil														
V29	0.3	20 Jul 2023	328660	Soil														
V29	2.5	20 Jul 2023	328660	Soil														
V30	0.3	20 Jul 2023	328660	Soil														
V30	3	20 Jul 2023	328660	Soil														
V31	0.3	20 Jul 2023	328660	Soil														
V31	2.5	20 Jul 2023	328660	Soil														

Table 1
Final Soil Validation Results
(Residential B Criteria)

						Phenols												
						3&4-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	Phenolics Total
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	5
NEPM 2013 Table 1A(1) HILs Res B Soil																130	45,000	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																		
>=0m, <1m																		
>=1m, <2m																		
>=2m, <4m																		
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																		
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil (0-2 m)																		
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																		

Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code													
V32	3	20 Jul 2023	328660	Soil														
V32	3	20 Jul 2023	328660-B	Soil														<5
V33	3	20 Jul 2023	328660	Soil														
V33	3	20 Jul 2023	328660-B	Soil														<5
V34	0.5	20 Jul 2023	328660	Soil														
V35	0.5	20 Jul 2023	328660	Soil														
V36	0.5	20 Jul 2023	328660	Soil														
V37	0.3	20 Jul 2023	328660	Soil														
V38	0.3	20 Jul 2023	328660	Soil														
V39	0.3	20 Jul 2023	328660	Soil														
V40	1	20 Jul 2023	328660	Soil														
V41	0.3	20 Jul 2023	328660	Soil														
V42	0.3	20 Jul 2023	328660	Soil														
V43	0.3	20 Jul 2023	328660	Soil														
DUP4	0.3	20 Jul 2023	328660	Soil														
TRIP4	0.3	20 Jul 2023	ES2324574	Soil														
V44	0.5	20 Jul 2023	328660	Soil														
V45	0.5	20 Jul 2023	328660	Soil														
V46	0.5	20 Jul 2023	328660	Soil														
V47	0.5	20 Jul 2023	328660	Soil														
V50b	0.9	08 Aug 2023	329997	Soil														
V53	0.3	20 Jul 2023	328660	Soil														
V53 - (TRIPLICATE)	2	02 Aug 2023	329488	Soil														
V54	1	20 Jul 2023	328660	Soil														
V55	0.6	20 Jul 2023	328660	Soil														
V56 0.5	0.5	02 Aug 2023	329488	Soil														<5
V56 2.0	2	02 Aug 2023	329488	Soil														<5
V57 0.5	0.5	02 Aug 2023	329488	Soil														<5
V57 2.0	2	02 Aug 2023	329488	Soil														<5
V58 0.5	0.5	02 Aug 2023	329488	Soil														<5
V58 2.0	2	02 Aug 2023	329488	Soil														<5
V59 0.5	0.5	02 Aug 2023	329488	Soil														<5
DUP5		02 Aug 2023	329488	Soil														<5
TRIP5		02 Aug 2023	ES2325940	Soil		<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<5
V59 2.0	2	02 Aug 2023	329488	Soil														<5
V60	2	02 Aug 2023	329488	Soil														<5
V61	1.8	08 Aug 2023	329997	Soil														
V62	0.9	08 Aug 2023	329997	Soil														
V63	0.9	08 Aug 2023	329997	Soil														

Comments
ND = Non-detect
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each
#2 Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs
#3 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appro
#4 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-sj
#5 Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be considered if elemental mercury
#6 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of expc
#7 Derived soil HSL exceeds soil saturation concentratoin
#8 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#9 To obtain F2 subtract naphthalene from the >C10 - C16 fraction.
#10 Aged values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5c for < 2 years.
#11 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#12 ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
#13 Errata 30 April 2014. Naphthalene should not be subtracted from >C
#14 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fraction
#15 NEPM HIL-B criteria for Chromium (VI) adopted in the absence of criteria for Chromium (III+VI)

Environmental Standards
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 2
Soil Stockpile Analytical Results
(Residential B Criteria)

		Asbestos		BTEX							TRH							TPH				
		Asbestos Identification in Soil	Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-Cl10 Fraction (F1)	C6-Cl10 (F1 minus BTEX)	C10-C16 Fraction (F2)	C10-C16 Fraction (F2 minus Naphthalene)	C16-C34 Fraction (F3)	C34-C40 Fraction (F4)	C10-C40 Fraction (Sum)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
		Comment	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR			1	0.2	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	10	50	100	100	50
NEPM 2013 Table 1A(1) HILs Res B Soil																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																						
>=0m, <1m			5	0.7	480	NL ^{#7}			110			50 ^{#8}		280 ^{#9}								
>=1m, <2m			NL ^{#7}	1	NL ^{#7}	NL			310			90	NL ^{#7}									
>=2m, <4m			NL	2	NL	NL			NL ^{#7}			150	NL									
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space			170																			
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil (0-2 m)				65	105	125			45			180 ^{#11}	120 ^{#12}	120 ^{#13}	1,300	5,600						
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil											800 ^{#14}		1,000 ^{#14}		3,500	10,000						

Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code																						
Soils Reinstated On-Site																											
SP01-1	0.3	20 Jul 2023	328659	Soil	SP01		<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP01-1 - [TRIPLICATE]	0.3	20 Jul 2023	328659	Soil																							
SP-DUP1		20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP-TRIP1	0.6	20 Jul 2023	ES2324578	Soil			<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	
SP01-2	0.3	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP01-3	0.3	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP01-4	0.3	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-1	1	20 Jul 2023	328659	Soil		SP02	<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-1	1	20 Jul 2023	328659-A	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
SP02-2	1	20 Jul 2023	328659	Soil				<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
SP02-3	1	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-4	1	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-4	1	20 Jul 2023	328659-A	Soil				<0.2	<0.5	<1	<2	<1															
SP02-5	1	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-6	1	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-7	1	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-7	1	20 Jul 2023	328659-A	Soil				<0.2	<0.5	<1	<2	<1															
SP02-7 - [TRIPLICATE]	1	20 Jul 2023	328659	Soil																							
SP02-8	1	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-9	1	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-10	1	20 Jul 2023	328659	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP02-10	1	20 Jul 2023	328659-A	Soil				<0.2	<0.5	<1	<2	<1															
SP02-11	1	20 Jul 2023	328659	Soil		<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50		
SP02-12	1	20 Jul 2023	328659	Soil		<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50		
SP02-13	1	20 Jul 2023	328659	Soil		<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50		
SP02-13	1	20 Jul 2023	328659-A	Soil			<0.2	<0.5	<1	<2	<1																
SP04-3		02 Aug 2023	329488	Soil	SP04		<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	620	<100	620	<25	<50	580	<100	580	
SP05-1		08 Aug 2023	329997	Soil		ND	<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	89	89	170	<100	260	<25	<50	72	<100	130	200
SP05-2		08 Aug 2023	329997	Soil	SP05	ND	<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	110	<100	110	<25	<50	<100	<100	<50	
SP05-3		08 Aug 2023	329997	Soil		ND	1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	570	570	280	<100	850	<25	510	220	190	920	
Soils Disposed Off-site																											
SP03-1	0.5	20 Jul 2023	328659	Soil	SP03	ND	2	<0.2	<0.5	<1	<2	1	1	1	170	170	2,000	2,000	1,400	360	3,700	37	2,000	970	740	3,700	
SP-DUP3		20 Jul 2023	328659	Soil			1	<0.2	<0.5	<1	<2	<1	<1		25	25	240	230	750	190	1,200	<25	210	480	390	1,100	
SP-TRIP3	0.6	21 Jul 2023	ES2324578	Soil			<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	19	19	480	480	1,280	290	2,050	<10	420	870	600	1,890	
SP03-2	0.5	20 Jul 2023	328659	Soil		ND	<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
SP03-3	0.5	20 Jul 2023	328659	Soil		ND	1	<0.2	<0.5	<1	<2	<1	<1		36	36	550	550	1,700	390	2,700	<25	490	1,200	850	2,500	
V48		20 Jul 2023	328660-A	Soil																							
V48	1.2	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50	
V49		20 Jul 2023	328660-A	Soil																							
V49	0.6	20 Jul 2023	328660	Soil			<1	<0.2	<0.5	<1	<2	<1	<1		27	27	860	860	920	330	2,100	<25	760	610	580	1,900	
V50		20 Jul 2023	328660-A	Soil																							
V50	0.6	20 Jul 2023	328660	Soil			4	<0.2	<0.5	<1	<2	2	2		140	140	1,600	1,600	790	240	2,600	28	1,600	560	460	2,700	
V51		20 Jul 2023	328660-A	Soil																							
V51	0.6	20 Jul 2023	328660	Soil		<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50		
V52		20 Jul 2023	328660-A	Soil																							
V52	0.6	20 Jul 2023	328660	Soil		<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50		
V50a		01 Aug 2023	329413	Soil	SP04	5	<0.2	<0.5	<1	<2	<1	<1		180	180	1,600	1,600	780	190	2,600	27	1,600	580	440	2,600		
SP04-1		02 Aug 2023	329488	Soil		<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	190	190	6,200	<100	6,400	25	<50	6,000	460	6,400		
SP04-2		02 Aug 2023	329488	Soil		<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	62	62	1,900	<100	1,900	<25	<50	1,800	200	2,000		
SP04-2 - [TRIPLICATE]		02 Aug 2023	329488	Soil																							

Table 2

[illegible]

Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code																															
Soils Reinstated On-Site																																				
SP01-1	0.3	20 Jul 2023	328659	Soil	SP01	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	5	7	24	<0.1	4	44			
SP01-1 - [TRIPLICATE]	0.3	20 Jul 2023	328659	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	4	7	23	<0.1	4	41			
SP-DUP1		20 Jul 2023	328659	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	4	6	18	<0.1	3	35			
SP-TRIP1	0.6	20 Jul 2023	E52324578	Soil		<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.6	<1.2	<0.5	<0.5	<5	<1	5	6	25	<0.1	3	38			
SP01-2	0.3	20 Jul 2023	328659	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	3	0	1	3	<0.1	1	20		
SP01-3	0.3	20 Jul 2023	328659	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	10	9	51	<0.1	4	90			
SP01-4	0.3	20 Jul 2023	328659	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	20	15	16	<0.1	6	21			
SP02-1	1	20 Jul 2023	328659	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	5	5	9	<0.1	4	30			
SP02-1	1	20 Jul 2023	328659-A	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4									
SP02-2	1	20 Jul 2023	328659	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	3	4	7	<0.1	2	24			
SP02-3	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	3	0	2	3	<0.1	2	8			
SP02-4	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.2	<6	<0.4	13	17	37	<0.1	5	240				
SP02-4	1	20 Jul 2023	328659-A	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.2	<6	<0.4										
SP02-5	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	4	7	24	<0.1	4	31				
SP02-6	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	5	0	23	13	<0.1	10	39			
SP02-7	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.1	<4	<0.4	2	2	3	<0.1	3	8				
SP02-7	1	20 Jul 2023	328659-A	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.1	<4	<0.4										
SP02-7 - [TRIPLICATE]	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.1	<4	<0.4	3	4	3	<0.1	4	11				
SP02-8	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	20	20	20	<0.1	7	30				
SP02-9	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	4	8	8	<0.1	5	32				
SP02-10	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	15	31	14	<0.1	4	22				
SP02-10	1	20 Jul 2023	328659-A	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4										
SP02-11	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	21	25	20	<0.1	8	42				
SP02-12	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.1	<4	<0.4	4	10	20	<0.1	3	62				
SP02-13	1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.1	<4	<0.4	11	39	20	<0.1	8	54				
SP02-13	1	20 Jul 2023	328659-A	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.1	<4	<0.4	8	22	7	<0.1	22	81				
SP04-3		02 Aug 2023	329488	Soil	SP04	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.1	<4	<0.4	8									
SP05-1		08 Aug 2023	329997	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	10	57	28	<0.1	10	87			
SP05-2		08 Aug 2023	329997	Soil		<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	17	140	200	<0.1	23	300			
SP05-3		08 Aug 2023	329997	Soil	SP05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<1.8	<4	<0.4	8	36	13	<0.1	13	79			
Soils Disposed Off-site																																				
SP03-1	0.5	20 Jul 2023	328659	Soil		SP03	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.7	<0.2	<0.1	<0.5	<0.5		<1.9	<15	<0.4	15	28	15	<0.1	5	26
SP-DUP3		20 Jul 2023	328659	Soil	<0.2		<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.50	<4	<0.4	7	46	65	<0.1	8	91			
SP-TRIP3	0.6	21 Jul 2023	E52324578	Soil	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.6	<1.2	<0.5	<0.5	<5	<1	12	0	36	30	<0.1	9	91			
SP03-2	0.5	20 Jul 2023	328659	Soil	<0.2		<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	9	15	9	<0.1	23	91			
SP03-3	0.5	20 Jul 2023	328659	Soil	<0.2		<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.5	<0.2	<0.1	<0.5	<0.5		<1.7	<4	<0.8	5	26	79	<0.1	3	82
V48		20 Jul 2023	328660-A	Soil	<0.2		<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	9								
V48	1.2	20 Jul 2023	328660	Soil	<0.2		<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	9	18	10	<0.1	13	89			
V49		20 Jul 2023	328660-A	Soil	<0.2		<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.1	<12	<0.4	18	31	15	<0.1	4	25			
V50		20 Jul 2023	328660-A	Soil	<0.2		<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<2.8	<14	<0.4	16	31	14	<0.1	4	24			
V50	0.6	20 Jul 2023	328660	Soil	<0.2		<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<2.8	<14	<0.4	16	31	14	<0.1	4	24			
V51		20 Jul 2023	328660-A	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5		<0.05	<4	<0.4	9	54	9	<0.1	6	51				
V51	0.6	20 Jul 2023	328660	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1																						

Comments
ND = Non-detect

#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs and their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each carc PAH by its TEF and summing the results.

#2 Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs

#3 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate.

#4 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-specific bioavailability may be important and should be considered where appropriate.

#5 Elemental mercury: HIL does not address elemental mercury, a site specific assessment should be considered if elemental mercury is present.

#6 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure may be warranted.

#7 Derived soil HSL exceeds soil saturation concentration

#8 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#9 To obtain F2 subtract naphthalene from the >C10 - C16 fraction.

#10 Aged values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5C for < 2 years.

#11 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#12 ERRATA Updated 30 April 2014. Naphthalene should not be subtracted.

#13 Errata 30 April 2014. Naphthalene should not be subtracted from >C

#14 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fraction

#15 NEPM HIL-B criteria for Chromium (VI) adopted in the absence of criteria for Chromium (III+VI)

Environmental Standards
 2013, NEPM 2013 Table 1A(1) HILs Res B Soil
 2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
 2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
 NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 2

**Soil Stockpile Analytical Results
(Residential B Criteria)**

[illegible][illegible]

Comments
ND = Non-detect

#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs and their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each carcinogenic PAH by its TEF and summing the results.

#2 Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs.

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#4 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model where 50% bioavailability considered. Site-specific assessment may be warranted.

#5 Elemental mercury: HIL does not add elemental mercury, a site specific assessment should be considered if elemental mercury is present.

#6 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure may be warranted.

#7 Derived soil HSL exceeds soil saturation concentration

#8 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#9 To obtain F2 subtract naphthalene from the >C10 - C16 fraction.

#10 Aged values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5C for < 2 years.

#11 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#12 ERRATA Updated 30 April 2014. Naphthalene should not be subtracted.

#13 Errata 30 April 2014. Naphthalene should not be subtracted from >C10.

#14 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fraction.

#15 NEPM HIL-B criteria for Chromium (VI) adopted in the absence of criteria for Chromium (III+IV)

Environmental Standards
 2013, NEPM 2013 Table 1A(1) HILs Res B Soil
 2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
 2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
 NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 2

[illegible]

Comments

ND = Non-detect

#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each C

#2 Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs

#3 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate

#4 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model where 50% bioavailability considered. Site-specific

#5 Elemental mercury: HIL does not add elemental mercury, a site specific assessment should be considered if elemental mercury

#6 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure

#7 Derived soil HSL exceeds soil saturation concentration

#8 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#9 To obtain F2 subtract naphthalene from the <C10 - C16 fraction.

#10 Aged values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5C for < 2 years.

#11 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.

#12 ERRATA Updated 30 April 2014. Naphthalene should not be subtracted.

#13 Errata 30 April 2014. Naphthalene should not be subtracted from >C

#14 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fraction

#15 NEPM HIL-criteria for Chromium (VI) adopted in the absence of criteria for Chromium (III+VI)

Environmental Standards

2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 2
Soil Stockpile Analytical Results
(Residential B Criteria)

		Organochlorine Pesticides																									
		4,4'-DDE	p-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin	p-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	p-BHC	DDD	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	p-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor	
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	
NEPM 2013 Table 1A(1) Hills Res B Soil						10		90						600	400				20				10		15	500	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																											
>=0m, <1m																											
>=1m, <2m																											
>=2m, <4m																											
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space												180															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil (0-2 m)																											
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																											

Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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SP01-1	0.3	20 Jul 2023	328659	Soil	SP01																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

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Environmental Standards
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2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 2
Soil Stockpile Analytical Results
(Residential B Criteria)

		Organophosphorous Pesticides																						Pesticides		
		Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenitrothion	Fenthion	Malathion	Methidathion	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Parathion	Phorate	Prothiofos	Ronnel	Demeton-S-methyl	Phosphos-ethyl
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR		0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.1	0.05	0.1	0.05	0.05	0.1	0.1	0.1	0.2	0.1	0.1	0.05	0.1	0.05	0.05	
NEPM 2013 Table 1A(1) HILLS Res B Soil						340																				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																										
>=0m, <1m																										
>=1m, <2m																										
>=2m, <4m																										
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																										
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NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																										

Field ID	Depth	Date	Lab Report Number	Matrix Type	Location Code																								
Soils Reinstated On-Site																													
SP01-1	0.3	20 Jul 2023	328659	Soil	SP01																								
SP01-1 - [TRIPLICATE]	0.3	20 Jul 2023	328659	Soil																									
SP-DUP1		20 Jul 2023	328659	Soil																									
SP-TRIP1	0.6	20 Jul 2023	ES2324578	Soil																									
SP01-2	0.3	20 Jul 2023	328659	Soil																									
SP01-3	0.3	20 Jul 2023	328659	Soil	SP02																								
SP01-4	0.3	20 Jul 2023	328659	Soil																									
SP02-1	1	20 Jul 2023	328659	Soil																									
SP02-1	1	20 Jul 2023	328659-A	Soil																									
SP02-2	1	20 Jul 2023	328659	Soil																									
SP02-3	1	20 Jul 2023	328659	Soil																									
SP02-4	1	20 Jul 2023	328659	Soil																									
SP02-4	1	20 Jul 2023	328659-A	Soil																									
SP02-5	1	20 Jul 2023	328659	Soil																									
SP02-6	1	20 Jul 2023	328659	Soil																									
SP02-7	1	20 Jul 2023	328659	Soil																									
SP02-7	1	20 Jul 2023	328659-A	Soil																									
SP02-7 - [TRIPLICATE]	1	20 Jul 2023	328659	Soil																									
SP02-8	1	20 Jul 2023	328659	Soil																									
SP02-9	1	20 Jul 2023	328659	Soil																									
SP02-10	1	20 Jul 2023	328659	Soil																									
SP02-10	1	20 Jul 2023	328659-A	Soil																									
SP02-11	1	20 Jul 2023	328659	Soil																									
SP02-12	1	20 Jul 2023	328659	Soil																									
SP02-13	1	20 Jul 2023	328659	Soil																									
SP02-13	1	20 Jul 2023	328659-A	Soil																									
SP04-3		02 Aug 2023	329488	Soil	SP04																								
SP05-1		08 Aug 2023	329997	Soil																									
SP05-2		08 Aug 2023	329997	Soil	SP05																								
SP05-3		08 Aug 2023	329997	Soil																									
Soils Disposed Off-site																													
SP03-1	0.5	20 Jul 2023	328659	Soil	SP03	<0.1	<0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
SP-DUP3		20 Jul 2023	328659	Soil		<0.1	<0.1	<0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-TRIP3	0.6	21 Jul 2023	ES2324578	Soil		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SP03-2	0.5	20 Jul 2023	328659	Soil		<0.1	<0.1	<0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP03-3	0.5	20 Jul 2023	328659	Soil		<0.1	<0.1					<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
V48		20 Jul 2023	328660-A	Soil																									
V48	1.2	20 Jul 2023	328660	Soil																									
V49		20 Jul 2023	328660-A	Soil																									
V49	0.6	20 Jul 2023	328660	Soil																									
V50		20 Jul 2023	328660-A	Soil																									
V50	0.6	20 Jul 2023	328660	Soil																									
V51		20 Jul 2023	328660-A	Soil																									
V51	0.6	20 Jul 2023	328660	Soil																									
V52		20 Jul 2023	328660-A	Soil																									
V52	0.6	20 Jul 2023	328660	Soil																									
V50a		01 Aug 2023	329413	Soil	SP04																								
SP04-1		02 Aug 2023	329488	Soil																									
SP04-2		02 Aug 2023	329488	Soil																									
SP04-2 - [TRIPLICATE]		02 Aug 2023	329488	Soil																									

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NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 2
Soil Stockpile Analytical Results
(Residential B Criteria)

	LOR	Phenols													PCBs									
		384-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	Phenolics Total	Anachlor 1016	Anachlor 1221	Anachlor 1232	Anachlor 1242	Anachlor 1248	Anachlor 1254	Anachlor 1260	PCBs (Sum of total)		
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
		1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
NEPM 2013 Table 1A(1) HILs Res B Soil												130	45,000									1 st		
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NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil

Table 3
QAQC - Validation RPDs



Field ID Date Matrix Type Lab Report Number			V1	DUP1	RPD	V1	TRIP1	RPD	V6	DUP2	RPD	V6	TRIP2	RPD	V12	DUP3	RPD
			20 Jul 2023	20 Jul 2023		20 Jul 2023	20 Jul 2023		20 Jul 2023	20 Jul 2023		20 Jul 2023	20 Jul 2023				
			Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil				
			328660	328660		328660	ES2324574		328660	328660		328660	ES2324574		328660	328660	
	Unit	EQL															
BTEX																	
Naphthalene (BTEX)	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0
Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Ethylbenzene	mg/kg	0.5	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0	<1	<1	0
Xylene (m & p)	mg/kg	0.5	<2	<2	0	<2	<0.5	0	<2	<2	0	<2	<0.5	0	<2	<2	0
Xylene (o)	mg/kg	0.5	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0	<1	<1	0
Xylene Total	mg/kg	0.5	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0	<1	<1	0
Total BTEX	mg/kg	0.2					<0.2						<0.2				
TRH																	
C6-C10 Fraction (F1)	mg/kg	10	<25	<25	0	<25	<10	0	<25	<25	0	<25	<10	0	<25	<25	0
C6-C10 (F1 minus BTEX)	mg/kg	10	<25	<25	0	<25	<10	0	<25	<25	0	<25	<10	0	<25	<25	0
>C10-C16 Fraction (F2)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
>C16-C34 Fraction (F3)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
>C34-C40 Fraction (F4)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
>C10-C40 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
TPH																	
C6-C9 Fraction	mg/kg	10	<25	<25	0	<25	<10	0	<25	<25	0	<25	<10	0	<25	<25	0
C10-C14 Fraction	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
C15-C28 Fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
C29-C36 Fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
C10-C36 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
PAH																	
Benzo(b+j+k)fluoranthene	mg/kg	0.2	<0.2	<0.2	0	<0.2			<0.2	<0.2	0	<0.2			<0.2	<0.2	0
Acenaphthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Benz(a)anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Benzo(a) pyrene	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.5	0	<0.05	<0.05	0	<0.05	<0.5	0	<0.05	<0.05	0
Benzo(b+j)fluoranthene	mg/kg	0.5					<0.5						<0.5				
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Benzo(k)fluoranthene	mg/kg	0.5					<0.5						<0.5				
Chrysene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Dibenz(a,h)anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Fluoranthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Fluorene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Naphthalene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Pyrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	<0.5	<0.5	0	<0.5	0.6	18	<0.5	<0.5	0	<0.5	0.6	18	<0.5	<0.5	0
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	<0.5	<0.5	0	<0.5	1.2	82	<0.5	<0.5	0	<0.5	1.2	82	<0.5	<0.5	0
PAHs (Sum of total)	mg/kg	0.5					<0.5						<0.5				
PAHs (Sum of positives)	mg/kg	0.05	<0.05	<0.05	0	<0.05			<0.05	<0.05	0	<0.05			<0.05	<0.05	0
Metals																	
Arsenic	mg/kg	4	<4	<4	0	<4	<5	0	8	8	0	8	<5	46	8	10	22
Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	<1	0	<0.4	<0.4	0	<0.4	<1	0	<0.4	<0.4	0
Chromium (III+VI)	mg/kg	1	7	10	35	7	9	25	10	10	0	10	9	11	22	24	9
Copper	mg/kg	1	33	53	47	33	50	41	52	56	7	52	34	42	19	10	62
Lead	mg/kg	1	15	24	46	15	21	33	18	18	0	18	17	6	15	19	24
Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	0.1	<0.1	0	0.1	<0.1	0	<0.1	<0.1	0
Nickel	mg/kg	1	19	18	5	19	20	5	17	19	11	17	11	43	6	6	0
Zinc	mg/kg	1	64	81	23	64	65	2	98	110	12	98	72	31	25	21	17

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (0 - 5 x EQL); 75 (5 - 10 x EQL); 30 (> 10 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table 3
QAQC - Validation RPDs



Field ID Date Matrix Type Lab Report Number			V12	TRIP3	RPD	V43	DUP4	RPD	V43	TRIP4	RPD	V59_0.5	DUP5	RPD	V59_0.5	TRIP5	RPD
			20 Jul 2023	20 Jul 2023		20 Jul 2023	20 Jul 2023		20 Jul 2023	20 Jul 2023		02 Aug 2023	02 Aug 2023		02 Aug 2023	02 Aug 2023	
			Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil	
			328660	ES2324574		328660	328660		328660	ES2324574		329488	329488		329488	ES2325940	
	Unit	EQL															
BTEX																	
Naphthalene (BTEX)	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0
Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Ethylbenzene	mg/kg	0.5	<1	<0.5	0	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0
Xylene (m & p)	mg/kg	0.5	<2	<0.5	0	<2	<2	0	<2	<0.5	0	<2	<2	0	<2	<0.5	0
Xylene (o)	mg/kg	0.5	<1	<0.5	0	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0
Xylene Total	mg/kg	0.5	<1	<0.5	0	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0
Total BTEX	mg/kg	0.2		<0.2						<0.2						<0.2	
TRH																	
C6-C10 Fraction (F1)	mg/kg	10	<25	<10	0	<25	<25	0	<25	<10	0	<25	<25	0	<25	<10	0
C6-C10 (F1 minus BTEX)	mg/kg	10	<25	<10	0	<25	<25	0	<25	<10	0	<25	<25	0	<25	<10	0
>C10-C16 Fraction (F2)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
>C16-C34 Fraction (F3)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	340	<100	109	340	<100	109
>C34-C40 Fraction (F4)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
>C10-C40 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	340	<50	149	340	<50	149
TPH																	
C6-C9 Fraction	mg/kg	10	<25	<10	0	<25	<25	0	<25	<10	0	<25	<25	0	<25	<10	0
C10-C14 Fraction	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
C15-C28 Fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	320	<100	105	320	<100	105
C29-C36 Fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
C10-C36 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	320	<50	146	320	<50	146
PAH																	
Benzo(b+j+k)fluoranthene	mg/kg	0.2	<0.2			<0.2	<0.2	0	<0.2			<0.2	<0.2	0	<0.2		
Acenaphthene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Acenaphthylene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Anthracene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Benz(a)anthracene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Benzo(a) pyrene	mg/kg	0.05	<0.05	<0.5	0	<0.05	<0.05	0	<0.05	<0.5	0	<0.05	<0.05	0	<0.05	<0.5	0
Benzo(b+j)fluoranthene	mg/kg	0.5		<0.5						<0.5						<0.5	
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Benzo(k)fluoranthene	mg/kg	0.5		<0.5						<0.5						<0.5	
Chrysene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Dibenz(a,h)anthracene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Fluoranthene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Fluorene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Naphthalene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Phenanthrene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	0.2	<0.1	67	0.2	<0.5	0
Pyrene	mg/kg	0.1	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	<0.5	0.6	18	<0.5	<0.5	0	<0.5	0.6	18	<0.5	<0.5	0	<0.5	0.6	18
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	<0.5	1.2	82	<0.5	<0.5	0	<0.5	1.2	82	<0.5	<0.5	0	<0.5	1.2	82
PAHs (Sum of total)	mg/kg	0.5		<0.5						<0.5						<0.5	
PAHs (Sum of positives)	mg/kg	0.05	<0.05			<0.05	<0.05	0	<0.05			0.2	<0.05	120	0.2		
Metals																	
Arsenic	mg/kg	4	8	12	40	15	16	6	15	18	18	9	9	0	9	6	40
Cadmium	mg/kg	0.4	<0.4	<1	0	<0.4	<0.4	0	<0.4	<1	0	<0.4	<0.4	0	<0.4	<1	0
Chromium (III+VI)	mg/kg	1	22	29	27	17	22	26	17	20	16	19	15	24	19	10	62
Copper	mg/kg	1	19	14	30	32	34	6	32	31	3	27	23	16	27	18	40
Lead	mg/kg	1	15	24	46	20	22	10	20	20	0	15	14	7	15	14	7
Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	0.1	<0.1	0	0.1	<0.1	0
Nickel	mg/kg	1	6	8	29	4	4	0	4	5	22	4	3	29	4	3	29
Zinc	mg/kg	1	25	24	4	31	23	30	31	22	34	24	18	29	24	18	29

*RPDs have only been considered where a concentration is greater than 1 times the
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for e
***Interlab Duplicates are matched on a per compound basis as methods vary betw

Table 4

QAQC - Stockpile RPDs



Field ID Date Matrix Type Lab Report Number			SP01-1	SP-DUP1	RPD	SP01-1	SP-TRIP1	RPD	SP03-1	SP-DUP3	RPD	SP03-1	SP-TRIP3	RPD
			20 Jul 2023	20 Jul 2023		20 Jul 2023	20 Jul 2023		20 Jul 2023	20 Jul 2023		21 Jul 2023		
			Soil	Soil		Soil	Soil		Soil	Soil		Soil		
			328659	328659		328659	ES2324578		328659	328659		ES2324578		
	Unit	EQL												
BTEX														
Naphthalene (BTEX)	mg/kg	1	<1	<1	0	<1	<1	0	2	1	67	2	<1	67
Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Ethylbenzene	mg/kg	0.5	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0
Xylene (m & p)	mg/kg	0.5	<2	<2	0	<2	<0.5	0	<2	<2	0	<2	<0.5	0
Xylene (o)	mg/kg	0.5	<1	<1	0	<1	<0.5	0	1	<1	0	1	<0.5	67
Xylene Total	mg/kg	0.5	<1	<1	0	<1	<0.5	0	1	<1	0	1	<0.5	67
Total BTEX	mg/kg	0.2					<0.2						<0.2	
TRH														
C6-C10 Fraction (F1)	mg/kg	10	<25	<25	0	<25	<10	0	170	25	149	170	19	160
C6-C10 (F1 minus BTEX)	mg/kg	10	<25	<25	0	<25	<10	0	170	25	149	170	19	160
>C10-C16 Fraction (F2)	mg/kg	50	<50	<50	0	<50	<50	0	2,000	240	157	2,000	480	123
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50	<50	<50	0	<50	<50	0	2,000	230	159	2,000	480	123
>C16-C34 Fraction (F3)	mg/kg	100	<100	<100	0	<100	<100	0	1,400	750	60	1,400	1,280	9
>C34-C40 Fraction (F4)	mg/kg	100	<100	<100	0	<100	<100	0	360	190	62	360	290	22
>C10-C40 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	3,700	1,200	102	3,700	2,050	57
TPH														
C6-C9 Fraction	mg/kg	10	<25	<25	0	<25	<10	0	37	<25	39	37	<10	115
C10-C14 Fraction	mg/kg	50	<50	<50	0	<50	<50	0	2,000	210	162	2,000	420	131
C15-C28 Fraction	mg/kg	100	<100	<100	0	<100	<100	0	970	480	68	970	870	11
C29-C36 Fraction	mg/kg	100	<100	<100	0	<100	<100	0	740	390	62	740	600	21
C10-C36 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	3,700	1,100	108	3,700	1,890	65
PAH														
Benzo(b+j+k)fluoranthene	mg/kg	0.2	<0.2	<0.2	0	<0.2			<0.2	<0.2	0	<0.2		
Acenaphthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Benz(a)anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Benzo(a) pyrene	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.5	0	<0.05	<0.05	0	<0.05	<0.5	0
Benzo(b+j)fluoranthene	mg/kg	0.5					<0.5						<0.5	
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Benzo(k)fluoranthene	mg/kg	0.5					<0.5						<0.5	
Chrysene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Dibenz(a,h)anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Fluoranthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Fluorene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Naphthalene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	1.7	0.5	109	1.7	<0.5	109
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	0.2	<0.1	67	0.2	<0.5	0
Pyrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	<0.5	<0.5	0	<0.5	0.6	18	<0.5	<0.5	0	<0.5	0.6	18
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	<0.5	<0.5	0	<0.5	1.2	82	<0.5	<0.5	0	<0.5	1.2	82
PAHs (Sum of total)	mg/kg	0.5					<0.5						<0.5	
PAHs (Sum of positives)	mg/kg	0.05	<0.05	<0.05	0	<0.05			1.9	0.50	117	1.9		
Metals														
Arsenic	mg/kg	4	<4	<4	0	<4	<5	0	15	<4	116	15	7	73
Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	<1	0	<0.4	0.4	0	<0.4	<1	0
Chromium (III+VI)	mg/kg	1	5	4	22	5	5	0	15	7	73	15	12	22
Copper	mg/kg	1	7	6	15	7	6	15	28	46	49	28	36	25
Lead	mg/kg	1	24	18	29	24	25	4	15	65	125	15	30	67
Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Nickel	mg/kg	1	4	3	29	4	3	29	5	8	46	5	9	57
Zinc	mg/kg	1	44	35	23	44	38	15	26	91	111	26	91	111
Phenols														
3&4-Methylphenol (m&p-cresol)	mg/kg	1											<1	
2,4,5-Trichlorophenol	mg/kg	0.5											<0.5	
2,4,6-Trichlorophenol	mg/kg	0.5											<0.5	
2,4-Dichlorophenol	mg/kg	0.5											<0.5	
2,4-Dimethylphenol	mg/kg	0.5											<0.5	
2,6-Dichlorophenol	mg/kg	0.5											<0.5	
2-Chlorophenol	mg/kg	0.5											<0.5	
2-Methylphenol	mg/kg	0.5											<0.5	
2-Nitrophenol	mg/kg	0.5											<0.5	
4-chloro-3-methylphenol	mg/kg	0.5											<0.5	
Pentachlorophenol	mg/kg	2											<2	
Phenol	mg/kg	0.5											<0.5	
Phenolics Total	mg/kg	5							<5	<5	0	<5		

Table 4
QAQC - Stockpile RPDs

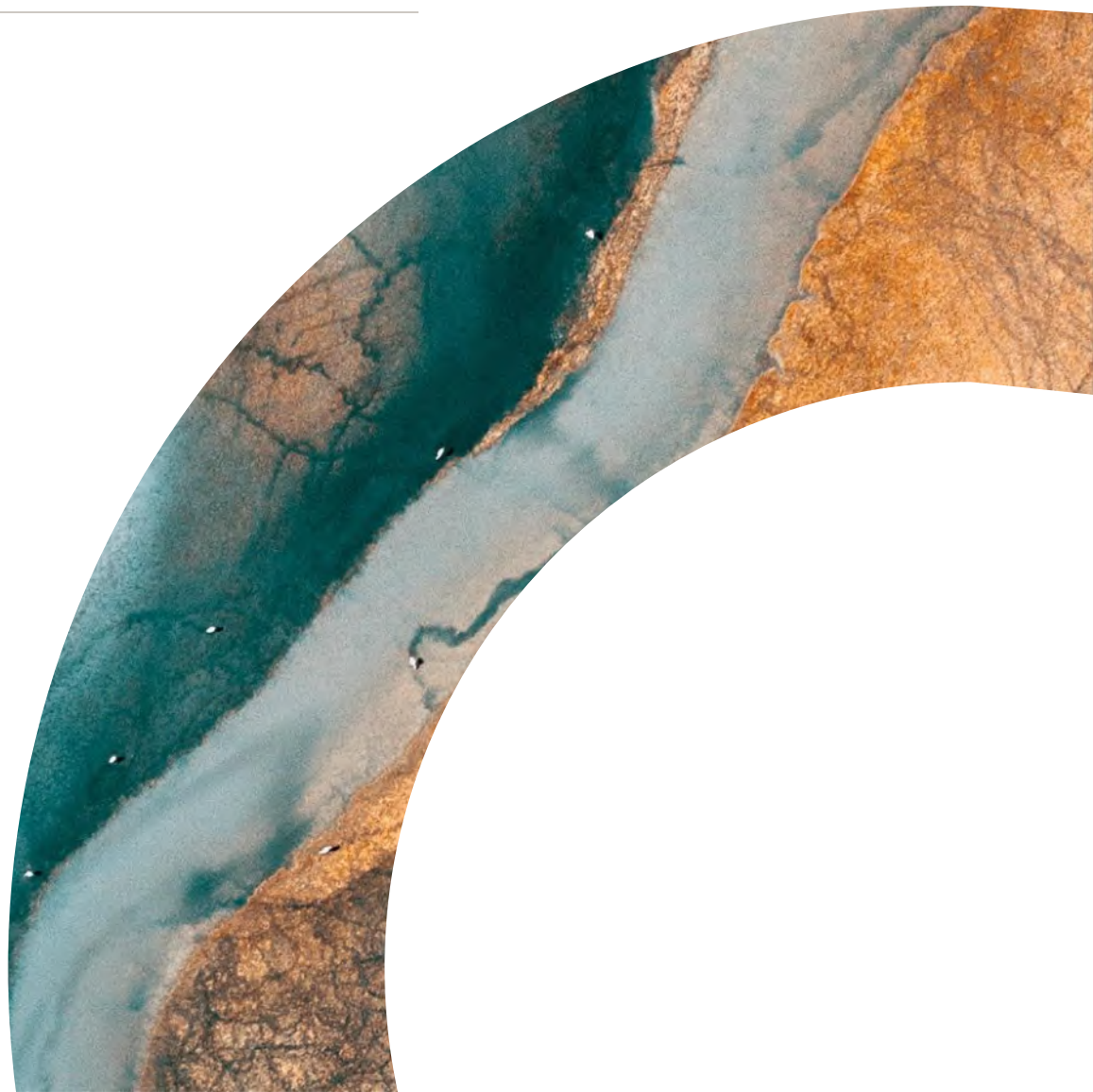


Field ID Date Matrix Type Lab Report Number			SP01-1	SP-DUP1	RPD	SP01-1	SP-TRIP1	RPD	SP03-1	SP-DUP3	RPD	SP03-1	SP-TRIP3	RPD
			20 Jul 2023	20 Jul 2023		20 Jul 2023	20 Jul 2023		20 Jul 2023	20 Jul 2023				
			Soil	Soil		Soil	Soil		Soil	Soil				
			328659	328659		328659	ES2324578		328659	328659				
	Unit	EQL												
SVOCs														
Fenamiphos	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Phosalone	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Organochlorine Pesticides														
4,4-DDE	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
a-BHC	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Aldrin	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Dieldrin	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Aldrin + Dieldrin	mg/kg	0.05										<0.05		
b-BHC	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Chlordane	mg/kg	0.05										<0.05		
Chlordane (cis)	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Chlordane (trans)	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
d-BHC	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
DDD	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
DDT	mg/kg	0.1							<0.1	<0.1	0	<0.1	<0.2	0
DDT+DDE+DDD	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Endosulfan	mg/kg	0.05										<0.05		
Endosulfan I	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Endosulfan II	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Endosulfan sulphate	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Endrin	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Endrin aldehyde	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Endrin ketone	mg/kg	0.05										<0.05		
g-BHC (Lindane)	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Heptachlor	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Heptachlor epoxide	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Hexachlorobenzene	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Methoxychlor	mg/kg	0.1							<0.1	<0.1	0	<0.1	<0.2	0
Organophosphorous Pesticides														
Azinophos methyl	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Bromophos-ethyl	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Carbophenothion	mg/kg	0.05										<0.05		
Chlorfenvinphos	mg/kg	0.05										<0.05		
Chlorpyrifos	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Chlorpyrifos-methyl	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Coumaphos	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Diazinon	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Dichlorvos	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Dimethoate	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Disulfoton	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Ethion	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Fenitrothion	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Fenthion	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Malathion	mg/kg	0.05							<0.1	<0.1	0	<0.1	<0.05	0
Methidathion	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Methyl parathion	mg/kg	0.1							<0.1	<0.1	0	<0.1	<0.2	0
Mevinphos (Phosdrin)	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Monocrotophos	mg/kg	0.2											<0.2	
Parathion	mg/kg	0.1							<0.1	<0.1	0	<0.1	<0.2	0
Phorate	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Prothiofos	mg/kg	0.05											<0.05	
Ronnel	mg/kg	0.1							<0.1	<0.1	0	<0.1		
PCBs														
Arochlor 1016	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Arochlor 1221	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Arochlor 1232	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Arochlor 1242	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Arochlor 1248	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Arochlor 1254	mg/kg	0.1							<0.1	<0.1	0	<0.1		
Arochlor 1260	mg/kg	0.1							<0.1	<0.1	0	<0.1		
PCBs (Sum of total)	mg/kg	0.1							<0.1	<0.1	0	<0.1	<0.1	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (0 - 5 x EQL); 75 (5 - 10 x EQL); 30 (> 10 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

E

Laboratory Reports



SAMPLE RECEIPT ADVICE

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett

Sample Login Details

Your reference	22137
Envirolab Reference	328660
Date Sample Received	21/07/2023
Date Instructions Received	21/07/2023
Date Results Expected to be Reported	28/07/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	83 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	3
Cooling Method	Ice
Sampling Date Provided	YES

Comments

extra sample V4A

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Envirolab Services Pty Ltd

ABN 37 112 535 645
 12 Ashley St Chatswood NSW 2067
 ph 02 9910 6200 fax 02 9910 6201
 customerservice@envirolab.com.au
 www.envirolab.com.au

Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Acid Extractable metals in soil	On Hold
V1-3	✓	✓	✓	✓	
V2-3	✓	✓	✓	✓	
V3-3	✓	✓	✓	✓	
V4-3.5	✓	✓	✓	✓	
V5-3	✓	✓	✓	✓	
V6-3	✓	✓	✓	✓	
V7-3.5	✓	✓	✓	✓	
V8-3	✓	✓	✓	✓	
V9-3	✓	✓	✓	✓	
V10-3	✓	✓	✓	✓	
V11-3	✓	✓	✓	✓	
V12-0.3	✓	✓	✓	✓	
V12-2.5	✓	✓	✓	✓	
V13-0.3	✓	✓	✓	✓	
V13-2.5	✓	✓	✓	✓	
V14-0.3	✓	✓	✓	✓	
V14-2.5	✓	✓	✓	✓	
V15-0.3					✓
V15-3	✓	✓	✓	✓	
V16-0.3	✓	✓	✓	✓	
V16-2.5	✓	✓	✓	✓	
V17-0.3	✓	✓	✓	✓	
V17-3	✓	✓	✓	✓	
V18-0.3	✓	✓	✓	✓	
V18-3	✓	✓	✓	✓	
V19-0.3	✓	✓	✓	✓	
V19-3	✓	✓	✓	✓	
V20-0.3	✓	✓	✓	✓	
V20-3	✓	✓	✓	✓	
V21-0.3	✓	✓	✓	✓	
V21-3	✓	✓	✓	✓	
V22-0.3					✓



EnviroLab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Acid Extractable metals in soil	On Hold
V22-3	✓	✓	✓	✓	
V23-0.3	✓	✓	✓	✓	
V23-2.5	✓	✓	✓	✓	
V24-0.3	✓	✓	✓	✓	
V24-2.5	✓	✓	✓	✓	
V25-0.3	✓	✓	✓	✓	
V25-2.5	✓	✓	✓	✓	
V26-0.3	✓	✓	✓	✓	
V26-2.5	✓	✓	✓	✓	
V27-0.3	✓	✓	✓	✓	
V27-2.5	✓	✓	✓	✓	
V28-0.3	✓	✓	✓	✓	
V28-2.5	✓	✓	✓	✓	
V29-0.3	✓	✓	✓	✓	
V29-2.5	✓	✓	✓	✓	
V30-0.3	✓	✓	✓	✓	
V30-3	✓	✓	✓	✓	
V31-0.3	✓	✓	✓	✓	
V31-2.5	✓	✓	✓	✓	
V32-3	✓	✓	✓	✓	
V33-3	✓	✓	✓	✓	
V34-0.5	✓	✓	✓	✓	
V35-0.5	✓	✓	✓	✓	
V36-0.5	✓	✓	✓	✓	
V37-0.3	✓	✓	✓	✓	
V38-0.3	✓	✓	✓	✓	
V39-0.3	✓	✓	✓	✓	
V40-1	✓	✓	✓	✓	
V41-0.3	✓	✓	✓	✓	
V42-0.3	✓	✓	✓	✓	
V43-0.3	✓	✓	✓	✓	
V44-0.5	✓	✓	✓	✓	

Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Acid Extractable metals in soil	On Hold
V45-0.5	✓	✓	✓	✓	
V46-0.5	✓	✓	✓	✓	
V47-0.5	✓	✓	✓	✓	
V48	✓	✓	✓	✓	
V49	✓	✓	✓	✓	
V50	✓	✓	✓	✓	
V51	✓	✓	✓	✓	
V52	✓	✓	✓	✓	
V53	✓	✓	✓	✓	
V54	✓	✓	✓	✓	
V55	✓	✓	✓	✓	
Trip Spike - Soil	✓				
Trip Blank - Soil	✓				
DUP1	✓	✓	✓	✓	
DUP2	✓	✓	✓	✓	
DUP3	✓	✓	✓	✓	
DUP4	✓	✓	✓	✓	
DUP5					✓
V4A					✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.



CHAIN OF CUSTODY FORM - Client

ENVIROLAB

National phone our

Envirolab Lab - Envis
17 Ashley St, Chelms
9 02 8960 6000

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17 Ashley St, Chelms
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Envirolab Lab - Envis
17 Ashley St, Chelms
9 02 8960 6000

Client: Redbus Consulting
Contact Person: Jack Palmer / Greg Bartlett
Project No: 20137
Sample: Jack Palmer / Heaven Elementary
Address: Unit 1A, Level 1, 25-33 Warrah Street, Keweenaw NSW

Client Project Name/Number/Date etc (to report title):
20137

Envirolab Quote No.:
Data results required: Standard

On chain: Standard / same day / 1 day / 12 day / 13 day
Note: inform lab in advance if urgent turnaround is required - surcharges apply

Additional report format: excel
Lab Comments:

Phone: 02 9521 0477 Mob: 0421 278 620
accounts@redbusconsulting.com
greg.bartlett@redbus.com.au

Email Invoice To:
Email Results To: accounts@redbus.com.au / greg.bartlett@redbus.com.au

Sample Information					Test Results										Comments	
Envirolab Sample ID	Client Sample ID or Information	Depth	Date sampled	Type of sample	Ref	Conc	Analys									Provide as much information about the sample as you can
1	V1	3	20/07/2023	Soil												
2	V2	3	20/07/2023	Soil												
3	V3	3	20/07/2023	Soil												
4	V4	3.9	20/07/2023	Soil												
5	V5	3	20/07/2023	Soil												
6	V6	3	20/07/2023	Soil												
7	V7	3.5	20/07/2023	Soil												
8	V8	3	20/07/2023	Soil												
9	V9	3	20/07/2023	Soil												
10	V10	3	20/07/2023	Soil												
11	V11	3	20/07/2023	Soil												
12	V12	0.5	20/07/2023	Soil												
13	V13	2.5	20/07/2023	Soil												
14	V14	0.5	20/07/2023	Soil												
15	V15	2.8	20/07/2023	Soil												
16	V16	0.2	20/07/2023	Soil												
17	V17	2.5	20/07/2023	Soil												
18	V18	0.5	20/07/2023	Soil												
19	V19	3	20/07/2023	Soil												
20	V20	0.5	20/07/2023	Soil												
21	V21	2.8	20/07/2023	Soil												
22	V22	0.5	20/07/2023	Soil												
23	V23	3	20/07/2023	Soil												
24	V24	0.5	20/07/2023	Soil												
25	V25	3	20/07/2023	Soil												
26	V26	0.5	20/07/2023	Soil												
27	V27	3	20/07/2023	Soil												
28	V28	0.5	20/07/2023	Soil												
29	V29	3	20/07/2023	Soil												
30	V30	0.5	20/07/2023	Soil												
31	V31	0.5	20/07/2023	Soil												
32	V32	0.5	20/07/2023	Soil												
33	V33	3	20/07/2023	Soil												
34	V34	0.5	20/07/2023	Soil												
35	V35	2.8	20/07/2023	Soil												
36	V36	0.5	20/07/2023	Soil												
37	V37	2.8	20/07/2023	Soil												
38	V38	0.5	20/07/2023	Soil												
39	V39	2.5	20/07/2023	Soil												
40	V40	0.5	20/07/2023	Soil												
41	V41	2.8	20/07/2023	Soil												
42	V42	0.5	20/07/2023	Soil												
43	V43	2.5	20/07/2023	Soil												
44	V44	0.5	20/07/2023	Soil												
45	V45	2.5	20/07/2023	Soil												
46	V46	0.5	20/07/2023	Soil												
47	V47	2.5	20/07/2023	Soil												
48	V48	0.5	20/07/2023	Soil												
49	V49	2.5	20/07/2023	Soil												
50	V50	0.5	20/07/2023	Soil												
51	V51	0.5	20/07/2023	Soil												
52	V52	2.5	20/07/2023	Soil												
53	V53	3	20/07/2023	Soil												
54	V54	0.5	20/07/2023	Soil												
55	V55	0.5	20/07/2023	Soil												
56	V56	0.5	20/07/2023	Soil												
57	V57	0.5	20/07/2023	Soil												
58	V58	0.5	20/07/2023	Soil												
59	V59	0.5	20/07/2023	Soil												
60	V60	1	20/07/2023	Soil												
61	V61	0.5	20/07/2023	Soil												
62	V62	0.5	20/07/2023	Soil												
63	V63	0.5	20/07/2023	Soil												
64	V64	0.5	20/07/2023	Soil												
65	V65	0.5	20/07/2023	Soil												
66	V66	0.5	20/07/2023	Soil												
67	V67	0.5	20/07/2023	Soil												
68	V68	21/07/2023	Soil													
69	V69	21/07/2023	Soil													
70	V70	21/07/2023	Soil													
71	V71	21/07/2023	Soil													
72	V72	21/07/2023	Soil													
73	V73	21/07/2023	Soil													
74	V74	21/07/2023	Soil													
75	V75	21/07/2023	Soil													
76	Top Blank - Soil	-	-	Soil												
77	Top Blank - Soil	-	-	Soil												
78	DUP1	-	20/07/2023	Soil												
79	DUP2	-	20/07/2023	Soil												
80	DUP3	-	20/07/2023	Soil												
81	DUP4	-	20/07/2023	Soil												
82	DUP5	-	21/07/2023	Soil												
83	TRIP1	-	20/07/2023	Soil												
84	TRIP2	-	20/07/2023	Soil												
85	TRIP3	-	20/07/2023	Soil												
86	TRIP4	-	20/07/2023	Soil												
87	TRIP5	-	21/07/2023	Soil												
88																
89																
90																
91																
92																
93																
94																
95																
96																
97																
98																
99																
100																

Signature: Jack Palmer Date: 21/07/2023 Time: 11:30

Received by (Company): Envirolab Date: 21/07/2023 Time: 16:55

Signature: [Signature] Date: 21/07/2023 Time: 16:55

Job number: 325600

Temperature: 3°C

Security seal: Intact / Broken / None

TAT Req - SAME day / 1 day / 2 day / 3 day / 4 day / 5 day / 6 day / 7 day / 8 day / 9 day / 10 day / 11 day / 12 day / 13 day / 14 day / 15 day / 16 day / 17 day / 18 day / 19 day / 20 day / 21 day / 22 day / 23 day / 24 day / 25 day / 26 day / 27 day / 28 day / 29 day / 30 day / 31 day / 32 day / 33 day / 34 day / 35 day / 36 day / 37 day / 38 day / 39 day / 40 day / 41 day / 42 day / 43 day / 44 day / 45 day / 46 day / 47 day / 48 day / 49 day / 50 day / 51 day / 52 day / 53 day / 54 day / 55 day / 56 day / 57 day / 58 day / 59 day / 60 day / 61 day / 62 day / 63 day / 64 day / 65 day / 66 day / 67 day / 68 day / 69 day / 70 day / 71 day / 72 day / 73 day / 74 day / 75 day / 76 day / 77 day / 78 day / 79 day / 80 day / 81 day / 82 day / 83 day / 84 day / 85 day / 86 day / 87 day / 88 day / 89 day / 90 day / 91 day / 92 day / 93 day / 94 day / 95 day / 96 day / 97 day / 98 day / 99 day / 100 day

CERTIFICATE OF ANALYSIS 328660

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	83 Soil
Date samples received	21/07/2023
Date completed instructions received	21/07/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/07/2023
Date of Issue	28/07/2023
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Dragana Tomas, Senior Chemist
 Loren Bardwell, Development Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference	UNITS	V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	81	81	78	89	91

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference	UNITS	V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	27/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	88	79	86	64	84

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference	UNITS	V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	83	78	76	86	86

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference	UNITS	V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	76	95	94	67	85

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference	UNITS	V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	71	85	72	87	86

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference	UNITS	V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	75	95	73	86

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference	UNITS	V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	80	82	86	90

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	86	83	95	82

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference	UNITS	V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	28/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	86	78	82	82

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference	UNITS	V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	79	85	86	85	89

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference	UNITS	V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	28/07/2023	28/07/2023	28/07/2023	28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	91	84	83	84	86

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference	UNITS	V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	28/07/2023	28/07/2023	28/07/2023	28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	86	88	88	76

vTRH(C6-C10)/BTEXN in Soil						
Our Reference	UNITS	328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference		V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	28/07/2023	28/07/2023	28/07/2023	28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	82	83	87	88	89

vTRH(C6-C10)/BTEXN in Soil						
Our Reference	UNITS	328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference		V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	28/07/2023	28/07/2023	28/07/2023	28/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	28	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	27	140	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	27	140	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	2	<1	<1
Naphthalene	mg/kg	<1	<1	4	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	2	<1	<1
Surrogate aaa-Trifluorotoluene	%	84	83	69	90	90

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-73	328660-74	328660-75	328660-76	328660-77
Your Reference	UNITS	V53	V54	V55	Trip Spike - Soil	Trip Blank - Soil
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	[NA]	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	[NA]	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	[NA]	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	100%	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	100%	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	100%	<1
m+p-xylene	mg/kg	<2	<2	<2	101%	<2
o-Xylene	mg/kg	<1	<1	<1	100%	<1
Naphthalene	mg/kg	<1	<1	<1	[NA]	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	[NA]	<1
Surrogate aaa-Trifluorotoluene	%	85	86	93	103	102

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-78	328660-79	328660-80	328660-81
Your Reference	UNITS	DUP1	DUP2	DUP3	DUP4
Depth		-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	94	98	75	92

svTRH (C10-C40) in Soil

Our Reference		328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference	UNITS	V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	86	74	67	68

svTRH (C10-C40) in Soil

Our Reference		328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference	UNITS	V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	70	68	69	68	66

svTRH (C10-C40) in Soil

Our Reference		328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference	UNITS	V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	66	66	71	63	64

svTRH (C10-C40) in Soil

Our Reference		328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference	UNITS	V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	66	67	73	72	72

svTRH (C10-C40) in Soil

Our Reference		328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference	UNITS	V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	69	68	67	66	66

svTRH (C10-C40) in Soil

Our Reference		328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference	UNITS	V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	66	68	70	66	65

svTRH (C10-C40) in Soil

Our Reference		328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference	UNITS	V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	220	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	260	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	480	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	300	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	300	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	160	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	460	<50	<50
Surrogate o-Terphenyl	%	65	64	85	65	64

svTRH (C10-C40) in Soil

Our Reference		328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	64	63	66	75	76

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference		V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	70	69	64	83	82

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference		V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	82	81	79	80	75

svTRH (C10-C40) in Soil

Our Reference		328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference	UNITS	V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	76	78	76	78

svTRH (C10-C40) in Soil

Our Reference		328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference	UNITS	V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	77	78	76	80	80

svTRH (C10-C40) in Soil

Our Reference		328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference	UNITS	V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	80	80	79	79	81

svTRH (C10-C40) in Soil

Our Reference		328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference	UNITS	V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	760	1,600	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	610	560	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	580	460	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	1,900	2,700	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	860	1,600	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	860	1,600	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	920	790	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	330	240	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	2,100	2,600	<50	<50
Surrogate o-Terphenyl	%	81	99	91	80	80

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328660-73	328660-74	328660-75	328660-78	328660-79
Your Reference		V53	V54	V55	DUP1	DUP2
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	81	82	80	79	82

svTRH (C10-C40) in Soil			
Our Reference	UNITS	328660-80	328660-81
Your Reference		DUP3	DUP4
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	80	80

PAHs in Soil						
Our Reference		328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference	UNITS	V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	98	98	108	98	94

PAHs in Soil						
Our Reference		328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference	UNITS	V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	1.8	0.5	<0.1
Fluorene	mg/kg	<0.1	<0.1	0.8	0.4	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.4	0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	2.9	1.0	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	96	93	92	92

PAHs in Soil						
Our Reference		328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference	UNITS	V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	92	93	91	95	92

PAHs in Soil						
Our Reference		328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference	UNITS	V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	0.2	0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.2	0.1	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	99	94	95	93

PAHs in Soil						
Our Reference		328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference	UNITS	V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	92	94	92	87

PAHs in Soil						
Our Reference		328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference	UNITS	V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	91	91	89	89

PAHs in Soil						
Our Reference		328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference	UNITS	V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	0.2	0.3	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.2	0.3	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	92	93	90	95	95

PAHs in Soil						
Our Reference		328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	90	88	90	90	90

PAHs in Soil						
Our Reference		328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference	UNITS	V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	1.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	89	91	92	95	93

PAHs in Soil						
Our Reference		328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference	UNITS	V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	0.1	0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.4	0.5	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.4	0.7	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.5	<0.1	0.2	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.96	1.7	0.1	0.3	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	91	91	90	87	88

PAHs in Soil						
Our Reference		328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference	UNITS	V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	89	85	86	84	84

PAHs in Soil						
Our Reference		328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference	UNITS	V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	27/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	84	86	86	86	85

PAHs in Soil						
Our Reference		328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference	UNITS	V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	81	83	81	80	86

PAHs in Soil						
Our Reference		328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference	UNITS	V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	2.4	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.1	0.2	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	0.1	2.8	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	80	83	83	83	88

PAHs in Soil						
Our Reference		328660-73	328660-74	328660-75	328660-78	328660-79
Your Reference	UNITS	V53	V54	V55	DUP1	DUP2
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	86	86	88	85	86

PAHs in Soil			
Our Reference		328660-80	328660-81
Your Reference	UNITS	DUP3	DUP4
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	87	83

Acid Extractable metals in soil

Our Reference		328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference	UNITS	V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	9	8	7	9
Copper	mg/kg	33	42	40	28	40
Lead	mg/kg	15	14	25	19	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	19	23	40	16	19
Zinc	mg/kg	64	47	69	52	78

Acid Extractable metals in soil

Our Reference		328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference	UNITS	V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	8	14	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	10	10	3	3	11
Copper	mg/kg	52	73	39	17	52
Lead	mg/kg	18	29	18	11	21
Mercury	mg/kg	0.1	0.2	<0.1	<0.1	<0.1
Nickel	mg/kg	17	24	6	5	26
Zinc	mg/kg	98	120	26	19	110

Acid Extractable metals in soil

Our Reference		328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference	UNITS	V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	8	23	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	22	15	7	9
Copper	mg/kg	39	19	29	9	41
Lead	mg/kg	21	15	10	24	17
Mercury	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Nickel	mg/kg	22	6	10	4	15
Zinc	mg/kg	120	25	69	35	54

Acid Extractable metals in soil

Our Reference		328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference	UNITS	V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	7	<4	<4	12	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	8	5	24	10
Copper	mg/kg	36	22	10	21	15
Lead	mg/kg	27	10	6	14	5
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	16	13	7	70
Zinc	mg/kg	47	35	24	26	110

Acid Extractable metals in soil

Our Reference		328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference	UNITS	V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	7	4	7	5	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	11	13	7	10
Copper	mg/kg	28	35	31	35	29
Lead	mg/kg	11	14	16	19	12
Mercury	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	8	16	6	19	4
Zinc	mg/kg	28	60	37	52	34

Acid Extractable metals in soil

Our Reference		328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference	UNITS	V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	17	4	9	13
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	10	28	9	21	12
Copper	mg/kg	33	29	37	18	26
Lead	mg/kg	18	19	17	29	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	17	8	52	6	8
Zinc	mg/kg	73	34	100	35	61

Acid Extractable metals in soil

Our Reference		328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference	UNITS	V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	10	<4	6	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	3	<0.4
Chromium	mg/kg	9	21	11	11	5
Copper	mg/kg	33	76	29	14	19
Lead	mg/kg	13	42	13	43	6
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	18	7	29	7	9
Zinc	mg/kg	61	54	70	390	41

Acid Extractable metals in soil

Our Reference		328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	<4	8	<4	13
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	13	19	17	17
Copper	mg/kg	31	30	17	50	27
Lead	mg/kg	10	20	12	18	23
Mercury	mg/kg	<0.1	0.1	<0.1	0.1	0.1
Nickel	mg/kg	21	23	8	24	4
Zinc	mg/kg	80	61	28	96	23

Acid Extractable metals in soil

Our Reference		328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference	UNITS	V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	5	<4	11	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	15	13	25	13
Copper	mg/kg	23	14	24	16	31
Lead	mg/kg	11	11	9	21	28
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Nickel	mg/kg	9	4	17	8	8
Zinc	mg/kg	37	18	85	31	55

Acid Extractable metals in soil

Our Reference		328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference	UNITS	V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	11	8	8	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	13	14	7	10
Copper	mg/kg	33	43	44	37	40
Lead	mg/kg	18	15	21	11	21
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	20	9	13	17
Zinc	mg/kg	50	70	75	74	63

Acid Extractable metals in soil

Our Reference		328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference	UNITS	V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	18	18	6	12
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	6	17	20	7	16
Copper	mg/kg	27	35	37	40	31
Lead	mg/kg	18	20	21	12	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	39	5	5	3	4
Zinc	mg/kg	70	30	27	21	23

Acid Extractable metals in soil

Our Reference		328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference	UNITS	V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	12	15	<4	10	14
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	30	17	4	25	19
Copper	mg/kg	24	29	29	22	35
Lead	mg/kg	22	16	13	19	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	5	3	7	4
Zinc	mg/kg	33	40	22	46	23

Acid Extractable metals in soil

Our Reference		328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference	UNITS	V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	15	12	9	9	15
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	13	18	25	27
Copper	mg/kg	32	26	24	17	26
Lead	mg/kg	20	13	19	16	38
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	3	4	6	8
Zinc	mg/kg	31	19	36	27	280

Acid Extractable metals in soil

Our Reference		328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference	UNITS	V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	12	14	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	18	16	9	9
Copper	mg/kg	18	31	31	54	39
Lead	mg/kg	10	15	14	9	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	13	4	4	6	12
Zinc	mg/kg	89	25	24	51	73

Acid Extractable metals in soil

Our Reference		328660-73	328660-74	328660-75	328660-78	328660-79
Your Reference	UNITS	V53	V54	V55	DUP1	DUP2
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	6	18	7	<4	8
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	17	13	10	10
Copper	mg/kg	25	54	46	53	56
Lead	mg/kg	12	23	24	24	18
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	9	7	18	19
Zinc	mg/kg	29	57	78	81	110

Acid Extractable metals in soil

Our Reference		328660-80	328660-81	328660-84	328660-85	328660-86
Your Reference	UNITS	DUP3	DUP4	V1 - [TRIPLICATE]	V11 - [TRIPLICATE]	V21 - [TRIPLICATE]
Depth		-	-	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	10	16	<4	<4	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	24	22	7	14	7
Copper	mg/kg	10	34	31	36	35
Lead	mg/kg	19	22	12	18	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	4	33	22	11
Zinc	mg/kg	21	23	54	110	70

Acid Extractable metals in soil			
Our Reference		328660-87	328660-88
Your Reference	UNITS	V26 - [TRIPLICATE]	V16 - [TRIPLICATE]
Depth		2.5	2.5
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date prepared	-	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023
Arsenic	mg/kg	5	8
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	13	11
Copper	mg/kg	34	46
Lead	mg/kg	18	12
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	22	59
Zinc	mg/kg	72	150

Moisture						
Our Reference	UNITS	328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference		V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.8	12	8.0	8.5	11

Moisture						
Our Reference	UNITS	328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference		V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	19	14	12	13	24

Moisture						
Our Reference	UNITS	328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference		V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	18	20	14	22	11

Moisture						
Our Reference	UNITS	328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference		V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	16	6.7	10	23	16

Moisture						
Our Reference	UNITS	328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference		V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	18	5.1	26	10	21

Moisture						
Our Reference	UNITS	328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference		V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	5.0	27	6.6	22	7.3

Moisture						
Our Reference	UNITS	328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference		V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	5.7	19	7.7	21	6.0

Moisture						
Our Reference	UNITS	328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference		V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.0	9.3	21	6.9	24

Moisture						
Our Reference	UNITS	328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference		V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	13	2.4	14	13	19

Moisture						
Our Reference	UNITS	328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference		V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	23	8.2	18	14	16

Moisture						
Our Reference	UNITS	328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference		V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	8.1	25	25	21	24

Moisture						
Our Reference	UNITS	328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference		V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	25	24	17	21	25

Moisture						
Our Reference	UNITS	328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference		V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	23	23	21	18	20

Moisture						
Our Reference	UNITS	328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference		V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	14	20	19	18	18

Moisture						
Our Reference	UNITS	328660-73	328660-74	328660-75	328660-78	328660-79
Your Reference		V53	V54	V55	DUP1	DUP2
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	23	25	24	10	19

Moisture			
Our Reference	UNITS	328660-80	328660-81
Your Reference		DUP3	DUP4
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date prepared	-	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023
Moisture	%	15	23

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	328660-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			27/07/2023	1	27/07/2023	27/07/2023		27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	1	<25	<25	0	98	100
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	1	<25	<25	0	98	100
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	94	95
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	93	94
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	93	96
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	104	108
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	104	107
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	98	1	81	89	9	84	79

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-22
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	27/07/2023	27/07/2023		27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	11	<25	<25	0	120	102
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	11	<25	<25	0	120	102
Benzene	mg/kg	0.2	Org-023	[NT]	11	<0.2	<0.2	0	114	96
Toluene	mg/kg	0.5	Org-023	[NT]	11	<0.5	<0.5	0	114	96
Ethylbenzene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	115	98
m+p-xylene	mg/kg	2	Org-023	[NT]	11	<2	<2	0	129	112
o-Xylene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	129	109
Naphthalene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	11	83	81	2	97	83

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	328660-42
Date extracted	-			[NT]	21	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	21	27/07/2023	27/07/2023		27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	21	<25	<25	0	124	96
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	21	<25	<25	0	124	96
Benzene	mg/kg	0.2	Org-023	[NT]	21	<0.2	<0.2	0	119	92
Toluene	mg/kg	0.5	Org-023	[NT]	21	<0.5	<0.5	0	118	91
Ethylbenzene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	118	91
m+p-xylene	mg/kg	2	Org-023	[NT]	21	<2	<2	0	133	103
o-Xylene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	133	103
Naphthalene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	21	85	82	4	98	80

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	328660-62
Date extracted	-			[NT]	31	24/07/2023	24/07/2023		27/07/2023	24/07/2023
Date analysed	-			[NT]	31	27/07/2023	27/07/2023		28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	31	<25	<25	0	110	114
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	31	<25	<25	0	110	114
Benzene	mg/kg	0.2	Org-023	[NT]	31	<0.2	<0.2	0	106	109
Toluene	mg/kg	0.5	Org-023	[NT]	31	<0.5	<0.5	0	105	108
Ethylbenzene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	104	107
m+p-xylene	mg/kg	2	Org-023	[NT]	31	<2	<2	0	117	122
o-Xylene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	117	122
Naphthalene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	31	86	74	15	88	84

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date extracted	-			[NT]	41	24/07/2023	24/07/2023		24/07/2023	[NT]
Date analysed	-			[NT]	41	27/07/2023	27/07/2023		27/07/2023	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	41	<25	<25	0	119	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	41	<25	<25	0	119	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	41	<0.2	<0.2	0	117	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	41	<0.5	<0.5	0	114	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	41	<1	<1	0	119	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	41	<2	<2	0	121	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	41	<1	<1	0	124	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	41	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	41	95	94	1	108	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	51	28/07/2023	28/07/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	51	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	51	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	51	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	51	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	51	85	89	5	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	61	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	61	28/07/2023	28/07/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	61	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	61	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	61	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	61	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	61	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	61	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	61	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	61	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	61	88	86	2	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	71	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	71	28/07/2023	28/07/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	71	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	71	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	71	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	71	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	71	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	71	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	71	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	71	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	71	90	87	3	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	328660-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			26/07/2023	1	25/07/2023	25/07/2023		25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	1	<50	<50	0	103	89
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	1	<100	<100	0	100	90
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	1	<100	<100	0	86	73
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	1	<50	<50	0	103	89
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	1	<100	<100	0	100	90
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	1	<100	<100	0	86	73
Surrogate o-Terphenyl	%		Org-020	79	1	75	78	4	92	86

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-22
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	25/07/2023	25/07/2023		26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	11	<50	<50	0	99	93
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	11	<100	<100	0	95	89
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	11	<100	<100	0	86	90
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	11	<50	<50	0	99	93
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	11	<100	<100	0	95	89
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	11	<100	<100	0	86	90
Surrogate o-Terphenyl	%		Org-020	[NT]	11	66	66	0	90	69

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	328660-42
Date extracted	-			[NT]	21	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	21	26/07/2023	26/07/2023		26/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	21	<50	<50	0	98	98
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	21	<100	<100	0	91	99
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	21	<100	<100	0	86	106
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	21	<50	<50	0	98	98
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	21	<100	<100	0	91	99
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	21	<100	<100	0	86	106
Surrogate o-Terphenyl	%		Org-020	[NT]	21	72	66	9	67	76

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	328660-62
Date extracted	-			[NT]	31	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	31	26/07/2023	26/07/2023		25/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	31	<50	<50	0	109	107
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	31	<100	<100	0	103	107
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	31	<100	<100	0	100	111
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	31	<50	<50	0	109	107
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	31	<100	<100	0	103	107
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	31	<100	<100	0	100	111
Surrogate o-Terphenyl	%		Org-020	[NT]	31	65	67	3	88	80

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date extracted	-			[NT]	41	24/07/2023	24/07/2023		24/07/2023	[NT]
Date analysed	-			[NT]	41	25/07/2023	25/07/2023		26/07/2023	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	41	<50	<50	0	103	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	41	<100	<100	0	99	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	41	<100	<100	0	100	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	41	<50	<50	0	103	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	41	<100	<100	0	99	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	41	<100	<100	0	100	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	41	75	74	1	80	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	51	25/07/2023	25/07/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	51	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	51	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	51	80	76	5	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	61	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	61	26/07/2023	26/07/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	61	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	61	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	61	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	61	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	61	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	61	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	61	80	80	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	71	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	71	26/07/2023	26/07/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	71	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	71	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	71	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	71	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	71	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	71	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	71	80	80	0	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	328660-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	1	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	93	86
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	93	89
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	84
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	91
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	88
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	87
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	85	79
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	98	92
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	87	1	98	99	1	103	97

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-22
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	93	88
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	91	87
Fluorene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	88	84
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	96	90
Anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	92	86
Pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	91	87
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	85	79
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	11	<0.05	<0.05	0	74	92
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	11	92	94	2	93	95

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	328660-42
Date extracted	-			[NT]	21	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	21	25/07/2023	25/07/2023		26/07/2023	26/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	93	86
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	95	85
Fluorene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	88	84
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	94	90
Anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	90	86
Pyrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	91	87
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	85	77
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	21	<0.05	<0.05	0	70	74
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	21	93	87	7	102	92

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	328660-62
Date extracted	-			[NT]	31	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	31	25/07/2023	26/07/2023		26/07/2023	27/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	93	78
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	93	79
Fluorene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	90	78
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	96	80
Anthracene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	90	80
Pyrene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	91	83
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	85	73
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	31	<0.05	<0.05	0	65	78
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	31	89	92	3	91	86

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date extracted	-			[NT]	41	24/07/2023	24/07/2023		24/07/2023	[NT]
Date analysed	-			[NT]	41	26/07/2023	26/07/2023		27/07/2023	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	84	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	81	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	78	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	79	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	86	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	87	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	77	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	41	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	41	<0.05	<0.05	0	82	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	41	90	89	1	89	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	51	26/07/2023	26/07/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	51	0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	51	0.2	0.1	67	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	51	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	51	87	86	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	61	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	61	26/07/2023	26/07/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	61	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	61	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	61	86	85	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	71	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	71	27/07/2023	27/07/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	71	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	71	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	71	83	86	4	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	328660-2
Date prepared	-			26/07/2023	1	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Date analysed	-			27/07/2023	1	27/07/2023	27/07/2023		27/07/2023	27/07/2023
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	115	107
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	108	97
Chromium	mg/kg	1	Metals-020	<1	1	7	7	0	114	104
Copper	mg/kg	1	Metals-020	<1	1	33	33	0	110	120
Lead	mg/kg	1	Metals-020	<1	1	15	10	40	116	119
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	88	107
Nickel	mg/kg	1	Metals-020	<1	1	19	11	53	113	108
Zinc	mg/kg	1	Metals-020	<1	1	64	61	5	120	#

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-22
Date prepared	-			[NT]	11	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Date analysed	-			[NT]	11	27/07/2023	27/07/2023		27/07/2023	27/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	11	<4	6	40	118	105
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	112	98
Chromium	mg/kg	1	Metals-020	[NT]	11	13	14	7	120	102
Copper	mg/kg	1	Metals-020	[NT]	11	39	84	73	115	109
Lead	mg/kg	1	Metals-020	[NT]	11	21	34	47	121	102
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	97	91
Nickel	mg/kg	1	Metals-020	[NT]	11	22	27	20	117	102
Zinc	mg/kg	1	Metals-020	[NT]	11	120	190	45	125	105

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	328660-42
Date prepared	-			[NT]	21	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Date analysed	-			[NT]	21	27/07/2023	27/07/2023		27/07/2023	27/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	21	<4	<4	0	122	99
Cadmium	mg/kg	0.4	Metals-020	[NT]	21	<0.4	<0.4	0	112	96
Chromium	mg/kg	1	Metals-020	[NT]	21	10	11	10	128	101
Copper	mg/kg	1	Metals-020	[NT]	21	15	25	50	118	103
Lead	mg/kg	1	Metals-020	[NT]	21	5	9	57	114	98
Mercury	mg/kg	0.1	Metals-021	[NT]	21	<0.1	<0.1	0	92	87
Nickel	mg/kg	1	Metals-020	[NT]	21	70	76	8	118	102
Zinc	mg/kg	1	Metals-020	[NT]	21	110	150	31	121	103

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	328660-62
Date prepared	-			[NT]	31	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Date analysed	-			[NT]	31	27/07/2023	27/07/2023		27/07/2023	27/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	31	13	<4	106	113	105
Cadmium	mg/kg	0.4	Metals-020	[NT]	31	<0.4	<0.4	0	105	101
Chromium	mg/kg	1	Metals-020	[NT]	31	12	7	53	119	107
Copper	mg/kg	1	Metals-020	[NT]	31	26	30	14	109	117
Lead	mg/kg	1	Metals-020	[NT]	31	13	15	14	120	108
Mercury	mg/kg	0.1	Metals-021	[NT]	31	<0.1	<0.1	0	86	90
Nickel	mg/kg	1	Metals-020	[NT]	31	8	10	22	111	108
Zinc	mg/kg	1	Metals-020	[NT]	31	61	49	22	120	108

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	41	26/07/2023	26/07/2023		[NT]	[NT]
Date analysed	-			[NT]	41	27/07/2023	27/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	41	<4	4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	41	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	41	17	12	34	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	41	50	32	44	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	41	18	18	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	41	0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	41	24	21	13	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	41	96	71	30	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	51	26/07/2023	26/07/2023		[NT]	[NT]
Date analysed	-			[NT]	51	27/07/2023	27/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	51	5	7	33	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	51	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	51	7	8	13	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	51	37	45	20	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	51	11	14	24	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	51	13	14	7	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	51	74	83	11	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	61	26/07/2023	26/07/2023		[NT]	[NT]
Date analysed	-			[NT]	61	27/07/2023	27/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	61	10	12	18	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	61	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	61	25	26	4	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	61	22	22	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	61	19	20	5	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	61	7	7	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	61	46	39	16	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	71	26/07/2023	26/07/2023		[NT]	[NT]
Date analysed	-			[NT]	71	27/07/2023	27/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	71	<4	5	22	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	71	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	71	9	10	11	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	71	54	66	20	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	71	9	11	20	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	71	6	8	29	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	71	51	58	13	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Acid Extractable Metals in Soil:

- The laboratory RPD acceptance criteria has been exceeded for 328660-1 for Pb & Ni. Therefore a triplicate result has been issued as laboratory sample number 328660-84.
- The laboratory RPD acceptance criteria has been exceeded for 328660-11 for Cu, Pb, Zn. Therefore a triplicate result has been issued as laboratory sample number 328660-85.
- The laboratory RPD acceptance criteria has been exceeded for 328660-31 for Cr. Therefore a triplicate result has been issued as laboratory sample number 328660-86.
- The laboratory RPD acceptance criteria has been exceeded for 328660-41 for Cu. Therefore a triplicate result has been issued as laboratory sample number 328660-87.
- The laboratory RPD acceptance criteria has been exceeded for 328660-21 for Cu & Pb. Therefore a triplicate result has been issued as laboratory sample number 328660-88.
- # Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

SAMPLE RECEIPT ADVICE

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett

Sample Login Details

Your reference	22137
Envirolab Reference	328659
Date Sample Received	21/07/2023
Date Instructions Received	21/07/2023
Date Results Expected to be Reported	28/07/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	23 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	3
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:

Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Misc Soil - Inorg	Acid Extractable metals in soil	Asbestos ID - soils	On Hold
SP01-1-0.3	✓	✓	✓					✓		
SP01-2-0.3	✓	✓	✓					✓		
SP01-3-0.3	✓	✓	✓					✓		
SP01-4-0.3	✓	✓	✓					✓		
SP02-1-1	✓	✓	✓					✓		
SP02-2-1	✓	✓	✓					✓		
SP02-3-1	✓	✓	✓					✓		
SP02-4-1	✓	✓	✓					✓		
SP02-5-1	✓	✓	✓					✓		
SP02-6-1	✓	✓	✓					✓		
SP02-7-1	✓	✓	✓					✓		
SP02-8-1	✓	✓	✓					✓		
SP02-9-1	✓	✓	✓					✓		
SP02-10-1	✓	✓	✓					✓		
SP02-11-1	✓	✓	✓					✓		
SP02-12-1	✓	✓	✓					✓		
SP02-13-1	✓	✓	✓					✓		
SP03-1-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SP03-2-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SP03-3-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SP-DUP1	✓	✓	✓					✓		
SP-DUP2										✓
SP-DUP3	✓	✓	✓					✓		

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

CERTIFICATE OF ANALYSIS 328659

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	23 Soil
Date samples received	21/07/2023
Date completed instructions received	21/07/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	27/07/2023
Date of Issue	27/07/2023
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Asbestos Approved By

Analysed by Asbestos Approved Analyst: Anthony Clark
 Authorised by Asbestos Approved Signatory: Nyovan Moonean

Authorised By

Nancy Zhang, Laboratory Manager

Results Approved By

Dragana Tomas, Senior Chemist
 Loren Bardwell, Development Chemist
 Nick Sarlamis, Assistant Operation Manager
 Nyovan Moonean, Asbestos Approved Identifier/Counter
 Steven Luong, Senior Chemist

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference	UNITS	SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	82	99	84	66	79

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference	UNITS	SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	87	96	93	101	102

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference	UNITS	SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	87	96	98	76

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference	UNITS	SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	37	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	170	<25	36
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	170	<25	36
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	1	<1	<1
Naphthalene	mg/kg	<1	<1	2	<1	1
Total +ve Xylenes	mg/kg	<1	<1	1	<1	<1
Surrogate aaa-Trifluorotoluene	%	66	94	101	91	95

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		328659-21	328659-23
Your Reference	UNITS	SP-DUP1	SP-DUP3
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
Naphthalene	mg/kg	<1	1
Total +ve Xylenes	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	104

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference		SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	84	76	85	83	83

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference		SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	82	82	80	80	80

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference		SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	79	80	80	80	80

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference		SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	2,000	<50	490
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	970	<100	1,200
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	740	<100	850
Total +ve TRH (C10-C36)	mg/kg	<50	<50	3,700	<50	2,500
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	2,000	<50	550
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	2,000	<50	550
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	1,400	<100	1,700
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	360	<100	390
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	3,700	<50	2,700
Surrogate o-Terphenyl	%	81	90	109	83	112

svTRH (C10-C40) in Soil			
Our Reference		328659-21	328659-23
Your Reference	UNITS	SP-DUP1	SP-DUP3
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	210
TRH C ₁₅ - C ₂₈	mg/kg	<100	480
TRH C ₂₉ - C ₃₆	mg/kg	<100	390
Total +ve TRH (C10-C36)	mg/kg	<50	1,100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	240
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	230
TRH >C ₁₆ -C ₃₄	mg/kg	<100	750
TRH >C ₃₄ -C ₄₀	mg/kg	<100	190
Total +ve TRH (>C10-C40)	mg/kg	<50	1,200
Surrogate o-Terphenyl	%	80	94

PAHs in Soil						
Our Reference		328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference	UNITS	SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	98	98	99	90	92

PAHs in Soil						
Our Reference		328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference	UNITS	SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.2	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	91	92	92	94

PAHs in Soil						
Our Reference		328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference	UNITS	SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.1	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	93	92	92	92

PAHs in Soil						
Our Reference		328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference	UNITS	SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	0.1	1.7	<0.1	1.5
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	0.2	<0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.1	0.1	1.9	<0.05	1.7
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	91	90	80	79	78

PAHs in Soil			
Our Reference		328659-21	328659-23
Your Reference	UNITS	SP-DUP1	SP-DUP3
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	0.5
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	0.50
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	93	95

Organochlorine Pesticides in soil					
Our Reference		328659-18	328659-19	328659-20	328659-23
Your Reference	UNITS	SP03-1	SP03-2	SP03-3	SP-DUP3
Depth		0.5	0.5	0.5	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	95	93	96

Organophosphorus Pesticides in Soil					
Our Reference		328659-18	328659-19	328659-20	328659-23
Your Reference	UNITS	SP03-1	SP03-2	SP03-3	SP-DUP3
Depth		0.5	0.5	0.5	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	95	93	96

PCBs in Soil					
Our Reference		328659-18	328659-19	328659-20	328659-23
Your Reference	UNITS	SP03-1	SP03-2	SP03-3	SP-DUP3
Depth		0.5	0.5	0.5	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	95	93	96

Misc Soil - Inorg					
Our Reference		328659-18	328659-19	328659-20	328659-23
Your Reference	UNITS	SP03-1	SP03-2	SP03-3	SP-DUP3
Depth		0.5	0.5	0.5	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5

Acid Extractable metals in soil

Our Reference		328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference	UNITS	SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	<4	<4	10	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	5	3	10	20	5
Copper	mg/kg	7	1	9	15	5
Lead	mg/kg	24	3	51	16	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	1	4	6	4
Zinc	mg/kg	44	20	90	21	30

Acid Extractable metals in soil

Our Reference		328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference	UNITS	SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	<4	6	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	3	3	13	4	5
Copper	mg/kg	4	2	17	7	23
Lead	mg/kg	7	3	37	24	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	2	5	4	10
Zinc	mg/kg	24	8	240	31	39

Acid Extractable metals in soil

Our Reference		328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference	UNITS	SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	9	<4	11	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	2	20	4	15	21
Copper	mg/kg	2	20	8	31	25
Lead	mg/kg	3	20	8	14	20
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	7	5	4	8
Zinc	mg/kg	8	30	32	22	42

Acid Extractable metals in soil

Our Reference		328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference	UNITS	SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	8	15	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	0.8
Chromium	mg/kg	4	11	15	9	5
Copper	mg/kg	10	39	28	15	26
Lead	mg/kg	20	20	15	9	79
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	8	5	23	3
Zinc	mg/kg	62	54	26	91	82

Acid Extractable metals in soil					
Our Reference		328659-21	328659-23	328659-24	328659-25
Your Reference	UNITS	SP-DUP1	SP-DUP3	SP01-1 - [TRIPLICATE]	SP02-7 - [TRIPLICATE]
Depth		-	-	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	0.4	<0.4	<0.4
Chromium	mg/kg	4	7	4	3
Copper	mg/kg	6	46	7	4
Lead	mg/kg	18	65	23	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	8	4	4
Zinc	mg/kg	35	91	41	11

Moisture						
Our Reference	UNITS	328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference		SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.5	7.2	16	20	7.7

Moisture						
Our Reference	UNITS	328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference		SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	11	12	24	10	14

Moisture						
Our Reference	UNITS	328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference		SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.0	24	10	22	25

Moisture						
Our Reference	UNITS	328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference		SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.1	23	21	18	17

Moisture			
Our Reference		328659-21	328659-23
Your Reference	UNITS	SP-DUP1	SP-DUP3
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date prepared	-	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023
Moisture	%	11	19

Asbestos ID - soils				
Our Reference		328659-18	328659-19	328659-20
Your Reference	UNITS	SP03-1	SP03-2	SP03-3
Depth		0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil
Date analysed	-	27/07/2023	27/07/2023	27/07/2023
Sample mass tested	g	Approx. 115g	Approx. 50g	Approx. 85g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	328659-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			26/07/2023	1	26/07/2023	26/07/2023		26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	1	<25	<25	0	89	81
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	1	<25	<25	0	89	81
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	97	89
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	87	79
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	87	78
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	88	79
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	91	82
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	95	1	82	73	12	92	85

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	26/07/2023	26/07/2023		26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	11	<25	<25	0	84	79
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	11	<25	<25	0	84	79
Benzene	mg/kg	0.2	Org-023	[NT]	11	<0.2	<0.2	0	93	83
Toluene	mg/kg	0.5	Org-023	[NT]	11	<0.5	<0.5	0	83	76
Ethylbenzene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	81	76
m+p-xylene	mg/kg	2	Org-023	[NT]	11	<2	<2	0	82	79
o-Xylene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	85	80
Naphthalene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	11	93	82	13	86	72

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	18	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	18	26/07/2023	26/07/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	18	37	30	21	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	18	170	150	12	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	18	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	18	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	18	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	18	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	18	1	1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	18	2	3	40	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	18	101	81	22	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	328659-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	1	25/07/2023	25/07/2023		25/07/2023	27/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	1	<50	<50	0	119	109
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	1	<100	<100	0	124	104
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	1	<100	<100	0	114	90
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	1	<50	<50	0	119	109
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	1	<100	<100	0	124	104
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	1	<100	<100	0	114	90
Surrogate o-Terphenyl	%		Org-020	81	1	84	88	5	93	84

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	25/07/2023	25/07/2023		26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	11	<50	<50	0	111	128
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	11	<100	<100	0	115	115
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	11	<100	<100	0	129	107
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	11	<50	<50	0	111	128
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	11	<100	<100	0	115	115
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	11	<100	<100	0	129	107
Surrogate o-Terphenyl	%		Org-020	[NT]	11	79	78	1	85	83

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	18	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	18	26/07/2023	26/07/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	18	2000	1700	16	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	18	970	870	11	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	18	740	660	11	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	18	2000	1700	16	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	18	1400	1200	15	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	18	360	320	12	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	18	109	96	13	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	328659-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	1	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	92
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	91
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	90
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	92
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	90
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	93
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	95	97
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	74	82
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	99	1	98	97	1	98	99

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	92	80
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	0.3	100	91	89
Fluorene	mg/kg	0.1	Org-022/025	[NT]	11	0.1	0.3	100	90	86
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	0.2	67	92	83
Anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	0.1	0	92	82
Pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	0.1	0	91	87
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	95	75
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	11	<0.05	<0.05	0	74	84
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	11	93	90	3	98	78

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	18	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	18	25/07/2023	25/07/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	18	1.7	1.5	12	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	18	0.2	0.2	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	18	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	18	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	18	80	79	1	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	18	25/07/2023	25/07/2023		25/07/2023	25/07/2023
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	84	88
HCB	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	84	86
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	67	65
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	89	87
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	88	86
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	98	94
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	98	94
Endrin	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	80	74
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	88	86
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	60	60
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	98	18	100	99	1	96	99

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	18	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	105	89
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	81	79
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	125	117
Malathion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	91	91
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	86	84
Fenthion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	105	107
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	88	84
Phosalone	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	98	18	100	99	1	96	99

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	18	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	89	90
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	98	18	100	99	1	96	99

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date prepared	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	18	<5	<5	0	100	99

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	328659-2
Date prepared	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			26/07/2023	1	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Arsenic	mg/kg	4	Metals-020	<4	1	<4	7	55	107	111
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	98	91
Chromium	mg/kg	1	Metals-020	<1	1	5	11	75	101	100
Copper	mg/kg	1	Metals-020	<1	1	7	10	35	106	110
Lead	mg/kg	1	Metals-020	<1	1	24	25	4	98	96
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	86	86
Nickel	mg/kg	1	Metals-020	<1	1	4	5	22	102	96
Zinc	mg/kg	1	Metals-020	<1	1	44	45	2	101	102

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date prepared	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	11	<4	<4	0	106	100
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	98	92
Chromium	mg/kg	1	Metals-020	[NT]	11	2	4	67	101	98
Copper	mg/kg	1	Metals-020	[NT]	11	2	6	100	106	104
Lead	mg/kg	1	Metals-020	[NT]	11	3	3	0	99	94
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	84	81
Nickel	mg/kg	1	Metals-020	[NT]	11	3	6	67	102	97
Zinc	mg/kg	1	Metals-020	[NT]	11	8	14	55	101	105

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	18	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	18	26/07/2023	26/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	18	15	15	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	18	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	18	15	16	6	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	18	28	32	13	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	18	15	16	6	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	18	5	6	18	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	18	26	30	14	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Acid Extractable Metals in Soil:

- The laboratory RPD acceptance criteria has been exceeded for 328659-1 for Cr. Therefore a triplicate result has been issued as laboratory sample number 328659-24.
- The laboratory RPD acceptance criteria has been exceeded for 328659-11 for Zn. Therefore a triplicate result has been issued as laboratory sample number 328659-25.

SAMPLE RECEIPT ADVICE

Client Details

Client	Reditus Consulting
Attention	Jack Palma

Sample Login Details

Your reference	22137
Envirolab Reference	328660-A
Date Sample Received	21/07/2023
Date Instructions Received	31/07/2023
Date Results Expected to be Reported	01/08/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	additional analysis
Turnaround Time Requested	1 day
Temperature on Receipt (°C)	3
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	Misc Soil - Inorg	On Hold
V1-3		✓
V2-3		✓
V3-3		✓
V4-3.5		✓
V5-3		✓
V6-3		✓
V7-3.5		✓
V8-3		✓
V9-3		✓
V10-3		✓
V11-3		✓
V12-0.3		✓
V12-2.5		✓
V13-0.3		✓
V13-2.5		✓
V14-0.3		✓
V14-2.5		✓
V15-0.3		✓
V15-3		✓
V16-0.3		✓
V16-2.5		✓
V17-0.3		✓
V17-3		✓
V18-0.3		✓
V18-3		✓
V19-0.3		✓
V19-3		✓
V20-0.3		✓
V20-3		✓
V21-0.3		✓
V21-3		✓
V22-0.3		✓



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Sample ID	Misc Soil - Inorg	On Hold
V22-3		✓
V23-0.3		✓
V23-2.5		✓
V24-0.3		✓
V24-2.5		✓
V25-0.3		✓
V25-2.5		✓
V26-0.3		✓
V26-2.5		✓
V27-0.3		✓
V27-2.5		✓
V28-0.3		✓
V28-2.5		✓
V29-0.3		✓
V29-2.5		✓
V30-0.3		✓
V30-3		✓
V31-0.3		✓
V31-2.5		✓
V32-3		✓
V33-3		✓
V34-0.5		✓
V35-0.5		✓
V36-0.5		✓
V37-0.3		✓
V38-0.3		✓
V39-0.3		✓
V40-1		✓
V41-0.3		✓
V42-0.3		✓
V43-0.3		✓
V44-0.5		✓



Sample ID	Misc Soil - Inorg	On Hold
V45-0.5		✓
V46-0.5		✓
V47-0.5		✓
V48	✓	
V49	✓	
V50	✓	
V51	✓	
V52	✓	
V53		✓
V54		✓
V55		✓
Trip Spike - Soil		✓
Trip Blank - Soil		✓
DUP1		✓
DUP2		✓
DUP3		✓
DUP4		✓
DUP5		✓
V4A		✓
V1 - [TRIPLICATE]-3		✓
V11 - [TRIPLICATE]-3		✓
V21 - [TRIPLICATE]-3		✓
V26 - [TRIPLICATE]-2.5		✓
V16 - [TRIPLICATE]-2.5		✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Ming To

From: Jack Palma <jackpalma@reditus.com.au>
Sent: Monday, 31 July 2023 12:19 PM
To: Login; Samplereceipt
Cc: Greg Bartlett
Subject: Re: Results for Registration 328660 22137

Ref: 328660-A
TAT: 1 day
Due: 01/08/2023
MT

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Hi,
Could I please have the following samples analysed for phenols on 1-day TAT:

- V48 (68)
- V49 (69)
- V50 (70)
- V51 (71)
- V52 (72)

Thanks

Jack Palma
Senior Environmental Scientist

Unit 1A, Level 1
29-33 Waratah Street,
Kirrawee NSW 2232
jackpalma@reditus.com.au
+61 408 988 954



www.reditus.com.au

On Fri, 28 Jul 2023 at 18:44, Nancy Zhang <NZhang@envirolab.com.au> wrote:

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the COC/paperwork received from you
ESDAT Extracts
an Excel or .csv file containing the results

Please note that a hard copy will not be posted.

Enquiries should be made directly to:
customerservice@envirolab.com.au

[How did we do? Send Feedback](#)

Kind Regards,

Nancy Zhang | Laboratory Manager, Sydney | Envirolab Services

CERTIFICATE OF ANALYSIS 328660-A

Client Details

Client	Reditus Consulting
Attention	Jack Palma
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	additional analysis
Date samples received	21/07/2023
Date completed instructions received	31/07/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	01/08/2023
Date of Issue	01/08/2023
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Diego Bigolin, Inorganics Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

Misc Soil - Inorg						
Our Reference		328660-A-68	328660-A-69	328660-A-70	328660-A-71	328660-A-72
Your Reference	UNITS	V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	31/07/2023	31/07/2023	31/07/2023	31/07/2023	31/07/2023
Date analysed	-	31/07/2023	31/07/2023	31/07/2023	31/07/2023	31/07/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Method ID	Methodology Summary
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.

QUALITY CONTROL: Misc Soil - Inorg						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	328660-A-69
Date prepared	-			31/07/2023	68	31/07/2023	31/07/2023		31/07/2023	31/07/2023
Date analysed	-			31/07/2023	68	31/07/2023	31/07/2023		31/07/2023	31/07/2023
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	68	<5	<5	0	103	101

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
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Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

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Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Hi,
Could you please indicate when these results are due in?
Thank you

On Tue, 1 Aug 2023 at 16:56, Jack Palma <jackpalma@reditus.com.au> wrote:

Hi,
Could I please have the following samples additionally analysed for VOC and phenols in soil on standard TAT:

328660

- V25
- V26
- V27
- V32
- V33

Could I have the following for VOC in soil on standard TAT:

328659

- SP02-1 5
- SP02-4 8
- SP02-7 11
- SP02-10 14
- SP02-13 17

Thank you

Jack Palma
Senior Environmental Scientist

Unit 1A, Level 1
29-33 Waratah Street,
Kirrawee NSW 2232
jackpalma@reditus.com.au
+61 408 988 954



www.reditus.com.au

Ming To

From: Aileen Hie
Sent: Monday, 7 August 2023 7:00 PM
To: Jack Palma; SydneyMailbox
Cc: Greg Bartlett; Ming To
Subject: RE: Additional analysis

Categories: Additional

Ref: 328659-A
Date: 8/8/23

Hi Jack

We don't have this logged into our system. Which email did you send to originally? I couldn't find in my emails.

Kind Regards,

Aileen Hie | Customer Service Supervisor | Envirolab Services
(Monday to Friday 10am to 6pm)

Great Science. Great Service.

12 Ashley Street Chatswood NSW 2067
T 612 9910 6200
E AHie@envirolab.com.au | W www.envirolab.com.au



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Related Parties



AU: 1300 424 344 Sydney | Perth | Melbourne | Adelaide | Brisbane | Darwin



NZ:

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Latest Update: We're attending SETAC Australasia, 7-11 Aug, Townsville QLD. If you're attending, we're looking

Please consider the environment before printing this email.

Samples will be analysed per our T&C's.

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From: Jack Palma <jackpalma@reditus.com.au>
Sent: Monday, August 7, 2023 4:52 PM
To: SydneyMailbox <Sydney@envirolab.com.au>
Cc: Greg Bartlett <gregbartlett@reditus.com.au>
Subject: Re: Additional analysis

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CERTIFICATE OF ANALYSIS 328659-A

Client Details

Client	Reditus Consulting
Attention	Jack Palma
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	Additional Testing
Date samples received	21/07/2023
Date completed instructions received	01/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	09/08/2023
Date of Issue	09/08/2023
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Asbestos Approved By

Analysed by Asbestos Approved Analyst: Anthony Clark
Authorised by Asbestos Approved Signatory: Nyovan Moonean

Results Approved By

Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in soil						
Our Reference		328659-A-5	328659-A-8	328659-A-11	328659-A-14	328659-A-17
Your Reference	UNITS	SP02-1	SP02-4	SP02-7	SP02-10	SP02-13
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		328659-A-5	328659-A-8	328659-A-11	328659-A-14	328659-A-17
Your Reference	UNITS	SP02-1	SP02-4	SP02-7	SP02-10	SP02-13
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	100	102	102	101	103
Surrogate aaa-Trifluorotoluene	%	79	93	93	98	94
Surrogate Toluene-d ₈	%	98	100	99	98	99
Surrogate 4-Bromofluorobenzene	%	101	101	101	101	100

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.

QUALITY CONTROL: VOCs in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date extracted	-			24/07/2023	11	24/07/2023	24/07/2023		24/07/2023	[NT]
Date analysed	-			26/07/2023	11	26/07/2023	26/07/2023		26/07/2023	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	11	<1	<1	0	101	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-023	<1	11	<1	<1	0	106	[NT]
2,2-dichloropropane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	11	<1	<1	0	87	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	11	<1	<1	0	90	[NT]
1,1-dichloropropene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	11	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	<1	11	<1	<1	0	90	[NT]
bromodichloromethane	mg/kg	1	Org-023	<1	11	<1	<1	0	93	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	11	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	<1	11	<1	<1	0	88	[NT]
1,2-dibromoethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	<1	11	<1	<1	0	90	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	11	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
o-Xylene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	11	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	101	11	102	102	0	99	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	99	11	93	82	13	92	[NT]
Surrogate Toluene-d ₈	%		Org-023	99	11	99	98	1	101	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	100	11	101	100	1	102	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

CERTIFICATE OF ANALYSIS 329413

Client Details

Client	Reditus Consulting
Attention	Hassan Elbatoory
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	1 Soil
Date samples received	01/08/2023
Date completed instructions received	01/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	02/08/2023
Date of Issue	02/08/2023
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Results Approved By
Dragana Tomas, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		329413-1
Your Reference	UNITS	V50a
Date Sampled		01/08/2023
Type of sample		Soil
Date extracted	-	01/08/2023
Date analysed	-	02/08/2023
TRH C ₆ - C ₉	mg/kg	27
TRH C ₆ - C ₁₀	mg/kg	180
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	180
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Naphthalene	mg/kg	5
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	99

svTRH (C10-C40) in Soil		
Our Reference		329413-1
Your Reference	UNITS	V50a
Date Sampled		01/08/2023
Type of sample		Soil
Date extracted	-	01/08/2023
Date analysed	-	01/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	1,600
TRH C ₁₅ - C ₂₈	mg/kg	580
TRH C ₂₉ - C ₃₆	mg/kg	440
Total +ve TRH (C10-C36)	mg/kg	2,600
TRH >C ₁₀ -C ₁₆	mg/kg	1,600
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	1,600
TRH >C ₁₆ -C ₃₄	mg/kg	780
TRH >C ₃₄ -C ₄₀	mg/kg	190
Total +ve TRH (>C10-C40)	mg/kg	2,600
Surrogate o-Terphenyl	%	96

Moisture		
Our Reference	UNITS	329413-1
Your Reference		V50a
Date Sampled		01/08/2023
Type of sample		Soil
Date prepared	-	01/08/2023
Date analysed	-	02/08/2023
Moisture	%	17

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date extracted	-			01/08/2023	[NT]	[NT]	[NT]	[NT]	01/08/2023	[NT]
Date analysed	-			02/08/2023	[NT]	[NT]	[NT]	[NT]	02/08/2023	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	105	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	105	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	113	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	102	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	102	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date extracted	-			01/08/2023	[NT]	[NT]	[NT]	[NT]	01/08/2023	[NT]
Date analysed	-			01/08/2023	[NT]	[NT]	[NT]	[NT]	01/08/2023	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	88	[NT]	[NT]	[NT]	[NT]	91	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Hi,
Could you please indicate when these results are due in?
Thank you

328660-B.

Due = 8/8/23

On Tue, 1 Aug 2023 at 16:56, Jack Palma <jackpalma@reditus.com.au> wrote:

Hi,
Could I please have the following samples additionally analysed for VOC and phenols in soil on standard TAT:

328660

- V25 38, 39
- V26 40, 41
- V27 42, 43
- V32 S2
- V33 S3-

Could I have the following for VOC in soil on standard TAT:

328659

- SP02-1
- SP02-4
- SP02-7
- SP02-10
- SP02-13

Thank you

Jack Palma
Senior Environmental Scientist

Unit 1A, Level 1
29-33 Waratah Street,
Kirrawee NSW 2232
jackpalma@reditus.com.au
+61 408 988 954



www.reditus.com.au

Ming To

From: Aileen Hie
Sent: Monday, 7 August 2023 7:00 PM
To: Jack Palma; SydneyMailbox
Cc: Greg Bartlett; Ming To
Subject: RE: Additional analysis

Ref-328660-B

Categories: Additional

Hi Jack

We don't have this logged into our system. Which email did you send to originally? I couldn't find in my emails.

Kind Regards,

Aileen Hie | Customer Service Supervisor | Envirolab Services
(Monday to Friday 10am to 6pm)

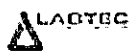
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NZ:

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Latest Update: We're attending SETAC Australasia, 7-11 Aug, Townsville QLD. If you're attending, we're looking

Please consider the environment before printing this email.

Samples will be analysed per our T&C's.

The content of this email and any attachments are intended solely for the addressee(s), may contain confidential and/or privileged information and may be unauthorised use is expressly prohibited. If you have received this email in error please promptly notify the sender, disregard and then delete the email. Any view those of the individual sender. This email may have been corrupted or interfered with, Envirolab Group Pty Ltd cannot guarantee that the message you received Envirolab Group does not represent, warrant or guarantee that the communication is free from errors, virus or interference. In the event of any discrepancy between paper version is to take precedent. Envirolab Group accepts no liability for any damage caused by this email or its attachments due to viruses, interference, access. Envirolab Group's entire liability is limited to resending this email.

This e-mail message has been scanned for Viruses

From: Jack Palma <jackpalma@reditus.com.au>
Sent: Monday, August 7, 2023 4:52 PM
To: SydneyMailbox <Sydney@envirolab.com.au>
Cc: Greg Bartlett <gregbartlett@reditus.com.au>
Subject: Re: Additional analysis

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

CERTIFICATE OF ANALYSIS 328660-B

Client Details

Client	Reditus Consulting
Attention	Jack Palma
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	additional analysis
Date samples received	21/07/2023
Date completed instructions received	01/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	08/08/2023
Date of Issue	08/08/2023
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Nick Sarlamis, Assistant Operation Manager
Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in soil						
Our Reference		328660-B-38	328660-B-39	328660-B-40	328660-B-41	328660-B-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		328660-B-38	328660-B-39	328660-B-40	328660-B-41	328660-B-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	104	105	106	106	105
Surrogate aaa-Trifluorotoluene	%	90	86	83	95	82
Surrogate Toluene-d ₈	%	99	99	99	99	100
Surrogate 4-Bromofluorobenzene	%	96	96	97	97	96

VOCs in soil				
Our Reference		328660-B-43	328660-B-52	328660-B-53
Your Reference	UNITS	V27	V32	V33
Depth		2.5	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	28/07/2023	28/07/2023
Dichlorodifluoromethane	mg/kg	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1
chloroform	mg/kg	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1

VOCs in soil				
Our Reference		328660-B-43	328660-B-52	328660-B-53
Your Reference	UNITS	V27	V32	V33
Depth		2.5	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil
Ethylbenzene	mg/kg	<1	<1	<1
bromoform	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
styrene	mg/kg	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1
Surrogate Dibromofluorometha	%	105	104	104
Surrogate aaa-Trifluorotoluene	%	90	89	91
Surrogate Toluene-d ₈	%	101	99	99
Surrogate 4-Bromofluorobenzene	%	96	96	96

Misc Soil - Inorg						
Our Reference	UNITS	328660-B-38	328660-B-39	328660-B-40	328660-B-41	328660-B-42
Your Reference		V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Date analysed	-	08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg				
Our Reference	UNITS	328660-B-43	328660-B-52	328660-B-53
Your Reference		V27	V32	V33
Depth		2.5	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil
Date prepared	-	08/08/2023	08/08/2023	08/08/2023
Date analysed	-	08/08/2023	08/08/2023	08/08/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5

Method ID	Methodology Summary
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.

QUALITY CONTROL: VOCs in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-B-42
Date extracted	-			24/07/2023	41	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			27/07/2023	41	27/07/2023	27/07/2023		27/07/2023	27/07/2023
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	41	<1	<1	0	123	101
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-023	<1	41	<1	<1	0	128	101
2,2-dichloropropane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	41	<1	<1	0	118	96
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	41	<1	<1	0	115	93
1,1-dichloropropene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	41	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	<1	41	<1	<1	0	113	90
bromodichloromethane	mg/kg	1	Org-023	<1	41	<1	<1	0	119	97
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	41	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	<1	41	<1	<1	0	123	97
1,2-dibromoethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	<1	41	<1	<1	0	107	84
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	41	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-B-42
o-Xylene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	41	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	103	41	106	104	2	99	100
Surrogate aaa-Trifluorotoluene	%		Org-023	93	41	95	94	1	97	80
Surrogate Toluene-d ₈	%		Org-023	99	41	99	98	1	97	98
Surrogate 4-Bromofluorobenzene	%		Org-023	96	41	97	96	1	98	97

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date prepared	-			08/08/2023	40	08/08/2023	08/08/2023		08/08/2023	[NT]
Date analysed	-			08/08/2023	40	08/08/2023	08/08/2023		08/08/2023	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	40	<5	<5	0	101	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

calc: 2/8/23 1027

 CHAIN OF CUSTODY FORM - Client					ENVIROLAB GROUP National phone number 1300 424 344 Sydney Lab - Envirolab Services 12 Ashley St, Chatswood, NSW 2067 ☎ 02 9910 6200 ✉ sydney@envirolab.com.au Perth Lab - MPL Laboratories 16-18 Hayden Crt, Myareo, WA 6154 ☎ 08 9317 2505 ✉ jlab@mpl.com.au Melbourne Lab - Envirolab Services 25 Research Drive, Croydon South, VIC 3136 ☎ 03 9763 2500 ✉ melbourne@envirolab.com.au Adelaide Office - Envirolab Services 7a The Parade, Norwood, SA 5067 ☎ 08 7087 6800 ✉ adelaide@envirolab.com.au Brisbane Office - Envirolab Services 203, 10-20 Depot St, Banyo, QLD 4014 ☎ 07 3266 9532 ✉ brisbane@envirolab.com.au Darwin Office - Envirolab Services Unit 7, Ty Wilkes Rd, Borimah, NT 0820 ☎ 08 8367 1201 ✉ darwin@envirolab.com.au																			
[Copyright and Confidential]																								
Client: Reditus Consulting					Client Project Name/Number/Site etc (ie report title): 22137																			
Contact Person: Hassan Elbatoory					PO: 22137																			
Project Mgr: Greg Bartlett					Envirolab Quote No. :																			
Sampler: Hassan Elbatoory					Date results required: Standard																			
Address: 1A / 29-33 Waratah Street Kirrawee NSW					Or choose: standard / same day / 1 day / 2 day / 3 day Note: Inform lab in advance if urgent turnaround is required - surcharges apply																			
Phone: 02 9521 6567 Mob: 0490 237 157					Additional report format: esdat																			
Email Invoice To: accounts@reditusconsulting.com					Lab Comments:																			
Email Results To: tobyscrivener@reditusconsulting.com, hassanelbatoory@reditusconsulting.com																								
Sample Information					Tests Required															Comments				
Envirolab Sample ID	Client Sample ID or Information	Depth	Date sampled	Type of sample	Combo 4	TRH	BTEX	PAHs	Metals	Phenols	Hold										Provide as much information about the sample as you can			
1	V53	2	2/08/2023	Soil	X																			
2	V54_0.5	0.5	2/08/2023	Soil	X																			
3	V54_2.0	2	2/08/2023	Soil	X																			
4	V55_0.5	0.5	2/08/2023	Soil	X																			
5	V55_2.0	2	2/08/2023	Soil	X																			
6	V56_0.5	0.5	2/08/2023	Soil	X																			
7	V56_2.0	2	2/08/2023	Soil	X																			
8	V57_0.5	0.5	2/08/2023	Soil	X																			
9	V57_2.0	2	2/08/2023	Soil	X																			
10	SP04-1	SP04-1	2/08/2023	Soil	X																			
11	SP04-2	SP04-2	2/08/2023	Soil	X																			
12	SP04-3	SP04-3	2/08/2023	Soil	X																			
13	SP04-4	SP04-4	2/08/2023	Soil								X												
14	DUP5	DUP5	2/08/2023	Soil	X																			
S10	TRIP5	TRIP5	2/08/2023	Soil		X	X	X	X	X											Forward to ALS			
Relinquished by (C. Please tick the box if observed settled sediment present in vial)					Received by (Company): ELS SYD					Lab Use Only														
Print Name: Hassan Elbatoory					Print Name: Sarah P					Job number: 329488					Cooling (Ice) / Ice pack / None									
Date & Time: 02/08/2023 - 10:30am					Date & Time: 02/08/23, 1400					Temperature: 5°C					Security seal: Intact / Broken (None)									
Signature: H. Elbatoory					Signature: Sau					TAT Req - SAME day / 1 / 2 / 3 / 4 / STD														

CERTIFICATE OF ANALYSIS 329488

Client Details

Client	Reditus Consulting
Attention	Hassan Elbatoory
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	14 Soil
Date samples received	02/08/2023
Date completed instructions received	02/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	09/08/2023
Date of Issue	07/08/2023
Reissue Details	This report replaces R00 created on 07/08/2023 due to: Sample ID Amended (Client Request)
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Diego Bigolin, Inorganics Supervisor
 Dragana Tomas, Senior Chemist
 Loren Bardwell, Development Chemist
 Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference	UNITS	V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	88	97	85	90

vTRH(C6-C10)/BTEXN in Soil

Our Reference		329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference	UNITS	V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	85	90	85	90	93

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		329488-11	329488-12	329488-14
Your Reference	UNITS	SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	81	81

svTRH (C10-C40) in Soil						
Our Reference	UNITS	329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference		V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	04/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	96	92	97	90

svTRH (C10-C40) in Soil						
Our Reference	UNITS	329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference		V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	220	<100	320	120	6,000
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	230	460
Total +ve TRH (C10-C36)	mg/kg	220	<50	320	350	6,400
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	190
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	190
TRH >C ₁₆ -C ₃₄	mg/kg	220	<100	340	290	6,200
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	110	<100
Total +ve TRH (>C10-C40)	mg/kg	220	<50	340	400	6,400
Surrogate o-Terphenyl	%	116	88	126	92	#

svTRH (C10-C40) in Soil				
Our Reference		329488-11	329488-12	329488-14
Your Reference	UNITS	SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	1,800	580	<100
TRH C ₂₉ - C ₃₆	mg/kg	200	<100	<100
Total +ve TRH (C10-C36)	mg/kg	2,000	580	<50
TRH >C ₁₀ -C ₁₆	mg/kg	62	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	62	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	1,900	620	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	1,900	620	<50
Surrogate o-Terphenyl	%	#	#	94

PAHs in Soil						
Our Reference		329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference	UNITS	V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	95	97	90	94	92

PAHs in Soil						
Our Reference		329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference	UNITS	V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Phenanthrene	mg/kg	<0.1	<0.1	0.2	<0.1	2.6
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.2	<0.05	2.8
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	90	95	92	87

PAHs in Soil				
Our Reference		329488-11	329488-12	329488-14
Your Reference	UNITS	SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.1	0.1	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	92	91	95

Acid Extractable metals in soil

Our Reference		329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference	UNITS	V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Arsenic	mg/kg	<4	10	<4	7	14
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	6	25	13	14	12
Copper	mg/kg	8	20	32	25	72
Lead	mg/kg	5	15	8	17	33
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	26	7	18	4	14
Zinc	mg/kg	34	27	97	21	84

Acid Extractable metals in soil

Our Reference		329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference	UNITS	V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Arsenic	mg/kg	10	9	9	<4	11
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	10	19	11	10
Copper	mg/kg	35	12	27	42	43
Lead	mg/kg	20	5	15	19	27
Mercury	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Nickel	mg/kg	3	26	4	61	21
Zinc	mg/kg	22	150	24	160	130

Acid Extractable metals in soil						
Our Reference		329488-11	329488-12	329488-14	329488-15	329488-16
Your Reference	UNITS	SP04-2	SP04-3	DUP5	V53 - [TRIPLICATE]	SP04-2 - [TRIPLICATE]
Depth		SP04-2	SP04-3	DUP5	2	SP04-2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Arsenic	mg/kg	5	<4	9	<4	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	8	15	9	8
Copper	mg/kg	27	22	23	14	36
Lead	mg/kg	16	7	14	5	22
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	24	22	3	24	26
Zinc	mg/kg	67	81	18	65	75

Misc Soil - Inorg

Our Reference		329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference	UNITS	V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg

Our Reference		329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference	UNITS	V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg

Our Reference		329488-11	329488-12	329488-14
Your Reference	UNITS	SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5

Moisture						
Our Reference	UNITS	329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference		V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
Moisture	%	14	20	13	19	14

Moisture						
Our Reference	UNITS	329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference		V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
Moisture	%	19	16	19	8.8	16

Moisture				
Our Reference	UNITS	329488-11	329488-12	329488-14
Your Reference		SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023
Moisture	%	10	10	19

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40). Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date extracted	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			04/08/2023	1	04/08/2023	04/08/2023		04/08/2023	04/08/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	1	<25	<25	0	108	104
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	1	<25	<25	0	108	104
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	115	112
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	109	104
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	105	101
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	106	102
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	112	108
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	97	1	89	89	0	97	93

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	04/08/2023	04/08/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	11	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	11	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	11	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	11	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	11	89	95	7	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date extracted	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	1	<50	<50	0	87	70
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	1	<100	<100	0	98	95
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	1	<100	<100	0	100	82
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	1	<50	<50	0	87	70
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	1	<100	<100	0	98	95
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	1	<100	<100	0	100	82
Surrogate o-Terphenyl	%		Org-020	85	1	75	90	18	80	96

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	04/08/2023	04/08/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	11	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	11	1800	1700	6	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	11	200	200	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	11	62	66	6	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	11	1900	1800	5	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	11	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	11	#	#		[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date extracted	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			04/08/2023	1	04/08/2023	04/08/2023		04/08/2023	04/08/2023
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	86
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	83	87
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	74	78
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	90
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	84
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	85	93
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	81	83
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	74	78
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	94	1	95	95	0	86	88

QUALITY CONTROL: PAHs in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	04/08/2023	04/08/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	11	0.1	0.6	143	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	11	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	11	92	90	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date prepared	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	109	89
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	105	86
Chromium	mg/kg	1	Metals-020	<1	1	6	6	0	114	92
Copper	mg/kg	1	Metals-020	<1	1	8	18	77	109	104
Lead	mg/kg	1	Metals-020	<1	1	5	5	0	114	91
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	0.2	67	81	76
Nickel	mg/kg	1	Metals-020	<1	1	26	14	60	108	89
Zinc	mg/kg	1	Metals-020	<1	1	34	52	42	111	86

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	11	5	5	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	11	9	17	62	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	11	27	32	17	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	11	16	18	12	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	11	24	18	29	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	11	67	71	6	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date prepared	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	1	<5	<5	0	101	99

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	11	<5	<5	0	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Acid Extractable Metals in Soil:

- The laboratory RPD acceptance criteria has been exceeded for 329488-1 for Cu, Ni and Zn. Therefore a triplicate result has been issued as laboratory sample number 329488-15.
- The laboratory RPD acceptance criteria has been exceeded for 329488-11 for Cr. Therefore a triplicate result has been issued as laboratory sample number 329488-16.

TRH Soil C10-C40 NEPM - # Percent recovery for the surrogate is not possible to report as the high concentration of analytes in samples 329488-10,11,11d,12 have caused interference.

SAMPLE RECEIPT ADVICE

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett, Hassan Elbatoory, Jack Palma

Sample Login Details

Your reference	22137
Envirolab Reference	329997
Date Sample Received	08/08/2023
Date Instructions Received	08/08/2023
Date Results Expected to be Reported	16/08/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	9 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	1
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolab.com.au	Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



EnviroLab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Acid Extractable metals in soil	Asbestos ID - soils	On Hold
V50b-0.9	✓	✓				
V61-1.8	✓	✓				
V62-0.9	✓	✓				
V63-0.9	✓	✓				
SP05-1	✓	✓	✓	✓	✓	
SP05-2	✓	✓	✓	✓	✓	
SP05-3	✓	✓	✓	✓	✓	
DUP5						✓
SP-DUP5						✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

CERTIFICATE OF ANALYSIS 329997

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett, Hassan Elbatoory, Jack Palma
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	9 Soil
Date samples received	08/08/2023
Date completed instructions received	08/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	16/08/2023
Date of Issue	16/08/2023
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Asbestos Approved By

Analysed by Asbestos Approved Analyst: Anthony Clark
 Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Dragana Tomas, Senior Chemist
 Greta Petzold, Operation Manager
 Hannah Nguyen, Metals Supervisor
 Lucy Zhu, Asbestos Supervisor
 Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		329997-1	329997-2	329997-3	329997-4	329997-5
Your Reference	UNITS	V50b	V61	V62	V63	SP05-1
Depth		0.9	1.8	0.9	0.9	-
Date Sampled		8/08/2023	8/08/2023	8/08/2023	8/08/2023	8/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2023	09/08/2023	09/08/2023	09/08/2023	09/08/2023
Date analysed	-	11/08/2023	11/08/2023	11/08/2023	11/08/2023	11/08/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	[NA]	[NA]	[NA]	[NA]	<25
Benzene	mg/kg	[NA]	[NA]	[NA]	[NA]	<0.2
Toluene	mg/kg	[NA]	[NA]	[NA]	[NA]	<0.5
Ethylbenzene	mg/kg	[NA]	[NA]	[NA]	[NA]	<1
m+p-xylene	mg/kg	[NA]	[NA]	[NA]	[NA]	<2
o-Xylene	mg/kg	[NA]	[NA]	[NA]	[NA]	<1
Naphthalene	mg/kg	[NA]	[NA]	[NA]	[NA]	<1
Total +ve Xylenes	mg/kg	[NA]	[NA]	[NA]	[NA]	<1
Surrogate aaa-Trifluorotoluene	%	70	93	90	103	80

vTRH(C6-C10)/BTEXN in Soil

Our Reference		329997-6	329997-7
Your Reference	UNITS	SP05-2	SP05-3
Depth		-	-
Date Sampled		8/08/2023	8/08/2023
Type of sample		Soil	Soil
Date extracted	-	09/08/2023	09/08/2023
Date analysed	-	11/08/2023	11/08/2023
TRH C ₆ - C ₉	mg/kg	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
Naphthalene	mg/kg	<1	1
Total +ve Xylenes	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	93

svTRH (C10-C40) in Soil						
Our Reference	UNITS	329997-1	329997-2	329997-3	329997-4	329997-5
Your Reference		V50b	V61	V62	V63	SP05-1
Depth		0.9	1.8	0.9	0.9	-
Date Sampled		8/08/2023	8/08/2023	8/08/2023	8/08/2023	8/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2023	09/08/2023	09/08/2023	09/08/2023	09/08/2023
Date analysed	-	10/08/2023	10/08/2023	10/08/2023	10/08/2023	10/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	64	<50	<50	72
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	130
Total +ve TRH (C10-C36)	mg/kg	<50	60	<50	<50	200
TRH >C ₁₀ -C ₁₆	mg/kg	<50	75	<50	<50	89
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	[NA]	[NA]	[NA]	[NA]	89
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	170
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	80	<50	<50	260
Surrogate o-Terphenyl	%	85	83	81	84	84

svTRH (C10-C40) in Soil			
Our Reference	UNITS	329997-6	329997-7
Your Reference		SP05-2	SP05-3
Depth		-	-
Date Sampled		8/08/2023	8/08/2023
Type of sample		Soil	Soil
Date extracted	-	09/08/2023	09/08/2023
Date analysed	-	10/08/2023	10/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	510
TRH C ₁₅ - C ₂₈	mg/kg	<100	220
TRH C ₂₉ - C ₃₆	mg/kg	<100	190
Total +ve TRH (C10-C36)	mg/kg	<50	920
TRH >C ₁₀ -C ₁₆	mg/kg	<50	570
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	570
TRH >C ₁₆ -C ₃₄	mg/kg	110	280
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	110	850
Surrogate o-Terphenyl	%	82	83

PAHs in Soil				
Our Reference		329997-5	329997-6	329997-7
Your Reference	UNITS	SP05-1	SP05-2	SP05-3
Depth		-	-	-
Date Sampled		8/08/2023	8/08/2023	8/08/2023
Type of sample		Soil	Soil	Soil
Date extracted	-	09/08/2023	09/08/2023	09/08/2023
Date analysed	-	09/08/2023	09/08/2023	09/08/2023
Naphthalene	mg/kg	<0.1	<0.1	1.6
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	1.8
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	81	85	87

Acid Extractable metals in soil				
Our Reference		329997-5	329997-6	329997-7
Your Reference	UNITS	SP05-1	SP05-2	SP05-3
Depth		-	-	-
Date Sampled		8/08/2023	8/08/2023	8/08/2023
Type of sample		Soil	Soil	Soil
Date prepared	-	10/08/2023	10/08/2023	10/08/2023
Date analysed	-	10/08/2023	10/08/2023	10/08/2023
Arsenic	mg/kg	12	7	<4
Cadmium	mg/kg	<0.4	3	<0.4
Chromium	mg/kg	10	17	8
Copper	mg/kg	57	140	36
Lead	mg/kg	28	200	13
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	10	23	13
Zinc	mg/kg	87	300	79

Moisture						
Our Reference	UNITS	329997-1	329997-2	329997-3	329997-4	329997-5
Your Reference		V50b	V61	V62	V63	SP05-1
Depth		0.9	1.8	0.9	0.9	-
Date Sampled		8/08/2023	8/08/2023	8/08/2023	8/08/2023	8/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2023	09/08/2023	09/08/2023	09/08/2023	09/08/2023
Date analysed	-	10/08/2023	10/08/2023	10/08/2023	10/08/2023	10/08/2023
Moisture	%	18	3.5	18	17	17

Moisture			
Our Reference	UNITS	329997-6	329997-7
Your Reference		SP05-2	SP05-3
Depth		-	-
Date Sampled		8/08/2023	8/08/2023
Type of sample		Soil	Soil
Date prepared	-	09/08/2023	09/08/2023
Date analysed	-	10/08/2023	10/08/2023
Moisture	%	14	9.7

Asbestos ID - soils				
Our Reference		329997-5	329997-6	329997-7
Your Reference	UNITS	SP05-1	SP05-2	SP05-3
Depth		-	-	-
Date Sampled		8/08/2023	8/08/2023	8/08/2023
Type of sample		Soil	Soil	Soil
Date analysed	-	14/08/2023	14/08/2023	14/08/2023
Sample mass tested	g	Approx. 85g	Approx. 105g	Approx. 95g
Sample Description	-	Brown coarse-grained soil & rocks	Grey clayey soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			09/08/2023	[NT]	[NT]	[NT]	[NT]	09/08/2023	[NT]
Date analysed	-			11/08/2023	[NT]	[NT]	[NT]	[NT]	11/08/2023	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	108	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	109	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	109	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	82	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			09/08/2023	[NT]	[NT]	[NT]	[NT]	09/08/2023	[NT]
Date analysed	-			10/08/2023	[NT]	[NT]	[NT]	[NT]	10/08/2023	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	103	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	103	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate o-Terphenyl	%		Org-020	83	[NT]	[NT]	[NT]	[NT]	86	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			09/08/2023	[NT]	[NT]	[NT]	[NT]	09/08/2023	[NT]
Date analysed	-			09/08/2023	[NT]	[NT]	[NT]	[NT]	09/08/2023	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	75	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	86	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	85	[NT]	[NT]	[NT]	[NT]	86	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			10/08/2023	[NT]	[NT]	[NT]	[NT]	10/08/2023	[NT]
Date analysed	-			10/08/2023	[NT]	[NT]	[NT]	[NT]	10/08/2023	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	113	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	105	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	123	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2324574**

Client : **REDITUS CONSULTING PTY LTD.**
Contact : **GREG BARTLETT**
Address : **1A/29-33 Waratah Street
KIRRAWEE**

E-mail : **gregbartlett@reditus.com.au**
Telephone : **----**
Facsimile : **----**

Project : **22137**
Order number : **22137**
C-O-C number : **----**
Site : **----**
Sampler : **HASSAN ELBATOORY, JACK PALMA**

Laboratory : **Environmental Division Sydney**
Contact : **Customer Services ES**
Address : **277-289 Woodpark Road Smithfield
NSW Australia 2164**

E-mail : **ALSEnviro.Sydney@ALSGlobal.com**
Telephone : **+61-2-8784 8555**
Facsimile : **+61-2-8784 8500**

Page : **1 of 3**
Quote number : **ES2019REDITUS0001 (EN/222)**
QC Level : **NEPM 2013 B3 & ALS QC Standard**

Dates

Date Samples Received : **24-Jul-2023 14:19**
Client Requested Due : **28-Jul-2023**
Date

Issue Date : **24-Jul-2023**
Scheduled Reporting Date : **28-Jul-2023**

Delivery Details

Mode of Delivery : **Carrier**
No. of coolers/boxes : **1**

Security Seal : **Not Available**
Temperature : **8.0'C, 6.8'C, 4.8'C - Ice
Bricks present**

Receipt Detail : **Hard Esky**

No. of samples received / analysed : **5 / 4**

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Volatile organic compound analysis may be compromised as sample containers contained headspace. Please contact ALS for further information.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months $\pm$ 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

All comparisons are made against pretreatment/preservation AS. APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

Matrix: SOIL

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold No analysis)	SOIL - E Moisture	SOIL - S 8 metals
ES2324574-001	20-Jul-2023 00:00	TRIP1		✓	✓
ES2324574-002	20-Jul-2023 00:00	TRIP2		✓	✓
ES2324574-003	20-Jul-2023 00:00	TRIP3		✓	✓
ES2324574-004	20-Jul-2023 00:00	TRIP4		✓	✓
ES2324574-005	21-Jul-2023 00:00	TRIP5	✓		

Sample(s) have been received within the recommended holding times for the requested analysis.

ACCOUNTS

- Email
- accounts@reditusconsulting.com

Email reditusconsulting@esdat.com.au

Email gregbartlett@reditus.com.au

- [illegible]

Email hassanelbatoory@reditus.com.au

- [illegible]

Email jackpalma@reditus.com.au

- [illegible]

Issue Date : 24-Jul-2023
Page : 3 of 3
Work Order : ES2324574 Amendment 0
Client : REDITUS CONSULTING PTY LTD.





CERTIFICATE OF ANALYSIS

Work Order : **ES2324574**
Client : **REDITUS CONSULTING PTY LTD.**
Contact : **GREG BARTLETT**
Address : **1A/29-33 Waratah Street**
KIRRAWEE
Telephone : **----**
Project : **22137**
Order number : **22137**
C-O-C number : **----**
Sampler : **HASSAN ELBATOORY, JACK PALMA**
Site :
Quote number : **EN/222**
No. of samples received : **5**
No. of samples analysed : **4**

Page : 1 of 6
Laboratory : Environmental Division Sydney
Contact : Customer Services ES
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 24-Jul-2023 14:19
Date Analysis Commenced : 25-Jul-2023
Issue Date : 28-Jul-2023 16:03



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TRIP1	TRIP2	TRIP3	TRIP4	----
Sampling date / time					20-Jul-2023 00:00	20-Jul-2023 00:00	20-Jul-2023 00:00	20-Jul-2023 00:00	----
Compound	CAS Number	LOR	Unit		ES2324574-001	ES2324574-002	ES2324574-003	ES2324574-004	-----
					Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	-----	1.0	%		9.4	18.0	15.4	23.2	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	12	18	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg		9	9	29	20	----
Copper	7440-50-8	5	mg/kg		50	34	14	31	----
Lead	7439-92-1	5	mg/kg		21	17	24	20	----
Nickel	7440-02-0	2	mg/kg		20	11	8	5	----
Zinc	7440-66-6	5	mg/kg		65	72	24	22	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	-----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	-----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	-----	0.5	mg/kg		0.6	0.6	0.6	0.6	----
^ Benzo(a)pyrene TEQ (LOR)	-----	0.5	mg/kg		1.2	1.2	1.2	1.2	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	-----	10	mg/kg		<10	<10	<10	<10	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TRIP1	TRIP2	TRIP3	TRIP4	----
Sampling date / time					20-Jul-2023 00:00	20-Jul-2023 00:00	20-Jul-2023 00:00	20-Jul-2023 00:00	----
Compound	CAS Number	LOR	Unit		ES2324574-001	ES2324574-002	ES2324574-003	ES2324574-004	-----
					Result	Result	Result	Result	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	-----	50	mg/kg		<50	<50	<50	<50	----
C15 - C28 Fraction	-----	100	mg/kg		<100	<100	<100	<100	----
C29 - C36 Fraction	-----	100	mg/kg		<100	<100	<100	<100	----
^ C10 - C36 Fraction (sum)	-----	50	mg/kg		<50	<50	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	----
>C10 - C16 Fraction	-----	50	mg/kg		<50	<50	<50	<50	----
>C16 - C34 Fraction	-----	100	mg/kg		<100	<100	<100	<100	----
>C34 - C40 Fraction	-----	100	mg/kg		<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	-----	50	mg/kg		<50	<50	<50	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	-----	50	mg/kg		<50	<50	<50	<50	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	-----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	-----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		87.2	86.0	87.0	86.1	----
2-Chlorophenol-D4	93951-73-6	0.5	%		84.2	84.4	83.3	83.4	----
2,4,6-Tribromophenol	118-79-6	0.5	%		73.3	73.1	77.0	78.6	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		90.6	89.5	89.7	90.4	----
Anthracene-d10	1719-06-8	0.5	%		97.7	101	97.2	96.8	----
4-Terphenyl-d14	1718-51-0	0.5	%		89.5	88.9	88.0	90.0	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		90.4	89.6	85.6	88.1	----
Toluene-D8	2037-26-5	0.2	%		101	103	97.7	101	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TRIP1	TRIP2	TRIP3	TRIP4	----
Sampling date / time					20-Jul-2023 00:00	20-Jul-2023 00:00	20-Jul-2023 00:00	20-Jul-2023 00:00	----
Compound	CAS Number	LOR	Unit		ES2324574-001	ES2324574-002	ES2324574-003	ES2324574-004	-----
					Result	Result	Result	Result	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		100	103	99.6	101	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131



QUALITY CONTROL REPORT

Work Order	: ES2324574	Page	: 1 of 7
Client	: REDITUS CONSULTING PTY LTD.	Laboratory	: Environmental Division Sydney
Contact	: GREG BARTLETT	Contact	: Customer Services ES
Address	: 1A/29-33 Waratah Street KIRRAWEE	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 22137	Date Samples Received	: 24-Jul-2023
Order number	: 22137	Date Analysis Commenced	: 25-Jul-2023
C-O-C number	: ----	Issue Date	: 28-Jul-2023
Sampler	: HASSAN ELBATOORY, JACK PALMA		
Site	:		
Quote number	: EN/222		
No. of samples received	: 5		
No. of samples analysed	: 4		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5195805)									
ES2323131-004	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	17	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	10	18.1	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	13	17	28.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	<5	45.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	71	78	10.1	0% - 50%
ES2324569-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5195832)									
ES2324520-001	Anonymous	EA055: Moisture Content	----	0.1	%	18.4	18.5	0.9	0% - 50%
ES2324569-001	Anonymous	EA055: Moisture Content	----	0.1	%	7.9	8.1	2.1	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5195804)									
ES2323131-004	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2324569-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5191410)									
ES2324460-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5191410) - continued									
ES2324460-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2324579-004	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	2.1	2.1	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	2.6	2.1	21.3	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5191411)							
ES2324460-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5191411) - continued									
ES2324460-001	Anonymous	EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2324579-004	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	2320	2600	11.5	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1010	870	14.8	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5192447)									
ES2324579-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2324579-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5191411)									
ES2324460-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2324579-004	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	1490	1740	15.7	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	1910	1880	1.8	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5192447)									
ES2324579-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	11	11	0.0	No Limit
ES2324579-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 5192447)									
ES2324579-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2324579-002	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5195805)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	95.6	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	90.4	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	110	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	102	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	101	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	95.9	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	88.0	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5195804)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	91.4	70.0	125
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5191410)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	108	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	100	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	80.1	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	81.9	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	80.5	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	83.4	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	81.5	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	83.3	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	73.9	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	80.1	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	75.8	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	88.4	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	77.3	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	67.4	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	68.5	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	69.1	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5191411)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	98.1	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	102	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	101	71.0	129



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5192447)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	88.4	72.2	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5191411)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	101	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	101	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	102	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5192447)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	88.7	72.4	133
EP080: BTEXN (QCLot: 5192447)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	106	76.0	124
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	102	78.5	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	108	77.4	121
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	101	78.2	121
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	103	81.3	121
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	78.8	122

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5195805)							
ES2323131-004	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	104	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	90.8	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	102	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	103	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	91.4	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.0	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5195804)							
ES2323131-004	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	91.9	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5191410)							
ES2324460-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	84.8	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	90.0	70.0	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5191411)							
ES2324460-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	109	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	102	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	103	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5192447)							
ES2324579-004	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	120	60.4	142
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5191411)							
ES2324460-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	96.8	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	107	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	91.4	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5192447)							
ES2324579-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	121	61.1	142
EP080: BTEXN (QCLot: 5192447)							
ES2324579-004	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	95.8	62.1	122
		EP080: Toluene	108-88-3	2.5 mg/kg	95.9	66.6	119
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	104	67.4	123
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	100	66.4	121
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	98.4	70.7	121
	EP080: Naphthalene	91-20-3	2.5 mg/kg	99.4	61.1	115	



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2324574	Page	: 1 of 5
Client	: REDITUS CONSULTING PTY LTD.	Laboratory	: Environmental Division Sydney
Contact	: GREG BARTLETT	Telephone	: +61-2-8784 8555
Project	: 22137	Date Samples Received	: 24-Jul-2023
Site	:	Issue Date	: 28-Jul-2023
Sampler	: HASSAN ELBATOORY, JACK PALMA	No. of samples received	: 5
Order number	: 22137	No. of samples analysed	: 4

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055) TRIP1, TRIP3,	TRIP2, TRIP4	20-Jul-2023	----	----	----	26-Jul-2023	03-Aug-2023	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) TRIP1, TRIP3,	TRIP2, TRIP4	20-Jul-2023	26-Jul-2023	16-Jan-2024	✓	27-Jul-2023	16-Jan-2024	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) TRIP1, TRIP3,	TRIP2, TRIP4	20-Jul-2023	26-Jul-2023	17-Aug-2023	✓	28-Jul-2023	17-Aug-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) TRIP1, TRIP3,	TRIP2, TRIP4	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Sep-2023	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071) TRIP1, TRIP3,	TRIP2, TRIP4	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Sep-2023	✓
Soil Glass Jar - Unpreserved (EP080) TRIP4		20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	28-Jul-2023	03-Aug-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP071) TRIP1, TRIP3,	TRIP2, TRIP4	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Sep-2023	✓
Soil Glass Jar - Unpreserved (EP080) TRIP4		20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	28-Jul-2023	03-Aug-2023	✓



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) TRIP1, TRIP3	TRIP2,	20-Jul-2023	25-Jul-2023	03-Aug-2023	✔	27-Jul-2023	03-Aug-2023	✔
Soil Glass Jar - Unpreserved (EP080) TRIP4		20-Jul-2023	25-Jul-2023	03-Aug-2023	✔	28-Jul-2023	03-Aug-2023	✔



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2324578**

Client : **REDITUS CONSULTING PTY LTD.**
Contact : **GREG BARTLETT**
Address : **1A/29-33 Waratah Street
KIRRAWEE**

E-mail : **gregbartlett@reditus.com.au**
Telephone : **----**
Facsimile : **----**

Project : **22137**
Order number : **22137**
C-O-C number : **----**
Site : **----**
Sampler : **HASSAN ELBATOORY, JACK PALMA**

Laboratory : **Environmental Division Sydney**
Contact : **Customer Services ES**
Address : **277-289 Woodpark Road Smithfield
NSW Australia 2164**

E-mail : **ALSEnviro.Sydney@ALSGlobal.com**
Telephone : **+61-2-8784 8555**
Facsimile : **+61-2-8784 8500**

Page : **1 of 2**
Quote number : **ES2019REDITUS0001 (EN/222)**
QC Level : **NEPM 2013 B3 & ALS QC Standard**

Dates

Date Samples Received : **24-Jul-2023 14:21**
Client Requested Due : **28-Jul-2023**
Date : **28-Jul-2023**
Issue Date : **25-Jul-2023**
Scheduled Reporting Date : **28-Jul-2023**

Delivery Details

Mode of Delivery : **Carrier**
No. of coolers/boxes : **1**
Receipt Detail : **Hard Esky**
Security Seal : **Not Available**
Temperature : **8.0'C, 6.8'C, 4.8'C - Ice
Bricks present**
No. of samples received / analysed : **3 / 2**

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- 25/07/23: This is an updated SRN which indicates the change of analysis to sample #3 'SP-TRIP3' for this work order.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Volatile organic compound analysis may be compromised as sample containers contained headspace. Please contact ALS for further information.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months $\pm$ 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

All comparisons are made against pretreatment/preservation AS. APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Laboratory sample ID	Sampling date / time	Sample ID

ES2324578-001	20-Jul-2023 00:00	SP-TRIP1		✓		✓
ES2324578-002	20-Jul-2023 00:00	SP-TRIP2	✓			
ES2324578-003	21-Jul-2023 00:00	SP-TRIP3		✓	✓	

Sample(s) have been received within the recommended holding times for the requested analysis.

ACCOUNTS

- A4 - AU Tax Invoice (INV)

Email accounts@reditusconsulting.com

Esdat Deliverables

- EDI Format - ESDAT (ESDAT)

Email reditusconsulting@esdat.com.au

GREG BARTLETT

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

[illegible]

hassanel batoory

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

[illegible]

JACK PALMA

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

[illegible]



CERTIFICATE OF ANALYSIS

Work Order : **ES2324578**
Client : **REDITUS CONSULTING PTY LTD.**
Contact : **GREG BARTLETT**
Address : **1A/29-33 Waratah Street**
KIRRAWEE
Telephone : **----**
Project : **22137**
Order number : **22137**
C-O-C number : **----**
Sampler : **HASSAN ELBATOORY, JACK PALMA**
Site :
Quote number : **EN/222**
No. of samples received : **3**
No. of samples analysed : **2**

Page : **1 of 8**
Laboratory : **Environmental Division Sydney**
Contact : **Customer Services ES**
Address : **277-289 Woodpark Road Smithfield NSW Australia 2164**
Telephone : **+61-2-8784 8555**
Date Samples Received : **24-Jul-2023 14:21**
Date Analysis Commenced : **25-Jul-2023**
Issue Date : **28-Jul-2023 16:10**



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP080: The result for sample ES2324578-003 was confirmed by re-analysis.
- EP071: Results of sample SP-TRIP3 have been confirmed by re-extraction and re-analysis.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		10.9	18.1	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	7	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		5	12	----	----	----
Copper	7440-50-8	5	mg/kg		6	36	----	----	----
Lead	7439-92-1	5	mg/kg		25	30	----	----	----
Nickel	7440-02-0	2	mg/kg		3	9	----	----	----
Zinc	7440-66-6	5	mg/kg		38	91	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	----	----	----
4,4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	<0.05	----	----	----
4,4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg		----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg		----	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		----	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		----	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg		----	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		----	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg		----	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg		----	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg		----	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		----	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		----	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg		----	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		----	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		----	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	<0.5	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		----	<0.5	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		----	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	<0.5	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		----	<2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	----	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	420	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	870	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	600	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	1890	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	19	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	19	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	480	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	1280	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	290	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	2050	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	480	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	102	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	83.3	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	88.7	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		83.2	90.9	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		80.7	86.0	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		72.1	86.6	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		85.5	88.4	----	----	----
Anthracene-d10	1719-06-8	0.5	%		91.6	96.2	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		84.4	92.1	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		96.6	89.1	----	----	----
Toluene-D8	2037-26-5	0.2	%		108	101	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		107	105	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131



QUALITY CONTROL REPORT

Work Order	: ES2324578	Page	: 1 of 11
Client	: REDITUS CONSULTING PTY LTD.	Laboratory	: Environmental Division Sydney
Contact	: GREG BARTLETT	Contact	: Customer Services ES
Address	: 1A/29-33 Waratah Street KIRRAWEE	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 22137	Date Samples Received	: 24-Jul-2023
Order number	: 22137	Date Analysis Commenced	: 25-Jul-2023
C-O-C number	: ----	Issue Date	: 28-Jul-2023
Sampler	: HASSAN ELBATOORY, JACK PALMA		
Site	:		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 2		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5195805)									
ES2323131-004	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	17	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	10	18.1	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	13	17	28.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	<5	45.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	71	78	10.1	0% - 50%
ES2324569-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5195832)									
ES2324520-001	Anonymous	EA055: Moisture Content	----	0.1	%	18.4	18.5	0.9	0% - 50%
ES2324569-001	Anonymous	EA055: Moisture Content	----	0.1	%	7.9	8.1	2.1	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5195833)									
ES2324579-004	Anonymous	EA055: Moisture Content	----	0.1	%	22.1	22.8	3.0	0% - 20%
EW2303291-001	Anonymous	EA055: Moisture Content	----	0.1	%	2.3	3.0	27.4	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5195804)									
ES2323131-004	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2324569-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 5192912)									
ES2324162-004	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5192915)									
ES2324162-004	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 5192915)									
ES2324162-004	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 5192915) - continued									
ES2324162-004	Anonymous	EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5191410)									
ES2324460-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
ES2324579-004	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5191410)									
ES2324460-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5191410) - continued										
ES2324460-001	Anonymous	EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
	EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES2324579-004	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	2.1	2.1	0.0	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	0.5	<0.5	0.0	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	2.6	2.1	21.3	No Limit	
			EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5191411)								
ES2324460-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit	
ES2324579-004	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	2320	2600	11.5	0% - 20%	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	1010	870	14.8	0% - 20%	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5192447)										
ES2324579-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	
ES2324579-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5191411)									
ES2324460-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2324579-004	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	1490	1740	15.7	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	1910	1880	1.8	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5192447)									
ES2324579-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	11	11	0.0	No Limit
ES2324579-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 5192447)									
ES2324579-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES2324579-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5195805)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	95.6	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	90.4	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	110	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	102	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	101	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	95.9	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	88.0	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5195804)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	91.4	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5192912)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	116	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 5192915)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.6	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.9	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.9	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	66.0	116
EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	69.0	115
EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.8	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	98.5	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	62.0	124



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068A: Organochlorine Pesticides (OC) (QCLot: 5192915) - continued								
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	82.5	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	100	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5192915)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	102	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	92.9	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	91.2	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	90.3	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	95.9	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.7	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	81.5	41.0	123
EP075(SIM)A: Phenolic Compounds (QCLot: 5191410)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	78.7	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	76.8	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	81.3	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	75.2	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	67.4	54.0	114
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	79.5	68.0	126
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	70.3	66.0	120
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	77.9	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	84.4	70.0	116
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	66.3	54.0	114



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)A: Phenolic Compounds (QCLot: 5191410) - continued								
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	67.2	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	32.4	10.0	80.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5191410)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	108	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	100	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	80.1	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	81.9	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	80.5	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	83.4	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	81.5	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	83.3	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	73.9	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	80.1	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	75.8	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	88.4	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	77.3	70.0	126
EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	67.4	61.0	121
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	68.5	62.0	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	69.1	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5191411)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	98.1	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	102	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	101	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5192447)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	88.4	72.2	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5191411)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	101	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	101	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	102	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5192447)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	88.7	72.4	133
EP080: BTEXN (QCLot: 5192447)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	106	76.0	124



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080: BTEXN (QCLot: 5192447) - continued								
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	102	78.5	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	108	77.4	121
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	101	78.2	121
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	103	81.3	121
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	78.8	122

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5195805)							
ES2323131-004	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	104	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	90.8	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	102	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	103	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	91.4	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.0	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5195804)							
ES2323131-004	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	91.9	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5192912)							
ES2324162-004	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	111	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 5192915)							
ES2324162-004	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	96.3	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	90.1	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	102	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	104	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	84.3	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	79.3	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5192915)							
ES2324162-004	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	90.2	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	91.4	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	93.3	70.0	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5192915) - continued							
ES2324162-004	Anonymous	EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	98.7	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	85.1	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5191410)							
ES2324460-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	74.7	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	82.2	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	74.1	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	80.5	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	53.4	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5191410)							
ES2324460-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	84.8	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	90.0	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5191411)							
ES2324460-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	109	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	102	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	103	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5192447)							
ES2324579-004	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	120	60.4	142
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5191411)							
ES2324460-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	96.8	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	107	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	91.4	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5192447)							
ES2324579-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	121	61.1	142
EP080: BTEXN (QCLot: 5192447)							
ES2324579-004	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	95.8	62.1	122
		EP080: Toluene	108-88-3	2.5 mg/kg	95.9	66.6	119
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	104	67.4	123
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	100	66.4	121
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	98.4	70.7	121
		EP080: Naphthalene	91-20-3	2.5 mg/kg	99.4	61.1	115



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2324578	Page	: 1 of 5
Client	: REDITUS CONSULTING PTY LTD.	Laboratory	: Environmental Division Sydney
Contact	: GREG BARTLETT	Telephone	: +61-2-8784 8555
Project	: 22137	Date Samples Received	: 24-Jul-2023
Site	:	Issue Date	: 28-Jul-2023
Sampler	: HASSAN ELBATOORY, JACK PALMA	No. of samples received	: 3
Order number	: 22137	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) SP-TRIP1	20-Jul-2023	----	----	----	26-Jul-2023	03-Aug-2023	✓
Soil Glass Jar - Unpreserved (EA055) SP-TRIP3	21-Jul-2023	----	----	----	26-Jul-2023	04-Aug-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) SP-TRIP1	20-Jul-2023	26-Jul-2023	16-Jan-2024	✓	27-Jul-2023	16-Jan-2024	✓
Soil Glass Jar - Unpreserved (EG005T) SP-TRIP3	21-Jul-2023	26-Jul-2023	17-Jan-2024	✓	27-Jul-2023	17-Jan-2024	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) SP-TRIP1	20-Jul-2023	26-Jul-2023	17-Aug-2023	✓	28-Jul-2023	17-Aug-2023	✓
Soil Glass Jar - Unpreserved (EG035T) SP-TRIP3	21-Jul-2023	26-Jul-2023	18-Aug-2023	✓	28-Jul-2023	18-Aug-2023	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) SP-TRIP3	21-Jul-2023	26-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Sep-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) SP-TRIP3	21-Jul-2023	26-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Sep-2023	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068) SP-TRIP3	21-Jul-2023	26-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Sep-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	28-Jul-2023	03-Sep-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) SP-TRIP1	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Sep-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	28-Jul-2023	03-Sep-2023	✓

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 Work Order : ES2324578
 Client : REDITUS CONSULTING PTY LTD.
 Project : 22137



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) SP-TRIP1	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Aug-2023	✓
Soil Glass Jar - Unpreserved (EP080) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Aug-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) SP-TRIP1	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Aug-2023	✓
Soil Glass Jar - Unpreserved (EP080) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Aug-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) SP-TRIP1	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Aug-2023	✓
Soil Glass Jar - Unpreserved (EP080) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Aug-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	34	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2325940**

Client : **REDITUS CONSULTING PTY LTD.**
Contact : **HASSAN ELBATOORY**
Address : **1A/29-33 Waratah Street
KIRRAWEE**

E-mail : **hassanelbatoory@reditusconsulting.
com.au**

Telephone : ----
Facsimile : ----

Project : **22137**
Order number : **22137**
C-O-C number : ----
Site :
Sampler : **HASSAN ELBATOORY**

Laboratory : **Environmental Division Sydney**
Contact : **Customer Services ES**
Address : **277-289 Woodpark Road Smithfield
NSW Australia 2164**

E-mail : **ALSEnviro.Sydney@ALSGlobal.com**

Telephone : **+61-2-8784 8555**
Facsimile : **+61-2-8784 8500**

Page : **1 of 3**
Quote number : **ES2019REDITUS0001 (EN/222)**
QC Level : **NEPM 2013 B3 & ALS QC Standard**

Dates

Date Samples Received : **03-Aug-2023 14:55**
Client Requested Due : **09-Aug-2023**
Date

Issue Date : **04-Aug-2023**
Scheduled Reporting Date : **09-Aug-2023**

Delivery Details

Mode of Delivery : **Carrier**
No. of coolers/boxes : **1**

Security Seal : **Not Available**
Temperature : **15.5°C, 16.5°C, 12.5°C - Ice
Bricks present**

Receipt Detail :
No. of samples received / analysed : **1 / 1**

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: SOIL

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - S-27 TRH/BTEXNI/PAH/Phenols/8Metals
ES2325940-001	02-Aug-2023 00:00	TRIP5	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS

- A4 - AU Tax Invoice (INV)

Email accounts@reditusconsulting.com

Esdar Deliverables

- EDI Format - ESDAT (ESDAT)

Email reditusconsulting@esdat.com.au

HASSAN ELBATOORY

- *AU Certificate of Analysis - NATA (COA)

Email hassanelbatoory@reditusconsulting.com.au

- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)

Email hassanelbatoory@reditusconsulting.com.au

- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)

Email hassanelbatoory@reditusconsulting.com.au

- A4 - AU Sample Receipt Notification - Environmental HT (SRN)

Email hassanelbatoory@reditusconsulting.com.au

- Chain of Custody (CoC) (COC)

Email hassanelbatoory@reditusconsulting.com.au

- EDI Format - ENMRG (ENMRG)

Email hassanelbatoory@reditusconsulting.com.au

- EDI Format - ESDAT (ESDAT)

Email hassanelbatoory@reditusconsulting.com.au

Toby Scrivener

- *AU Certificate of Analysis - NATA (COA)

Email tobyscrivener@reditusconsulting.com.au

- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)

Email tobyscrivener@reditusconsulting.com.au

- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)

Email tobyscrivener@reditusconsulting.com.au

- A4 - AU Sample Receipt Notification - Environmental HT (SRN)

Email tobyscrivener@reditusconsulting.com.au

- Chain of Custody (CoC) (COC)

Email tobyscrivener@reditusconsulting.com.au

- EDI Format - ENMRG (ENMRG)

Email tobyscrivener@reditusconsulting.com.au

- EDI Format - ESDAT (ESDAT)

Email tobyscrivener@reditusconsulting.com.au



CHAIN OF CUSTODY FORM - Client

(Copyright and Confidential)

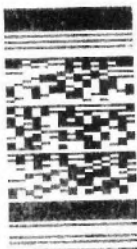
Client: Redius Consulting	Client Project Name/Number/Date etc (ie report title):
Contact Person: Hassan Elbatory	22137
Project Mgr: Greg Bartlett	Envirolab Quote No.:
Sample: Hassan Elbatory	Date results required:
Address: 1A / 29-33 Warrah Street Kirrawee NSW	Or choose: standard / same day / 1 day / 2 day / 3 day
	Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Phone: 02 9521 6567	Additional report format: eadit
Email Invoice To: accounts@rediusconsulting.com	Lab Comments:
Email Results To: today@rediusconsulting.com, hassanelbatory@rediusconsulting.com	

Sample Information					Tests Required										Comments						
Envirolab Sample ID	Client Sample ID or Information	Depth	Date sampled	Type of sample	Combo 4	TRH	BTEX	PAHs	Metals	Phenols	Hold						Provide as much information about the sample as you can				
1	V53	2	2/08/2023	Soil	X																
2	V54_0.5	0.5	2/08/2023	Soil	X																
3	V54_2.0	2	2/08/2023	Soil	X																
4	V55_0.5	0.5	2/08/2023	Soil	X																
5	V55_2.0	2	2/08/2023	Soil	X																
6	V56_0.5	0.5	2/08/2023	Soil	X																
7	V56_2.0	2	2/08/2023	Soil	X																
8	V57_0.5	0.5	2/08/2023	Soil	X																
9	V57_2.0	2	2/08/2023	Soil	X																
10	SP04_1	SP04_1	2/08/2023	Soil	X																
11	SP04_2	SP04_2	2/08/2023	Soil	X																
12	SP04_3	SP04_3	2/08/2023	Soil	X																
13	SP04_4	SP04_4	2/08/2023	Soil	X																
14	DUP5	DUP5	2/08/2023	Soil	X																
3/0	TRIP5	TRIP5	2/08/2023	Soil	X												Forward to ALS				
Relinquished by (C) Please tick the box if observed settled sediment present in																					
Print Name: Hassan Elbatory				Received by (company): ELS SYP																	
Date & Time: 02/08/2023 - 10:30am				Print Name: SARAH P				Job number: 329488										Cooling / Ice pack / None			
Signature: H Elbatory				Date & Time: 02/08/23, 1400				Temperature: 5°C				Security seal: Intact / Broken (None)									
Signature: SAHAN								Lab Use Only				TAT Req - SAME day / 1 / 2 / 3 / 4 / STD									

Relinquished by Christine Ho
ELS SYP
8/8/23 1130

Environmental Division
Sydney
Work Order Reference
ES2325940

Rec: PR
3/8/23
@1455



Telephone : + 61-2-6784 9556

ENVIROLAB GROUP
National phone number 1300 424 344
Sydney Lab - Envirolab Services
12 Ashley St, Chastwood NSW 2087
02 9910 6200 | sydney@envirolab.com.au
Perth Lab - MPL Laboratories
16-18 Hayden Crt, Myer, WA 6154
08 9317 2505 | lab@mpl.com.au
Melbourne Lab - Envirolab Services
25 Research Drive, Croydon South, VIC 3136
03 9763 2500 | melbourne@envirolab.com.au
Adelaide Office - Envirolab Services
7A The Parade, Norwood, SA 5067
08 7087 6500 | adelaide@envirolab.com.au
Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
07 3266 9532 | brisbane@envirolab.com.au
Dandenong Office - Envirolab Services
Unit 7, 17 Willes Rd, Dandenong VIC 3175
08 8967 1201 | dandenong@envirolab.com.au

cc: 2/8/23 1027



CERTIFICATE OF ANALYSIS

Work Order : **ES2325940**
Client : **REDITUS CONSULTING PTY LTD.**
Contact : **HASSAN ELBATOORY**
Address : **1A/29-33 Waratah Street**
KIRRAWEE
Telephone : **----**
Project : **22137**
Order number : **22137**
C-O-C number : **----**
Sampler : **HASSAN ELBATOORY**
Site :
Quote number : **EN/222**
No. of samples received : **1**
No. of samples analysed : **1**

Page : **1 of 6**
Laboratory : **Environmental Division Sydney**
Contact : **Customer Services ES**
Address : **277-289 Woodpark Road Smithfield NSW Australia 2164**
Telephone : **+61-2-8784 8555**
Date Samples Received : **03-Aug-2023 14:55**
Date Analysis Commenced : **07-Aug-2023**
Issue Date : **09-Aug-2023 15:45**



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TRIP5	----	----	----	----
Sampling date / time					02-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2325940-001	-----	-----	-----	-----
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		17.6	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		6	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		10	----	----	----	----
Copper	7440-50-8	5	mg/kg		18	----	----	----	----
Lead	7439-92-1	5	mg/kg		14	----	----	----	----
Nickel	7440-02-0	2	mg/kg		3	----	----	----	----
Zinc	7440-66-6	5	mg/kg		18	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TRIP5	----	----	----	----
Sampling date / time					02-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2325940-001	-----	-----	-----	-----
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TRIP5	----	----	----	----
Sampling date / time					02-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2325940-001	-----	-----	-----	-----
				Result		----	----	----	----
EP080: BTEXN - Continued									
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		117	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		97.6	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		103	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		98.8	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		104	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		92.8	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		92.4	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		86.2	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		89.5	----	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131



QUALITY CONTROL REPORT

Work Order : **ES2325940**

Page : 1 of 9

Client : **REDITUS CONSULTING PTY LTD.**

Laboratory : Environmental Division Sydney

Contact : **HASSAN ELBATOORY**

Contact : Customer Services ES

Address : 1A/29-33 Waratah Street
KIRRAWEE

Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Telephone : ----

Telephone : +61-2-8784 8555

Project : 22137

Date Samples Received : 03-Aug-2023

Order number : 22137

Date Analysis Commenced : 07-Aug-2023

C-O-C number : ----

Issue Date : 09-Aug-2023

Sampler : **HASSAN ELBATOORY**

Site :

Quote number : EN/222

No. of samples received : 1

No. of samples analysed : 1



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5220215)									
ES2325906-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	14	31.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	7	39.4	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	21	32	43.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	11	12.2	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	40	56	32.8	0% - 50%
ES2326330-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	3	31.2	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	28	22	23.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	21	12.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	100	81	20.2	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5220221)									
ES2325940-001	TRIP5	EA055: Moisture Content	----	0.1	%	17.6	17.4	1.2	0% - 50%
ES2326330-009	Anonymous	EA055: Moisture Content	----	0.1	%	49.3	49.0	0.4	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5220212)									
ES2326330-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2325811-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5215828)									
ES2325749-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)A: Phenolic Compounds (QC Lot: 5215828) - continued									
ES2325749-001	Anonymous	EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
ES2325749-021	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5215828)									
ES2325749-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5215828) - continued									
ES2325749-001	Anonymous	EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2325749-021	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5215827)									
ES2325749-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2325749-021	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5217032)									
ES2326164-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2326164-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5215827)									
ES2325749-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2325749-021	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5217032)									
ES2326164-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2326164-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 5217032)									
ES2326164-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2326164-004	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5220215)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	91.6	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	73.6	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	106	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	93.0	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	89.0	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	98.5	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	83.4	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5220212)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	73.6	70.0	125
EP075(SIM)A: Phenolic Compounds (QCLot: 5215828)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	106	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	103	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	104	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	111	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	88.2	54.0	114
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	101	68.0	126
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	95.7	66.0	120
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	100	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	94.0	70.0	116
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	93.3	54.0	114
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	96.1	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	# 81.8	10.0	80.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5215828)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	112	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	108	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	110	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	105	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	112	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	113	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	111	73.0	127



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5215828) - continued								
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	113	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	100	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	107	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	100	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	110	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	104	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	105	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	102	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	101	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5215827)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	89.6	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	104	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	106	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5217032)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	85.4	72.2	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5215827)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	99.3	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	103	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	78.7	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5217032)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	83.9	72.4	133
EP080: BTEXN (QCLot: 5217032)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	86.5	76.0	124
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	99.3	78.5	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.3	77.4	121
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	95.8	78.2	121
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	97.9	81.3	121
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	78.8	122

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5220215)							
ES2325906-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	105	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	88.7	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	99.7	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	108	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	112	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.7	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	102	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5220212)							
ES2325811-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	87.7	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5215828)							
ES2325749-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	109	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	108	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	104	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	103	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	105	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5215828)							
ES2325749-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	109	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	115	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5215827)							
ES2325749-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	101	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	109	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	113	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5217032)							
ES2326164-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	86.2	60.4	142
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5215827)							
ES2325749-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	104	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	108	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	124	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5217032)							
ES2326164-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	87.2	61.1	142
EP080: BTEXN (QCLot: 5217032)							
ES2326164-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	88.2	62.1	122
		EP080: Toluene	108-88-3	2.5 mg/kg	84.7	66.6	119
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	88.2	67.4	123
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	89.1	66.4	121
			106-42-3				



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
Laboratory sample ID	Sample ID	Method: Compound	CAS Number				
EP080: BTEXN (QCLot: 5217032) - continued							
ES2326164-001	Anonymous	EP080: ortho-Xylene	95-47-6	2.5 mg/kg	98.7	70.7	121
		EP080: Naphthalene	91-20-3	2.5 mg/kg	84.9	61.1	115



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2325940	Page	: 1 of 5
Client	: REDITUS CONSULTING PTY LTD.	Laboratory	: Environmental Division Sydney
Contact	: HASSAN ELBATOORY	Telephone	: +61-2-8784 8555
Project	: 22137	Date Samples Received	: 03-Aug-2023
Site	:	Issue Date	: 09-Aug-2023
Sampler	: HASSAN ELBATOORY	No. of samples received	: 1
Order number	: 22137	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Matrix Spike outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075(SIM)A: Phenolic Compounds	QC-5215828-002	----	Pentachlorophenol	87-86-5	81.8 %	10.0-80.0%	Recovery greater than upper control limit

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) TRIP5	02-Aug-2023	----	----	----	08-Aug-2023	16-Aug-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) TRIP5	02-Aug-2023	08-Aug-2023	29-Jan-2024	✓	08-Aug-2023	29-Jan-2024	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) TRIP5	02-Aug-2023	08-Aug-2023	30-Aug-2023	✓	09-Aug-2023	30-Aug-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) TRIP5	02-Aug-2023	07-Aug-2023	16-Aug-2023	✓	08-Aug-2023	16-Sep-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) TRIP5	02-Aug-2023	07-Aug-2023	16-Aug-2023	✓	08-Aug-2023	16-Sep-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) TRIP5	02-Aug-2023	07-Aug-2023	16-Aug-2023	✓	07-Aug-2023	16-Aug-2023	✓
Soil Glass Jar - Unpreserved (EP071) TRIP5	02-Aug-2023	07-Aug-2023	16-Aug-2023	✓	08-Aug-2023	16-Sep-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) TRIP5	02-Aug-2023	07-Aug-2023	16-Aug-2023	✓	07-Aug-2023	16-Aug-2023	✓
Soil Glass Jar - Unpreserved (EP071) TRIP5	02-Aug-2023	07-Aug-2023	16-Aug-2023	✓	08-Aug-2023	16-Sep-2023	✓



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) TRIP5	02-Aug-2023	07-Aug-2023	16-Aug-2023	✔	07-Aug-2023	16-Aug-2023	✔



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard



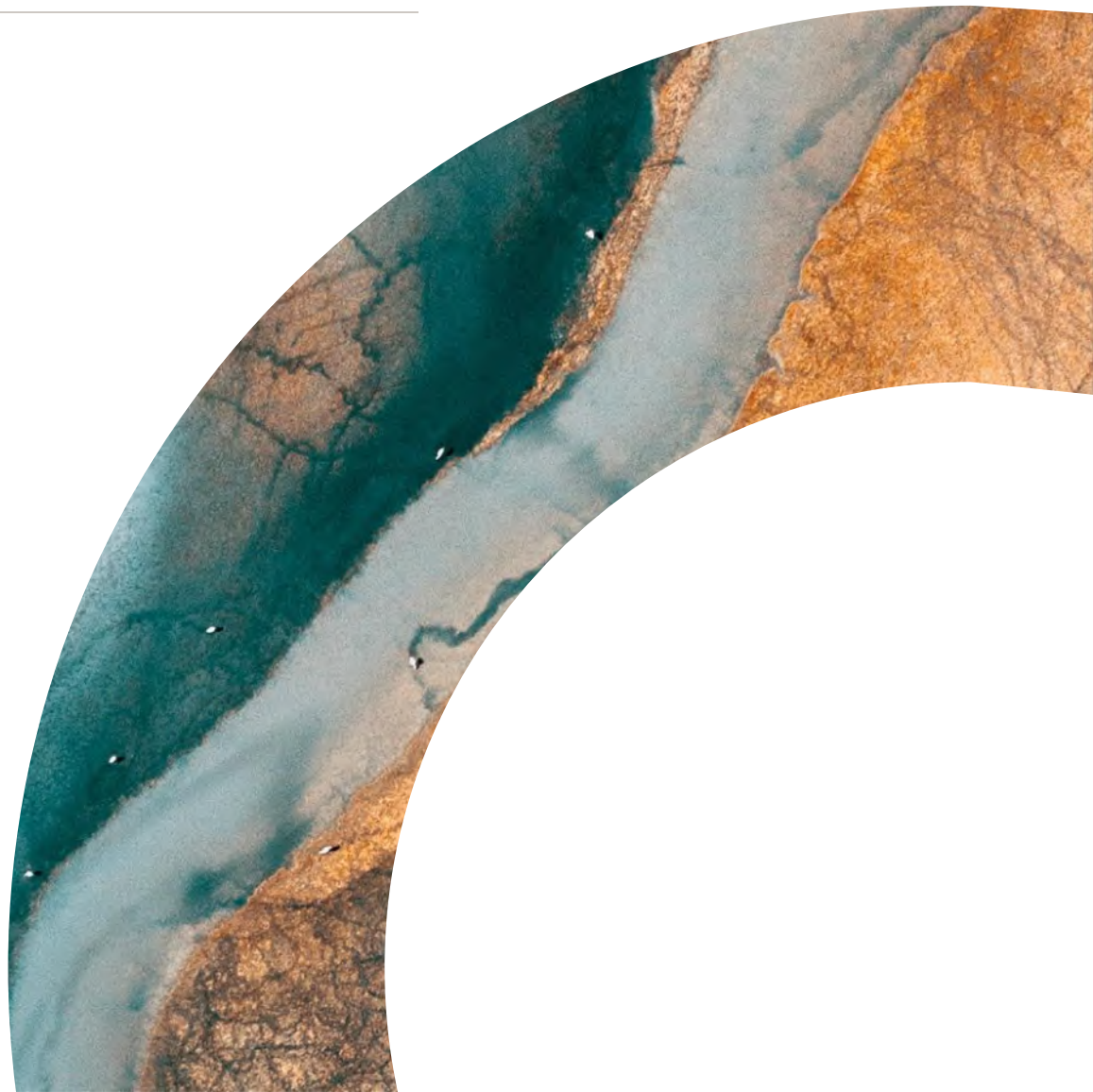
Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

F

Calibration Certificates



PID Calibration Certificate

Instrument **PhoCheck Tiger**
Serial No. **T-119101**



Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation	✓				
	Filter	✓				
	Flow	✓				
	Valves, Diaphragm	✓				
PCB	Condition	✓				
Connectors	Condition	✓				
Sensor	PID	✓	10.6 ev			
Alarms	Beeper	✓	Low	High	TWA	STEL
	Settings	✓	50ppm	100ppm	10ppm	25ppm
Software	Version	✓				
Data logger	Operation	✓				
Download	Operation	✓				
Other tests:						

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode Aspirated mode

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No	Instrument Reading	
PID Lamp		97ppm Isobutylene	NATA	SY532	97.7 ppm Isobutylene	

Calibrated by: _____ Amanda Neale

Calibration date: 18-Jul-23

Next calibration due: 17-Aug-23

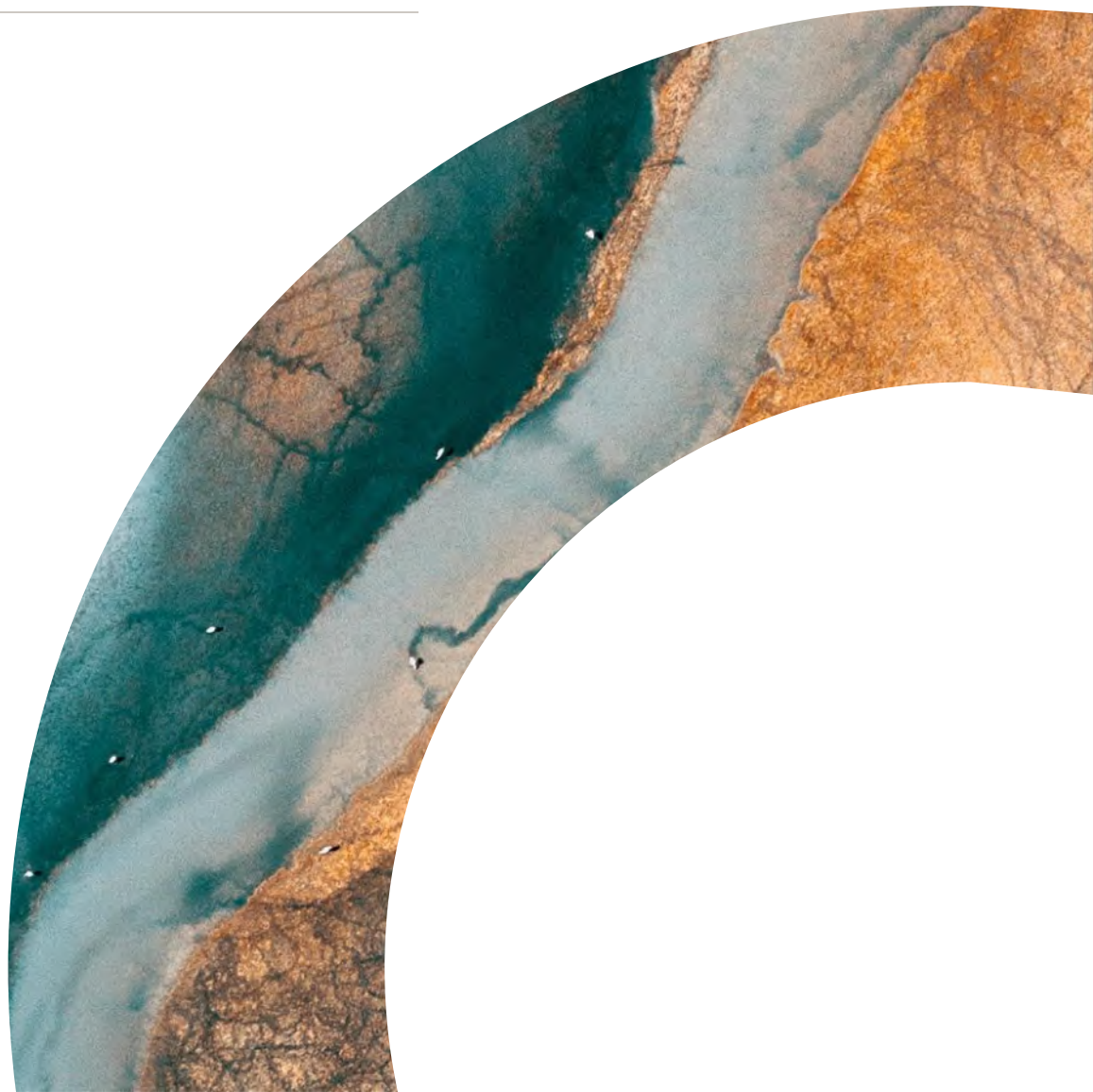
**Tiger PID
Calibration Booklet**



Date: 20/7/23 Time: 0800 Project No: 22137 Project Name: Chester Hill Validation Calibration Gas: Isobutylene Calibrated to: 100ppm Air Reading: 0.1 ppm Gas Reading after Calibration: 100.0 ppm Personnel: JP Signed: [Signature]	Date: 21/7/23 Time: 0715 Project No: 22137 Project Name: 22137 Calibration Gas: Isobutylene Calibrated to: 100ppm Air Reading: 0.1 ppm Gas Reading after Calibration: 100.1 ppm Personnel: JP Signed: [Signature]
Date: Time: Project No: Project Name: Calibration Gas: Isobutylene Calibrated to: 100ppm Air Reading: Gas Reading after Calibration: Personnel: Signed:	Date: Time: Project No: Project Name: Calibration Gas: Isobutylene Calibrated to: 100ppm Air Reading: Gas Reading after Calibration: Personnel: Signed:
Date: Time: Project No: Project Name: Calibration Gas: Isobutylene Calibrated to: 100ppm Air Reading: Gas Reading after Calibration: Personnel: Signed:	Date: Time: Project No: Project Name: Calibration Gas: Isobutylene Calibrated to: 100ppm Air Reading: Gas Reading after Calibration: Personnel: Signed:
Date: Time: Project No: Project Name: Calibration Gas: Isobutylene Calibrated to: 100ppm Air Reading: Gas Reading after Calibration: Personnel: Signed:	Date: Time: Project No: Project Name: Calibration Gas: Isobutylene Calibrated to: 100ppm Air Reading: Gas Reading after Calibration: Personnel: Signed:

G

Tank Destruction Certificates





13 July 2023

SimsMetal
New South Wales
Australia

Att: Matthew Hopkinson

Po Box 149,
Strathfield South, NSW 2136

Phone: 1300 798 808
Fax: 02 9642 0111

info@rmagroup.com.au

www.rmagroup.com.au

RMA Contracting Pty Ltd
RMA Group
Trading as:

ABN: 28 092 116 704

Licensed for:
Friable & Bonded Asbestos
Unrestricted Demolition AD202713

New South Wales
Queensland
Victoria

RE: CERTIFICATE OF UNDERGROUND STORAGE TANK – GAS FREEING – 138-140 Campbell Hill Road, Chester Hill

RMA Contracting Pty Ltd confirms that the decommissioning of Six (6) underground storage tanks from the afore mentioned site and as detailed below have been conducted in accordance with AS4976-2008 *The Removal and Disposal of Underground Petroleum Storage Tanks* on the following site on Thursday 13th July 2023.

138-140 Campbell Hill Road, CHESTER HILL

Underground Storage Tank Details:

Tank No.	Capacity Size (L)	Product	Degassed	Gas Detector Calibration	Device	Serial Number
UST 1	2300	Waste Oil	Yes 13 July 2023	1 March 2023	BW GasAlert Max XT-XWHM-Y-AU	MA221-021922
UST 2	2300	Waste Oil	Yes 13 July 2023	1 March 2023	BW GasAlert Max XT-XWHM-Y-AU	MA221-021922
UST 3	25000	Diesel	Yes 13 July 2023	1 March 2023	BW GasAlert Max XT-XWHM-Y-AU	MA221-021922
UST 4	21000	Petrol	Yes 13 July 2023	1 March 2023	BW GasAlert Max XT-XWHM-Y-AU	MA221-021922
UST 5	21000	Petrol	Yes 13 July 2023	1 March 2023	BW GasAlert Max XT-XWHM-Y-AU	MA221-021922
UST 6	75000	Petrol	Yes 13 July 2023	1 March 2023	BW GasAlert Max XT-XWHM-Y-AU	MA221-021922

Decommissioning works included the removal of all waste liquid / water from tanks. All UST's are then inerted, cut open and internally washed and vacuumed.

After returning a reading of 0% of LEL on the gas monitor, the UST's were declared degassed.

Yours faithfully,

Luke Slechta
Project Manager – Remediation & Civil
0427 918 437



RMA Contracting

Office: 1300 798 808
Fax: (02) 9642 0111

Web: www.rmagroup.com.au

12/ 6 - 20 Braidwood Street (Post Box 4149) Strathfield South NSW 2136



HAZMAT

DEMOLITION

SITE REMEDIATION

CONSTRUCTION

FACILITIES MAINTENANCE



Date: 18 July 23
Attention: Ross Mitchell & Associates

From: Matthew Hopkinson
Subject: Certificate of Destruction

CERTIFICATE OF DESTRUCTION

We confirm that loads of scrap metal received on the following date at our St Marys branch will be used for metal reclamation only and rendered unusable for its original intended purpose.

Date	Ticket	Weight	Material
14/07/23	M41NPZ	2.940t	Tank 3
14/07/23	M41NRP	2.060t	Tank 4
14/07/23	M41NTS	2.420t	Tank 5
14/07/23	M41NXX	7.680t	Tank 6

Regards,

Matthew Hopkinson
Trading Representative

Phone: (04)28 625 758

Email: matthew.hopkinson@simsmm.com

APPENDIX G TANK DESTRUCTION PHOTOGRAPHS		
Report Title UPSS Decommissioning & Validation Report		
Client Name The Abel Tasman Village Association c/- Centurion Project Management Pty Ltd	Site Location 140 Campbell Hill Road, Chester Hill NSW	Project Number 22137

Photo No. 1	Date -	
Direction Facing West		
Description Tank 1. (Photo supplied by RMA Group)		

Photo No. 2	Date -	
Direction Facing -		
Description Tank 1 destroyed. (Photo supplied by RMA Group)		

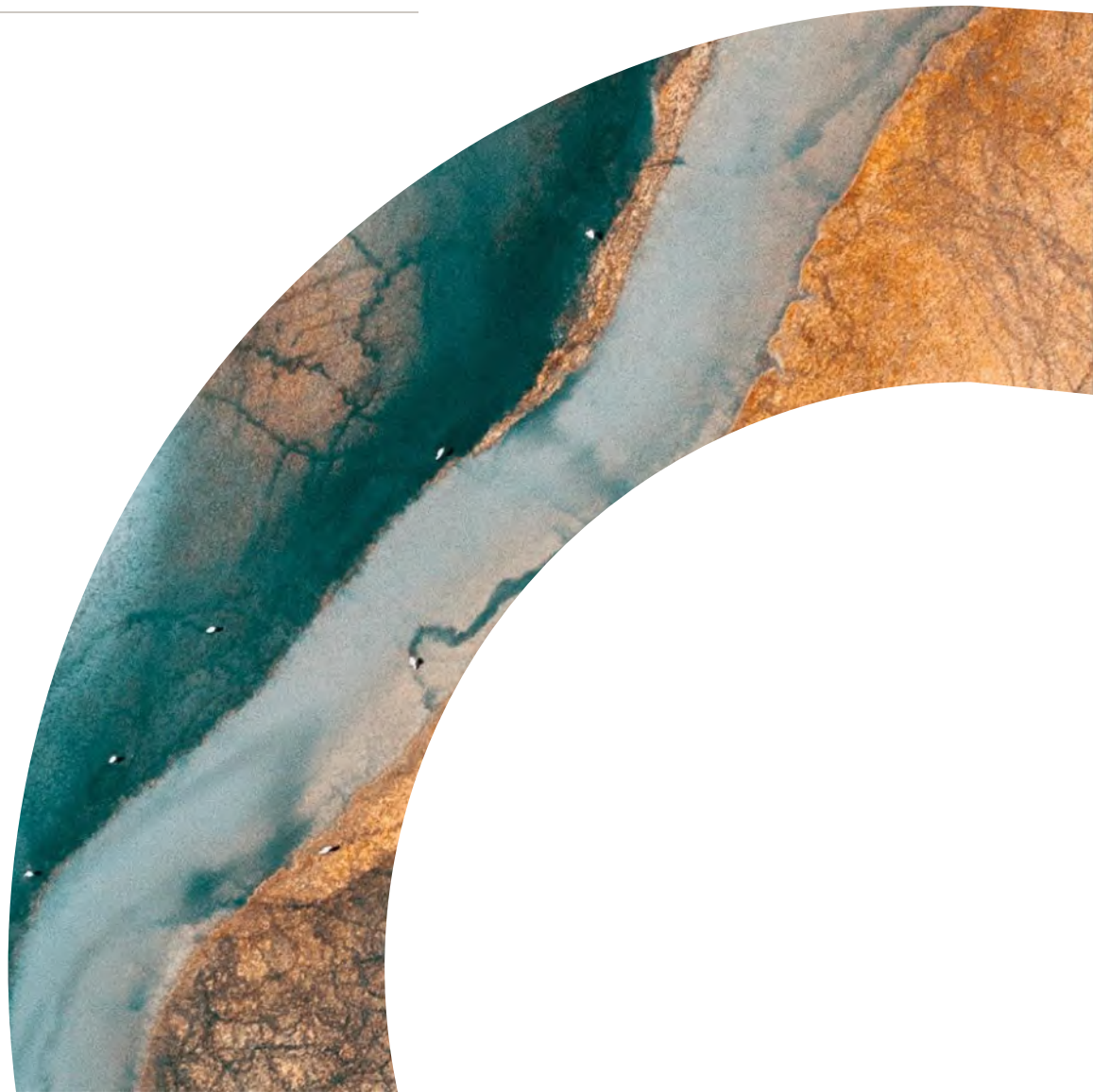
APPENDIX G TANK DESTRUCTION PHOTOGRAPHS		
Report Title UPSS Decommissioning & Validation Report		
Client Name The Abel Tasman Village Association c/- Centurion Project Management Pty Ltd	Site Location 140 Campbell Hill Road, Chester Hill NSW	Project Number 22137

Photo No. 3	Date -	
Direction Facing West		
Description Tank 2. (Photo supplied by RMA Group)		

Photo No.	Date	
4	-	
Direction Facing		
-		
Description		
Tank 2 destroyed. (Photo supplied by RMA Group)		

H

Waste Disposal Documentation



Client Worksheet

Thank you for engaging Beralon. An invoice will be prepared and sent to your nominated e-mail or mailing address. In the meantime if you have any questions or feedback, please contact us or Beralon's Supervisor on:
 Telephone: 02 9524 8014 E-mail: deskinfo@beralon.com Website: www.beralon.com

Beralon Pty Ltd
Unit 1, 4 Bearing Road
Seven Hills NSW 2147

6367

[illegible]

☐ Customer not onsite. Job completion called into the Branch. I/We have read the WMS for this job. All notes and records are true and correct, and any issues or incidents have been noted.		☒ Customer onsite (See below)	
Operator Name:	Operator Signature:	Operator Name:	Operator Signature:
POSTEL ROMANTEN			
This job has been completed to our satisfaction and reflects the work conducted. No issues or concerns remain at this time.			
Customer Representative Name:	Role:	Signature:	

DYNASTIC
Decorators



CHEMICAL CLEANING SERVICES



Date:

NSW Environment Protection Authority - Online Waste Tracking System

TRANSPORT CERTIFICATE - No. 2T01357086

Created by: HELEN JELENKOVIC 20-Jun-2023 12:35 pm

Status: Created

CA no: 2C00192475

CA start date: 17-Nov-2022

CA end date: 16-Nov-2023

PART 1 (this part to be completed by consignor at pickup)**CONSIGNOR**Rangedale Drainage & Industrial Services
10 Narang Pl
ST MARYS, NSW 2760

Contact: Vince DAlessio

Role: Producer

Email: N/A

Phone: (04) 0056 9223

Fax: N/A

Emergency: (04) 0056 9223

ABN: 42 635 170 375

ANZSIC code: 0

Licence no.: N/A

Pickup As above
details:**WASTE**

Waste code: J120 - Waste oil/hydrocarbons mixtures/emulsions in water

Description: Oil/hydrocarbon (below 50%) mixed with water

Form: Liquid

Liquid waste levy applies: Yes

Proposed treatment: Chemical/Physical treatment

Classification: Liquid

Contaminants: N/A

Dangerous goods class: N/A

Subsidiary risk class: N/A

UN no.: N/A

Packaging type: N/A

Packing group no: N/A

No. package: N/A

PICKUP

Waste amount at pickup: (required - Yes)

I declare that to the best of my knowledge and belief the above information is true and correct.

Name and Position (Block letters) *ROTEA KORANTENG*Signature *[Signature]*Date *13-7-23***PART 2: TRANSPORTER (this part to be completed by the transporter at pickup)**

RANGEDALE DRAINAGE AND INDUSTRIAL SERVICES PTY LTD

25-27 SALTA DRIVE

ALTONA NORTH, VIC 3025

Contact: PAUL VAN MEERSBERG Email: ohs@rangedale.com.au

Phone: (03) 8368 8888

Fax: N/A

Transit state: N/A

Licence no.: 21336

Vehicle reg: TBA

Transport type: Road

I declare that to the best of my knowledge and belief the above information is true and correct.

Name and Position (Block letters) *ROTEA KORANTENG*Signature *[Signature]*Date *13-7-23***PART 3: RECEIVING FACILITY (this part to be completed by the receiving facility)**

BULK RECOVERY SOLUTIONS - INGLEBURN

16 KERR ROAD

INGLEBURN, NSW 2565

Contact: TIM BAILLIE

Email: tim@awe.com.au

Phone: (02) 8717 3366

Fax:

Licence no.: 20797

Receiving facility ref no.: N/A

Waste amount at arrival: *0.52T*Date waste arrived at the facility: *13/7/23***ACCEPT / REJECT THE WASTE**☒ The receiving facility accepted the waste - Date accepted: *13/7/23* Date Processed: *13/7/23* Treatment: *Reprocess*☐ The receiving facility rejected the waste (complete section below)

Reason for rejection:

Rejected waste sent to - Name:

Address:

I declare that to the best of my knowledge and belief the above information is true and correct - complete if accepted or rejected:

Name and Position (Block letters) *WELLSHA DAVIS*Signature *[Signature]*Date *13/7/23***NOTE**

Bulk Recovery Solutions Pty. Ltd.

ABN: 51 148 898 784

Weighout Docket

EPA Lic. No: 20797

Date / Time: 13/7/23 15:14

Customer: RDI

Docket No: 145558

Rego: XO12KY

Product: J120-BOily
Water>10% <30%

Gross: 6.82 t

Tare: 6.30 t

Net: 0.52 t

Purchase Order: 0873

Pronto inv no 1107554



RANGEDALE GROUP
WORK RECORD & JOB DETAIL SHEET

Job No.: 84370	DOCKET NUMBER: 3025
Client: RMA	Date: 20-7-23
Job Location: CHESTER HILL	

EQUIPMENT:			REGO: XW07 IS			
TYPE	QTY	START TIME DEPOT	ARRIVE ONSITE	LEAVE SITE	FINISH TIME DEPOT	LUNCH BREAK
TANKER	1	0600	0700	1030	1330	
PPE	1					

STAFF:						
TYPE	QTY	START TIME DEPOT	ARRIVE ONSITE	LEAVE SITE	FINISH TIME DEPOT	LUNCH BREAK
DAVID H		0600	0700	1030	1330	

Client Supervisor: Ben Bowerman	Rangedale Supervisor: D. MAYNARD
Signature: 	Signature: 

NOTES: TIP J120 AT BRS
DOC# 145993
QTY 13.68

NSW Environment Protection Authority - Online Waste Tracking System
TRANSPORT CERTIFICATE - No. 2T01357088

Created by: HELEN JELENKOVIC 20-Jun-2023 12:35 pm
CA no: 2C00192475

CA start date: 17-Nov-2022

Status: Created
CA end date: 16-Nov-2023

PART 1 (this part to be completed by consignor at pickup)

CONSIGNOR

Rangedale Drainage & Industrial Services
10 Narang Pl
ST MARYS, NSW 2760

Contact: Vince DAlessio
Phone: (04) 0056 9223
ABN: 42 635 170 375

Role: Producer
Email: N/A
Fax: N/A
ANZSIC code: 0

Emergency: (04) 0056 9223
Licence no.: N/A

Pickup As above
details:

WASTE

Waste code: J120 - Waste oil/hydrocarbons mixtures/emulsions in water
Description: Oil/hydrocarbon (below 50%) mixed with water

Form: Liquid

Liquid waste levy applies: Yes

Proposed treatment: Chemical/Physical treatment

Classification: Liquid

Contaminants: N/A

Dangerous goods class: N/A

Subsidiary risk class: N/A

UN no.: N/A

Packaging type: N/A

Packing group no: N/A

No. package: N/A

PICKUP

Waste amount at pickup: 10,000 L (required - Yes)

I declare that to the best of my knowledge and belief the above information is true and correct.

Name and Position (Block letters) BEN BOWSERMAN - SUPERVISOR

Signature Date 20/7/23

PART 2 - TRANSPORTER (this part to be completed by the transporter at pickup)

RANGEDALE DRAINAGE AND INDUSTRIAL SERVICES PTY LTD

25-27 SALTA DRIVE
ALTONA NORTH, VIC 3025

Contact: PAUL VAN MEERSBERG Email: ohs@rangedale.com.au

Phone: (03) 8368 8888 Fax: N/A

Transit state: N/A

Licence no.: 21336 Vehicle reg: TBA

Transport type: Road

I declare that to the best of my knowledge and belief the above information is true and correct.

Name and Position (Block letters) DAVID HAYWARD DRIVER XW0718

Signature Date 20-7-23

PART 3 - RECEIVING FACILITY (this part to be completed by the receiving facility)

BULK RECOVERY SOLUTIONS - INGLEBURN

16 KERR ROAD
INGLEBURN, NSW 2565

Contact: TIM BAILLIE
Phone: (02) 8717 3366
Licence no.: 20797

Email: tim@awe.com.au
Fax:

Receiving facility ref no.: N/A

Waste amount at arrival: 13.68T Date waste arrived at the facility: 20/7/23

ACCEPT / REJECT THE WASTE

☒ The receiving facility accepted the waste - Date accepted: 20/7/23 Date Processed: 20/7/23 Treatment: Reprocess

☐ The receiving facility rejected the waste (complete section below)

Reason for rejection:

Rejected waste sent to - Name:

Address:

I declare that to the best of my knowledge and belief the above information is true and correct - complete if accepted or rejected:

Name and Position (Block letters) ELISHA PAULS

Signature Date 20/7/23

NOTE

Bulk Recovery Solutions Pty. Ltd.

ABN: 51 148 898 784

Weighout Docket

EPA Lic. No: 20797

Date / Time: 20/7/23 12:09

Customer: RDI

Docket No: 145993

Rego: XW07IS

Product: J120-AOily Water
<10%

Gross: 38.38 t

Tare: 24.70 t

Net: 13.68 t

Purchase Order: RMA 84370

Pronto inv no 1107953



Cleanaway Operations Pty Ltd
8 Rayben St
GLENDENNING NSW 2761

Page 1 of 1
Job 2500274

Manifest

Megan.Kuan@cleanaway.com.au

Site: Ross Mitchell & Associates
140 Campbell Hill Road
Chester Hill NSW 2162

AUNSWGLN1CN02

Site: 144635 ABN: 28092116704
Last Service 19/05/2020
Scheduled Date 26/07/2023
Waste Origin -

Job: 2500274

Service Notes:

Job Notes: Site contact: Ben Bowerman 0410 396 621
7 x pallets

P/S take pallet jack.

P/S be onsite before 3pm

Checked

Item	Location/ Item Description / Proper Name	UN Number	Haz	Sub Risk	Pack Group	Quantity	Unit of Measure	Quantity Collected		Trans Certification
								Estimated	Actual	
G110-L-067-171	G110 Petrol Waste LIQ-IBC FLAMMABLE LIQUID, N.O.S.	1993	3		III	1.000	IBC 1000 LT	3	4	/
G110-L-DSL	G110 NDG Diesel LIQ-IBC ..					1.000	IBC 1000 LT	3	2	/
J120-L	J120 Oily Water-IBC ..					1.000	IBC 1000 LT	1	#	X

Transport 7 Pallets

*Variance
born
attached.*

Driver's Name:

Ben Bowerman

Driver's Signature:

[Signature]

Date: 26/7/23

Customer's Name:

Ben Bowerman

Customer's Signature:

[Signature]

Date: 26/7/23

WASTE DATA FORM

NEW SOUTH WALES



BEFORE COMPLETING AND SIGNING THIS FORM
READ THE NEXT PAGE OF THIS FORM FOR
IMPORTANT INFORMATION ON HOW TO FILL IN THIS
FORM AND FOR INFORMATION ABOUT OBLIGATIONS
AND OFFENCES

Dangerous Goods

Complete this part if waste is a dangerous good.

Proper Shipping Name FLAMMABLE LIQUID, N.O.S.

Dangerous Goods Class 3 Subsidiary Risk/s (if any) UN Number 1993 Packing Group III
Type of Packaging 1000L TANKS Number of Packages 4 Aggregate Net Quantity 4000

Load Identification

Consignment Authorisation Number 144635-3-G110-6091-2023 Load Number 2500274
This consignment authorisation is valid From: 01/01/2023 To: 31/12/2023 (DD/MM/YY)

Waste Consignor (Activity)

Licensed ☐ Non-licensed ☐ License No

Company Name Ross Mitchell & Associates Address of waste source
Address 140 Campbell Hill Road (If not the same as company address)
Chester Hill NSW 2162
Contact Phone
Name of Consignor (print) Ben Boweeman Signature of Consignor Date 26.7.23

Waste Description

List Contaminants: (Few)

Waste Name Flammable Liquid NOS, Organic solvents excluding halogenated solvents
Waste Origin Code (ANZSIC) Waste Code G110 Amount of Waste 1000.000 tonnes kilograms
Physical nature of waste (solid, liquid, sludge, etc)
Waste Type (hazardous, industrial, group A) *Organic solvents TPI Waste Category litres X
Proposed treatment at destination (landfill, incineration, immobilisation, storage, treatment etc)

Date of Waste Movements

Date of dispatch 26.7.23 Expected date of delivery to destination 26.7.23

Transporter

Licensed ☒ Non-licensed ☐ License No 11901

Company Name Cleanaway Operations Pty Ltd RTA Registration No. of Vehicle XN02TR
Address 8 Rayben St
GLENDENNING NSW 2761 Type of Transport (Road, Rail, Road & Rail) Road
Contact Phone 02 9839 1522
*Name of Driver (print) *Signature of Driver *Date 26.7.23

Waste Consignee (Destination)

Company Name Cleanaway Operations Pty Ltd License No.: 6091
Destination 8 Rayben St *Quantity Received: 4000L
GLENDENNING NSW 2761 *Treatment given to waste at destination:
*Date Received: 26.7.23
Contact Phone 02 9839 1522
*Name of Representative (print) *Signature of Representative

EMERGENCY CONTACT
(24 HOURS)

NAME: Ross Mitchell & Associates
PH: M:

WASTE DATA FORM

NEW SOUTH WALES



BEFORE COMPLETING AND SIGNING THIS FORM
READ THE NEXT PAGE OF THIS FORM FOR
IMPORTANT INFORMATION ON HOW TO FILL IN THIS
FORM AND FOR INFORMATION ABOUT OBLIGATIONS
AND OFFENCES

Dangerous Goods

Complete this part if waste is a dangerous good.

Proper Shipping Name
Dangerous Goods Class Subsidiary Risk/s (if any) UN Number Packing Group
Type of Packaging 1000L Number of Packages 2 Aggregate Net Quantity 2000

Load Identification

Consignment Authorisation Number 144635-3-G110-6091-2023 Load Number 2500274
This consignment authorisation is valid From: 01/01/2023 To: 31/12/2023 (DD/MM/YY)

Waste Consignor (Activity)

Licensed ☐ Non-licensed ☐ License No.

Company Name Ross Mitchell & Associates Address of waste source
Address 140 Campbell Hill Road (If not the same as company address)
Chester Hill NSW 2162
Contact Phone
Name of Consignor (print) BEN BOWERMAN Signature of Consignor [Signature] Date 26.7.23

Waste Description

List Contaminants: [Box] (Diesel) [Box]

Waste Name G110 L DIESELUSED AS ORGANIC SOLVENTS, Organic solvents excluding halogenated solvents
Waste Origin Code (ANZSIC) Waste Code G110 Amount of Waste 1000.000 tonnes ☐ Kilograms ☐
Physical nature of waste (solid, liquid, sludge, etc)
Waste Type (hazardous, industrial, group A) * Organic solvents TPI Waste Category litres ☒
Proposed treatment at destination (landfill, incineration, immobilisation, storage, treatment etc)

Date of Waste Movements

Date of dispatch 26.7.23 Expected date of delivery to destination 26.7.23

Transporter

Licensed ☒ Non-licensed ☐ License No. 11901

Company Name Cleanaway Operations Pty Ltd RTA Registration No. of Vehicle XN02TR
Address 8 Rayben St Type of Transport (Road, Rail, Road & Rail) Road
GLENDENNING NSW 2761
Contact Phone 02 9839 1522
*Name of Driver (print) [Signature] *Signature of Driver [Signature] *Date 26.7.23

Waste Consignee (Destination)

Company Name Cleanaway Operations Pty Ltd License No.: 6091
Destination 8 Rayben St *Quantity Received: 2000L
GLENDENNING NSW 2761 *Treatment given to waste at destination:
*Date Received: 26.7.23
Contact Phone 02 9839 1522
*Name of Representative (print) [Signature] *Signature of Representative [Signature]

EMERGENCY CONTACT
(24 HOURS)

NAME: Ross Mitchell & Associates
PH: M:



VARIANCE FORM

Job Number: 2500274

Customer Name: Ross Mitchell & Associates

CODE (I/D*)	ADDITIONAL WDF (Y/N)	TYPE OF WASTE	SIZE	NUMBER OF UNITS
I	Y	046.1 6150 Halogenated Solvent Liquid (1-18L)	kg	952

Cleanaway Representative: Nam Nguyen

Sign: [Signature]

Date: 26/7/23

Customer Representative: _____

Sign: _____

Date: _____



Date In	Time In	Rego No.	Transaction No.	Product Name	Direct	Order No.	Qty	Gross Wt	Tare Wt	Net Wt
2/08/2023	13:43:24	BK03YX	230802-1	General Solid Waste	0	230802-1 CHESTER HILL	0	26.64	12.74	13.90
2/08/2023	16:27:46	BK03YX	230802-1	General Solid Waste	0	230802-1 CHESTER HILL	0	23.00	12.80	10.20
Total Loads: 2										24.10



Trans#	Date	PlateNo	Name	OrderNo	Material Description	Gross	Gross Time	Tare	Tare Time	Nett	Approval ID
51001356	22/08/2023	CG10AY	Bulk Transport Solutions Pty Limited	CHESTER HILL	General Solid Waste	13.44	12:43:50	7.54	12:58:22	<u>5.90</u>	230817-2
Total Loads: 1										<u>5.90</u>	

Recycling Parks Pty Ltd
16-23 Clifton Ave
ABN: 66 610 969 303
Ph: 02 9826 1000
admin@recyclingparks.com.au

Docket: 51001356
Date: 22/08/2023

OFFICE COPY

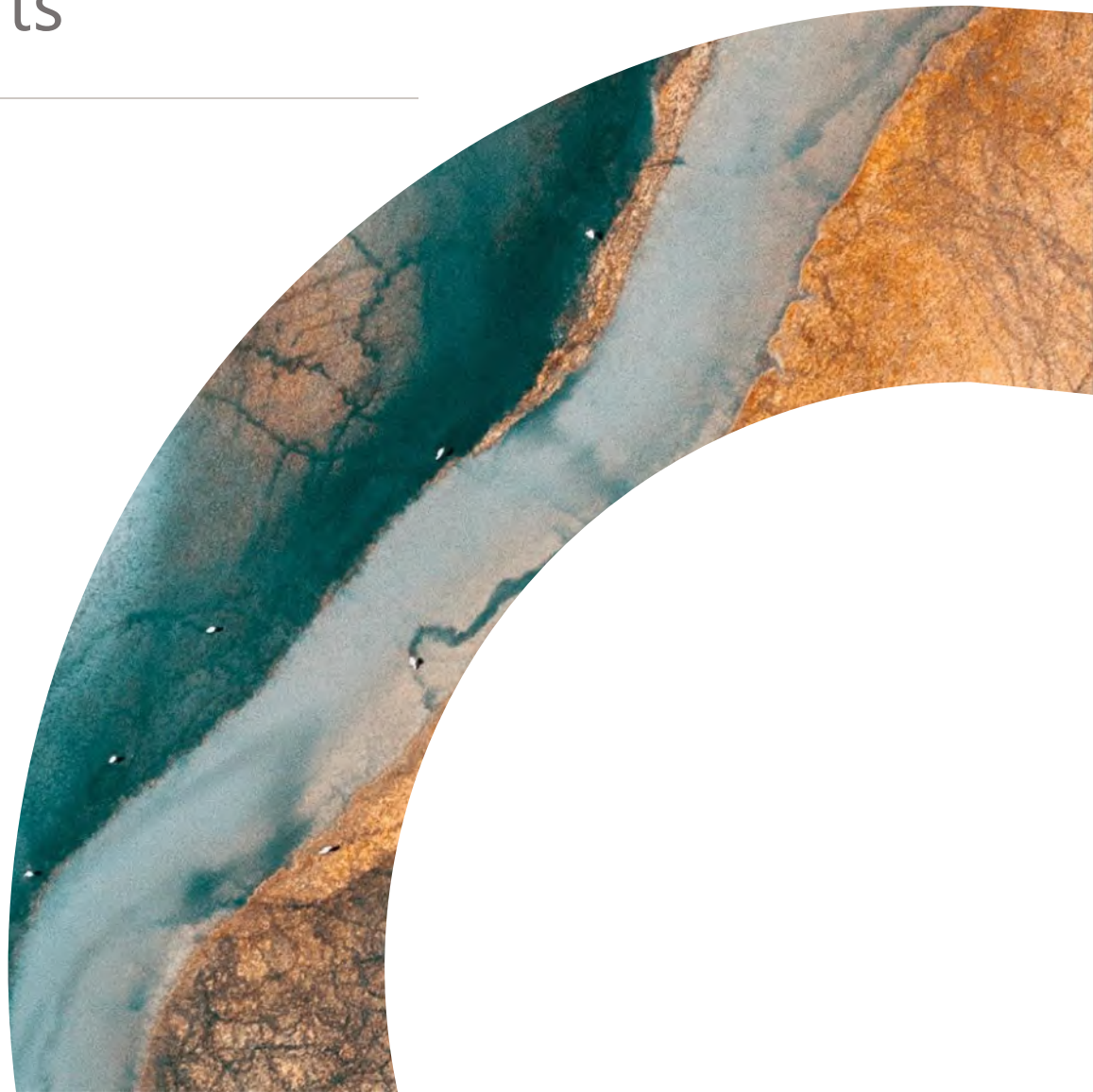
Bulk Transport Solutions Pty Limited
Order: CHESTER HILL Approval ID: 230817-2 Rego: CG10AY Driver: KEVIN

Material	Gross	Time	Tare	Time	Nett	Quantity
General Solid Waste	13.44 t	12:43	7.54 t	12:58	5.90 t	

Signature: _____



Waste Classification Reports



9 August 2023

The Abel Tasman Village Association Limited
222 Waldron Rd
Chester Hill, NSW, 2162

Reference: 22137LTR02_v1

02 9521 6567

Unit 1A, 29-33 Waratah St
Kirrawee NSW 2232

Reditus Consulting Pty Ltd
ABN: 34 631 168 502

reditus.com.au

Waste Classification | 138-140 Campbell Hill Road, Chester Hill NSW (SP04)

1. INTRODUCTION & BACKGROUND

Reditus Consulting Pty Ltd (Reditus) was engaged by The Abel Tasman Village Association Limited c/- Centurion Project Management to complete a waste classification of soils resultant from UPSS excavation works. The site is located at 138-140 Campbell Hill Road, Chester Hill, NSW. The Waste Classification is limited to stockpile 'SP04' within the northern are of the site which originated from spoil excavated following removal of a hoist from the central portion of the site. The resultant stockpile was approximately 10m³ in volume.

The location and layout of the stockpile in question is provided in **Figure 1, Appendix A**.

The objective of this waste classification is to classify the soils pursuant to the NSW EPA (2014) Waste Classification Guidelines to facilitate disposal of the material to a facility licensed to accept such waste.

2. SCOPE OF WORK

Reditus collected four (4) soil samples and submitted three for analysis at a NATA accredited laboratory for a range of contaminants (refer Table 2) in accordance with NSW EPA (2014) waste classification guidelines, the POEO Act 1997 and POEO (Waste) Regulation 2014.

3. METHODOLOGY

The methods used for the collection of data for this waste classification are presented in the following sections.

Sample Location Rationale

The sampling location rationale was based on the review of the investigation area, site observations and volume of soil potentially requiring removal.

Four (4) soil samples were collected within the stockpile material. The locations of the samples are provided in **Figure 2, Appendix A**.



Table 11: Sample Location Rationale

LOCATION ID	MEDIA	RATIONALE OF LOCATION	ANALYSIS
SP04-1 SP04-2 SP04-3 SP04-4 (not analysed)	Soil	Four (4) selected sampling locations across the stockpile using a systematic grid-based sampling pattern.	TRH, BTEX, PAHs, heavy metals, OCP, OPP, PCB.

The stockpile sampling density was tailored for the classification of stockpiled material following excavation works to determine method of disposal. The sampling density complies with the minimum recommended sampling requirements for a stockpile of approximately 75 m³ prescribed by NSW EPA (2022) Contaminated Land Guideline: *Sampling Design Part 1*.

Schedule of Work

The sampling was conducted on 2 August 2023 by Reditus' Graduate Environmental Scientist Hassan Elbatoory, who is qualified and experienced in the collection of environmental samples.

Sampling Methodology

Soil samples were collected directly from the stockpiled material, utilising the following procedures to ensure quality control.

- Samples were collected in preserved laboratory supplied 250 mL glass jars with Teflon sealed lids.
- Samples were collected at different locations laterally and vertically within the stockpile to ensure that the samples appropriately represented material to be removed.
- Samples were collected using dedicated nitrile gloves directly from the material to prevent cross-contamination.
- Samples were placed in ice-filled esky and kept below 4 degrees Celsius during storage and were transported to the NATA accredited laboratory under Chain of Custody (COC) conditions.
- Samples were analysed within holding times, and detailed QAQC are found in the laboratory report in **Appendix D**.

In summary, soil samples were collected in accordance with Reditus standard operation procedures which are based on the NEPC (2013) NEPM, Australian Standard AS4482.1-2005 and AS4482.2-1999 and NSW EPA requirements.

4. ANALYTICAL RESULTS

Tabulated analytical results are provided in **Appendix C** and NATA accredited laboratory reports are provided in **Appendix D**.

Laboratory analytical results were compared to NEPM 2013 HILs Comm/Ind D soil, HSL Comm/Ind D for Vapour intrusion Clay and Management Limits in Comm/Ind, fine soil to assess suitability for reuse onsite. Results were also compared to the NSW 2014 General Solid Waste CT1 & CT2 criteria to facilitate off-site disposal, in accordance with the NSW EPA (2014) waste classification guidelines, the POEO Act 1997 and



POEO (Waste) Regulation 2014, should the material be unsuitable for reuse at the site under a commercial/industrial land use. A summary of the analytical results is as follows:

- Concentrations of the COPC were reported below adopted HSL and HIL criteria for all samples submitted for analysis.
- Concentrations of the COPC were reported below adopted HSL and HIL criteria for all samples submitted for analysis with the exemption of SP04-1. SP04-1 (6,200 mg/kg) was found to have TRH C₁₆-C₃₄ concentrations above Management limit criteria (5,000 mg/kg) and was therefore considered unsuitable for reuse at the site.
- Concentrations of the COPC were reported below the relevant CT1 and CT2 criteria for all samples submitted for analysis.

5. QUALITY ASSURANCE AND QUALITY CONTROL (QAQC)

The following section summarises and evaluates QAQC procedures carried out through the investigation.

Field Quality and Assurance

- Soil sampling was conducted on 2 August 2023 by Reditus' Graduate Environmental Scientist Hassan Elbatoory who is suitably qualified and experienced in the collection of environmental samples.
- Soil samples were collected directly from the stockpiles with nitrile gloves changed between each sample to prevent cross contamination.
- The intra-laboratory duplicate (DUP) was collected simultaneously to the primary sample (SP04_3). Due to potential loss of volatiles, samples were not mixed or homogenised during collection.
- Field intra-laboratory duplicates were collected at a ratio of at least 1:20. These rates are within the Australian Standard 4482.1-2005 'Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds.

Laboratory QA/QC

- All analytes were reported as being analysed within their holding times.
- The primary laboratory used for soil sample analysis was Envirolab. Envirolab is accredited by NATA to ISO 17025 and has the accreditation number 2901.
- Laboratory control and duplicate samples were within acceptable ranges.

Detailed laboratory QA/QC are found in the laboratory report in **Appendix D**.

6. CONCLUSIONS AND RECOMMENDATIONS

Based on the site history, soil sampling and analytical results, the waste classification recommendations are summarised in **Table 2**.

The western portion of the stockpile (as identified in Figure 1, Appendix A, including samples SP04-2 and SP04-3) (approximately 5m³) is considered suitable for reuse as concentrations were reported below all adopted land use criteria. Concentrations of TRH C₁₆-C₃₄ in sample SP04-1 collected from the eastern portion of the stockpile (as identified in Figure 1, Appendix A) precluded re-use on site and has been classified as General Solid Waste and the material must be disposed to a facility licensed to accept such waste.



Areas of the stockpile considered for each disposal method is presented in **Appendix A, Figure 2**.

Table 1: Waste Classification and Reuse Summary

MATERIAL TYPE	OFFSITE WASTE CLASSIFICATION	CONDITIONS COMMENTS
Eastern Portion of Stockpile – 5m³ (Sample ID SP04-1)	General Solid Waste (non-putrescible) All results <CT1	Subject to: - Obtaining written confirmation that the receiving facility can lawfully accept the waste. - Review of recycling facilities environment protection license (where applicable).

Waste disposal must be undertaken in accordance with the NSW POEO Act (1997), POEO (Waste) Regulation 2014 and environment protection license of the receiving facility (where applicable).

No additional material including is to be added to the existing stockpile. All new materials generated from remedial works are to be stockpiled separately per source location.

7. LIMITATIONS

The findings of this report are based on the scope of work outlined within this report. Reditus performed its services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties expressed or implied are made.

Subject to the scope of work, Reditus' assessment was limited strictly to identifying the environmental conditions associated with the subject property and does not include evaluation of any other issues. The absence of any identified hazardous or toxic materials should not be interpreted as a guarantee that such materials do not exist on the subject property.

This report does not comment on any regulatory obligations based on the findings. This report relates only to the objectives stated and does not relate to any other work undertaken for the client and the project team.

All conclusions and recommendations regarding the property are the professional opinions of Reditus personnel involved with the project, subject to the qualifications made above. While normal assessments of data reliability have been made, Reditus assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements or sources outside of Reditus, or developments resulting from situations outside the scope of this project.

Reditus is not engaged in environmental assessment and reporting for the purpose of advertising sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. The client acknowledges that this report is for the exclusive use of the client.

8. CLOSURE

We trust that this document meets your immediate requirements. Should you have any queries please feel free to contact the undersigned.

Sincerely,



Greg Bartlett – Reviewer & Approver

Partner | Principal Environmental Scientist
Certified Environmental Practitioner (1605)

Mia Schaeper – Author

Graduate Environmental Scientist
Reditus Consulting Pty Ltd

APPENDICES

Appendix A – Site Figures

Appendix B – Analytical Results Tables

Appendix C – NATA Laboratory Reports

A

Site Figures





Map 22137_itr02_f01_siteloc_v01		Legend Major Roads Railways Surface Water Rivers Streams Minor Channels Lot Boundaries Site Boundary	Figure 1 - Site Location 138-140 Campbell Hill Road, Chester Hill NSW 22137 - Waste Classification The Abel Tasman Village Association Limited
Date of Export 15/08/2023			
Author KS	Approver GB		
Data Source Metromap, Google Maps, Open Street Map, NSW Government			



Map	
22137_LTRP02_f02_samplelocs_v01	
Date of Export	Map Scale (approx. at A3)
15/08/2023	1:200
Author	Approver
MS	GB
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

-  Site Boundary
-  Area of SP04 for Off-site Disposal
-  Stockpile SP04
-  Stockpile Samples

Figure 2 - Sample Locations (Stockpile/Insitu)

138-140 Campbell Hill Road, Chester Hill NSW

22137 - Waste Classification

The Abel Tasman Village Association Limited

B

Summary Results Tables



Table 1
Waste Classification Results



		BTEX						TRH							Phenols	Inorganics	Metals								
		Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Phenolics Total	Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		1	0.2	0.5	1	2	1	25	25	50	50	100	100	50	5	0.1	4	0.4	1	1	1	0.1	1	1	
NEPM 2013 Table 18(7) Management Limits Comm / Ind, Fine Soil								800		1,000		5,000	10,000												
NSW 2014 General Solid Waste CT1 (No Leaching)			10	288	600		1,000										100	20			100	4	40		
NSW 2014 Restricted Solid Waste CT2 (No Leaching)			40	1,152	2,400		4,000										400	80			400	16	160		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay			4 6 9 20					310 480																	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																	3,000	900		240,000	1,500	730	6,000	400,000	
Field ID	Date																								
SP04-1	02 Aug 2023	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25	190	190	6,200	<100	6,400	<5	16	11	<0.4	10	43	27	<0.1	21	130
SP04-2	02 Aug 2023	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25	62	62	1,900	<100	1,900	<5	10	5	<0.4	9	27	16	<0.1	24	67
SP04-2 - [TRIPLICATE]	02 Aug 2023																	7	<0.4	8	36	22	<0.1	26	75
SP04-3	02 Aug 2023	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	620	<100	620	<5	10	<4	<0.4	8	22	7	<0.1	22	81

Environmental Standards
NEPM, NEPM 2013 Table 18(7) Management Limits Comm / Ind, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

Table 1
Waste Classification Results



		PAH															TPH					
		Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of positives)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQI		0.2	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	25	50	100	100	50
NEPM 2013 Table 18(7) Management Limits Comm / Ind, Fine Soil																						
NSW 2014 General Solid Waste CT1 (No Leaching)							0.8											650				10,000
NSW 2014 Restricted Solid Waste CT2 (No Leaching)							3.2											2,600				40,000
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																						
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																						
Field ID	Date																					
SP04-1	02 Aug 2023	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	2.6	<0.1	2.8	<25	<50	6,000	460	6,400
SP04-2	02 Aug 2023	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<25	<50	1,800	200	2,000
SP04-2 - (TRIPLICATE)	02 Aug 2023																					
SP04-3	02 Aug 2023	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<25	<50	580	<100	580

Environmental Standards
NEPM, NEPM 2013 Table 18(7) Management Limits Comm / Ind, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

Table 2
Soil RPDs



			BTEX										TRH							Phenols																Inorganics
			Naphthalene (NOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Cl-ClO Fraction (F1)	Cl-ClO (F1 minus BTEX)	>ClO-Cl16 fraction (F2)	>ClO-Cl16 fraction (F2 minus Naphthalene)	>Cl-6-Cl34 fraction (F3)	>Cl4-Cl40 fraction (F4)	>Cl0-Cl40 fraction (Sum)	3,4,5-Methylphenol (m&p-triad)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-Chloro-3-methylphenol	Pentachlorophenol	Phenol	Phenols Total	Moisture Content					
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%				
EQL			1	0.2	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	5		0.1				
Lab Report Number	Field ID	Date	Matrix Type																																	
329488	V59_0.5	02 Aug 2023	Soil																																	
329488	DUPS	02 Aug 2023	Soil																																	
RPD			<1	0	0	0	0	0	0	0	<25	<25	<50	<50	340	<100	340															<5	19			
329488	V59_0.5	02 Aug 2023	Soil																																	
ES2325940	TRIPS	02 Aug 2023	Soil																																	
RPD			<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5		17.6					
			0	0	0	0	0	0	0		0	0	0	0	100	100	100															8				

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (0 - 5 x EQL); 75 (5 - 10 x EQL); 30 (> 10 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table 2
Soil RPDs

				Metals								PAH																		TPH						
				Arsenic	Calcium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Benzo[<i>b</i>]fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo[<i>a</i>]anthracene	Benzo[<i>a</i>]pyrene	Benzo[<i>b</i>]fluoranthene	Benzo[<i>ghi</i>]perylene	Benzo[<i>k</i>]fluoranthene	Chrysene	Dibenz[<i>a,h</i>]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3- <i>cd</i>]pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	PAHs (Sum of positive)	G-O Fraction	ClC-C14 Fraction	ClC-C28 Fraction	ClC-C36 Fraction	ClC-C38 Fraction (Sum)	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				4	0.4	1	1	1	0.1	1	1	0.2	0.1	0.1	0.1	0.1	0.05	0.5	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.05	10	50	100	100	50
Lab Report Number	Field ID	Date	Matrix Type																																	
329488	V59_0.5	02 Aug 2023	Soil	9	<0.4	19	27	15	0.1	4	24	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1		0.2	<25	<50	320	<100	320
329488	DUPS	02 Aug 2023	Soil	9	<0.4	15	23	14	<0.1	3	18	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.05	<25	<50	<100	<100	<50
RPD				0	0	24	16	7	0	29	29	0	0	0	0	0	0		0		0	0	0	0	0	0	67	0		120	0	0	105	0	146	
329488	V59_0.5	02 Aug 2023	Soil	9	<0.4	19	27	15	0.1	4	24	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1		0.2	<25	<50	320	<100	320
532325940	TRIPS	02 Aug 2023	Soil	6	<1	10	18	14	<0.1	3	18		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<10	<50	<100	<100	<50
RPD				40	0	62	40	7	0	29	29		0	0	0	0	0	<0.5	0	<0.5	0	0	0	0	0	0	0	0	<0.5		0	0	105	0	146	

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range)
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any me

C

NATA
Laboratory
Reports



CERTIFICATE OF ANALYSIS 329488

Client Details

Client	Reditus Consulting
Attention	Hassan Elbatoory
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	14 Soil
Date samples received	02/08/2023
Date completed instructions received	02/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	09/08/2023
Date of Issue	07/08/2023
Reissue Details	This report replaces R00 created on 07/08/2023 due to: Sample ID Amended (Client Request)
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Diego Bigolin, Inorganics Supervisor
 Dragana Tomas, Senior Chemist
 Loren Bardwell, Development Chemist
 Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference	UNITS	V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	88	97	85	90

vTRH(C6-C10)/BTEXN in Soil

Our Reference		329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference	UNITS	V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	85	90	85	90	93

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		329488-11	329488-12	329488-14
Your Reference	UNITS	SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	81	81

svTRH (C10-C40) in Soil						
Our Reference	UNITS	329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference		V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	04/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	96	92	97	90

svTRH (C10-C40) in Soil						
Our Reference	UNITS	329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference		V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	220	<100	320	120	6,000
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	230	460
Total +ve TRH (C10-C36)	mg/kg	220	<50	320	350	6,400
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	190
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	190
TRH >C ₁₆ -C ₃₄	mg/kg	220	<100	340	290	6,200
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	110	<100
Total +ve TRH (>C10-C40)	mg/kg	220	<50	340	400	6,400
Surrogate o-Terphenyl	%	116	88	126	92	#

svTRH (C10-C40) in Soil				
Our Reference		329488-11	329488-12	329488-14
Your Reference	UNITS	SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	1,800	580	<100
TRH C ₂₉ - C ₃₆	mg/kg	200	<100	<100
Total +ve TRH (C10-C36)	mg/kg	2,000	580	<50
TRH >C ₁₀ -C ₁₆	mg/kg	62	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	62	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	1,900	620	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	1,900	620	<50
Surrogate o-Terphenyl	%	#	#	94

PAHs in Soil						
Our Reference		329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference	UNITS	V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	95	97	90	94	92

PAHs in Soil						
Our Reference		329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference	UNITS	V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Phenanthrene	mg/kg	<0.1	<0.1	0.2	<0.1	2.6
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.2	<0.05	2.8
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	90	95	92	87

PAHs in Soil				
Our Reference		329488-11	329488-12	329488-14
Your Reference	UNITS	SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date extracted	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.1	0.1	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	92	91	95

Acid Extractable metals in soil

Our Reference		329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference	UNITS	V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Arsenic	mg/kg	<4	10	<4	7	14
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	6	25	13	14	12
Copper	mg/kg	8	20	32	25	72
Lead	mg/kg	5	15	8	17	33
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	26	7	18	4	14
Zinc	mg/kg	34	27	97	21	84

Acid Extractable metals in soil

Our Reference		329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference	UNITS	V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Arsenic	mg/kg	10	9	9	<4	11
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	10	19	11	10
Copper	mg/kg	35	12	27	42	43
Lead	mg/kg	20	5	15	19	27
Mercury	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Nickel	mg/kg	3	26	4	61	21
Zinc	mg/kg	22	150	24	160	130

Acid Extractable metals in soil						
Our Reference		329488-11	329488-12	329488-14	329488-15	329488-16
Your Reference	UNITS	SP04-2	SP04-3	DUP5	V53 - [TRIPLICATE]	SP04-2 - [TRIPLICATE]
Depth		SP04-2	SP04-3	DUP5	2	SP04-2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Arsenic	mg/kg	5	<4	9	<4	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	8	15	9	8
Copper	mg/kg	27	22	23	14	36
Lead	mg/kg	16	7	14	5	22
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	24	22	3	24	26
Zinc	mg/kg	67	81	18	65	75

Misc Soil - Inorg						
Our Reference	UNITS	329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference		V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference	UNITS	329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference		V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg				
Our Reference	UNITS	329488-11	329488-12	329488-14
Your Reference		SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	03/08/2023	03/08/2023	03/08/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5

Moisture						
Our Reference	UNITS	329488-1	329488-2	329488-3	329488-4	329488-5
Your Reference		V53	V56_0.5	V56_2.0	V57_0.5	V57_2.0
Depth		2	0.5	2	0.5	2
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
Moisture	%	14	20	13	19	14

Moisture						
Our Reference	UNITS	329488-6	329488-7	329488-8	329488-9	329488-10
Your Reference		V58_0.5	V58_2.0	V59_0.5	V59_2.0	SP04-1
Depth		0.5	2	0.5	2	SP04-1
Date Sampled		2/08/2023	2/08/2023	2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023	04/08/2023	04/08/2023
Moisture	%	19	16	19	8.8	16

Moisture				
Our Reference	UNITS	329488-11	329488-12	329488-14
Your Reference		SP04-2	SP04-3	DUP5
Depth		SP04-2	SP04-3	DUP5
Date Sampled		2/08/2023	2/08/2023	2/08/2023
Type of sample		Soil	Soil	Soil
Date prepared	-	03/08/2023	03/08/2023	03/08/2023
Date analysed	-	04/08/2023	04/08/2023	04/08/2023
Moisture	%	10	10	19

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40). Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date extracted	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			04/08/2023	1	04/08/2023	04/08/2023		04/08/2023	04/08/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	1	<25	<25	0	108	104
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	1	<25	<25	0	108	104
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	115	112
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	109	104
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	105	101
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	106	102
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	112	108
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	97	1	89	89	0	97	93

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	04/08/2023	04/08/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	11	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	11	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	11	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	11	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	11	89	95	7	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date extracted	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	1	<50	<50	0	87	70
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	1	<100	<100	0	98	95
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	1	<100	<100	0	100	82
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	1	<50	<50	0	87	70
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	1	<100	<100	0	98	95
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	1	<100	<100	0	100	82
Surrogate o-Terphenyl	%		Org-020	85	1	75	90	18	80	96

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	04/08/2023	04/08/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	11	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	11	1800	1700	6	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	11	200	200	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	11	62	66	6	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	11	1900	1800	5	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	11	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	11	#	#		[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date extracted	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			04/08/2023	1	04/08/2023	04/08/2023		04/08/2023	04/08/2023
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	86
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	83	87
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	74	78
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	90
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	84
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	85	93
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	81	83
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	74	78
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	94	1	95	95	0	86	88

QUALITY CONTROL: PAHs in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	04/08/2023	04/08/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	11	0.1	0.6	143	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	11	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	11	92	90	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date prepared	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	109	89
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	105	86
Chromium	mg/kg	1	Metals-020	<1	1	6	6	0	114	92
Copper	mg/kg	1	Metals-020	<1	1	8	18	77	109	104
Lead	mg/kg	1	Metals-020	<1	1	5	5	0	114	91
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	0.2	67	81	76
Nickel	mg/kg	1	Metals-020	<1	1	26	14	60	108	89
Zinc	mg/kg	1	Metals-020	<1	1	34	52	42	111	86

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	11	5	5	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	11	9	17	62	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	11	27	32	17	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	11	16	18	12	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	11	24	18	29	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	11	67	71	6	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	329488-2
Date prepared	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Date analysed	-			03/08/2023	1	03/08/2023	03/08/2023		03/08/2023	03/08/2023
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	1	<5	<5	0	101	99

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Date analysed	-			[NT]	11	03/08/2023	03/08/2023		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	11	<5	<5	0	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Acid Extractable Metals in Soil:

- The laboratory RPD acceptance criteria has been exceeded for 329488-1 for Cu, Ni and Zn. Therefore a triplicate result has been issued as laboratory sample number 329488-15.
- The laboratory RPD acceptance criteria has been exceeded for 329488-11 for Cr. Therefore a triplicate result has been issued as laboratory sample number 329488-16.

TRH Soil C10-C40 NEPM - # Percent recovery for the surrogate is not possible to report as the high concentration of analytes in samples 329488-10,11,11d,12 have caused interference.

calc: 2/8/23 1027

 CHAIN OF CUSTODY FORM - Client					ENVIROLAB GROUP National phone number 1300 424 344 Sydney Lab - Envirolab Services 12 Ashley St, Chatswood, NSW 2067 ☎ 02 9910 6200 ✉ sydney@envirolab.com.au Perth Lab - MPL Laboratories 16-18 Hayden Crt, Myareo, WA 6154 ☎ 08 9317 2505 ✉ jlab@mpl.com.au Melbourne Lab - Envirolab Services 25 Research Drive, Croydon South, VIC 3136 ☎ 03 9763 2500 ✉ melbourne@envirolab.com.au Adelaide Office - Envirolab Services 7a The Parade, Norwood, SA 5067 ☎ 08 7087 6800 ✉ adelaide@envirolab.com.au Brisbane Office - Envirolab Services 203, 10-20 Depot St, Banyo, QLD 4014 ☎ 07 3266 9532 ✉ brisbane@envirolab.com.au Darwin Office - Envirolab Services Unit 7, Ty Wilkes Rd, Boromah, NT 0820 ☎ 08 8367 1201 ✉ darwin@envirolab.com.au															
[Copyright and Confidential]																				
Client: Reditus Consulting					Client Project Name/Number/Site etc (ie report title): 22137															
Contact Person: Hassan Elbatoory					PO: 22137															
Project Mgr: Greg Bartlett					Envirolab Quote No. :															
Sampler: Hassan Elbatoory					Date results required: Standard															
Address: 1A / 29-33 Waratah Street Kirrawee NSW					Or choose: standard / same day / 1 day / 2 day / 3 day Note: Inform lab in advance if urgent turnaround is required - surcharges apply															
Phone: 02 9521 6567 Mob: 0490 237 157					Additional report format: eadat															
Email Invoice To: accounts@reditusconsulting.com					Lab Comments:															
Email Results To: toyscrivener@reditusconsulting.com, hassanelbatoory@reditusconsulting.com																				
Sample Information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or Information	Depth	Date sampled	Type of sample	Combo 4	TRH	BTEX	PAHs	Metals	Phenols	Hold									Provide as much information about the sample as you can
1	V53	2	2/08/2023	Soil	X															
2	V54_0.5	0.5	2/08/2023	Soil	X															
3	V54_2.0	2	2/08/2023	Soil	X															
4	V55_0.5	0.5	2/08/2023	Soil	X															
5	V55_2.0	2	2/08/2023	Soil	X															
6	V56_0.5	0.5	2/08/2023	Soil	X															
7	V56_2.0	2	2/08/2023	Soil	X															
8	V57_0.5	0.5	2/08/2023	Soil	X															
9	V57_2.0	2	2/08/2023	Soil	X															
10	SP04-1	SP04-1	2/08/2023	Soil	X															
11	SP04-2	SP04-2	2/08/2023	Soil	X															
12	SP04-3	SP04-3	2/08/2023	Soil	X															
13	SP04-4	SP04-4	2/08/2023	Soil							X									
14	DUP5	DUP5	2/08/2023	Soil	X															
S10	TRIP5	TRIP5	2/08/2023	Soil		X	X	X	X	X										Forward to ALS
Relinquished by (C. Please tick the box if observed settled sediment present in vial)					Received by (Company): ELS SYD					Lab Use Only										
Print Name: Hassan Elbatoory					Print Name: Sarah P					Job number: 329488					Cooling (Ice) / Ice pack / None					
Date & Time: 02/08/2023 - 10:30am					Date & Time: 02/08/23, 1400					Temperature: 5°C					Security seal: Intact / Broken (None)					
Signature: H. Elbatoory					Signature: Sau					TAT Req - SAME day / 1 / 2 / 3 / 4 / STD										

2 August 2023

The Abel Tasman Village Association Limited
222 Waldron Rd,
Chester Hill, NSW, 2162

Reference: 22137LTR01_v1

02 9521 6567

Unit 1A, 29-33 Waratah St
Kirrawee NSW 2232

Reditus Consulting Pty Ltd
ABN: 34 631 168 502

reditus.com.au

Waste Classification | 138-140 Campbell Hill Road, Chester Hill NSW

1. INTRODUCTION & BACKGROUND

Reditus Consulting Pty Ltd (Reditus) was engaged by The Abel Tasman Village Association Limited c/- Centurion Project Management to complete a waste classification of soils resultant from UPSS excavation works. The site is located at 138-140 Campbell Hill Road, Chester Hill, NSW.

The location and layout of the investigation is provided in **Figure 1, Appendix A**.

As part of a remedial action plan completed at the site by Reditus (currently ongoing), removal of underground petroleum storage system (UPSS) infrastructure occurred, from the onsite, disused service station. Part of these works involved the removal of a triple interceptor pit (TIP) and the associated impacted soil materials and is the focus of this report.

The objective of this waste classification is to classify the soils pursuant to the NSW EPA (2014) Waste Classification Guidelines to facilitate disposal of the material to a facility licensed to accept such waste.

2. SCOPE OF WORK

Reditus collected eight (8) soil samples for analysis at a NATA accredited laboratory for a range of contaminants in accordance with NSW EPA (2014) waste classification guidelines, the POEO Act 1997 and POEO (Waste) Regulation 2014.

3. SOIL SAMPLING

A total of eight (8) soil samples were collected by Reditus from both stockpiled materials, sourced from around the TIP (3), as well as additional in-situ samples (5) surrounding and at the base of the TIP after excavation and removal of the infrastructure had occurred.

- Samples were collected in laboratory supplied 250ml sample jars.
- Samples were screen with a photo-ionisation detector (PID)
- Samples were collected using dedicated nitrile gloves directly from the material to prevent cross-contamination.
- Samples were placed in ice-filled esky and kept below 4 degrees Celsius during storage and were transported to the NATA accredited laboratory under strict Chain of Custody (COC) conditions.
- Samples were analysed within holding times, and detailed QA/QC are found in the laboratory report in **Appendix C**.

The samples were submitted to Envirolab for analysis for the following suite:

- Total recoverable hydrocarbons (TRH)
- Benzene, toluene, ethylbenzene, xylene (BTEX)
- Polycyclic aromatic hydrocarbons (PAH)



- Metals
- Organochlorine/Organophosphorus Pesticides (OCP/OPPs)
- Polychlorinated biphenyls (PCBs)
- Phenols (stockpiled material)
- Asbestos ID (stockpiled material)

Analytical results for the waste classification samples are provided in **Appendix B** with comparison against the NSW EPA (2014) *Waste Classification Guidelines = Part 1 Classifying Waste*.

SP03 (sourced from the TIP) based onsite measurements had an assumed volume of 13.5m³ and as such required three (3) samples to correctly characterise this material. At the completion of removal works of the onsite TIP, five (5) validation samples were taken from the excavation walls and base. Material at V50 exceeded the adopted land use criteria and therefore was compared against waste classification guidelines for in-situ waste classification purposes along with the adjacent walls and base of the resulting excavation. The five (5) in-situ samples are considered sufficient to characterise soils surrounding the TIP based on the inferred volume of 1m³ still requiring removal.

In summary, soil samples were collected in accordance with Reditus standard operation procedures which are based on the NEPC (2013) NEPM, Australian Standard AS4482.1-2005 and AS4482.2-1999 and NSW EPA requirements.

Field Observations

During waste classification soil sampling, the soil was observed to be a sandy CLAY within the stockpiled material and an extremely weather shale in the resulting excavation.

A moderate-strong hydrocarbon odour was observed in with a PID reading range of 35.1-107.5 ppm for the stockpiled material. In-situ validation sample (V50) had a strong hydrocarbon odour and an associated PID of 145.1. No other visual observation of anthropogenic materials, visible signs of contamination or potential asbestos containing materials were noted during the sampling event.

4. ANALYTICAL RESULTS

Tabulated analytical results are provided in **Appendix B** and NATA accredited laboratory reports are provided in **Appendix C**.

Laboratory analytical results were compared to the NSW EPA (2014 and 2016) waste guidelines, the POEO Act 1997 and POEO (Waste) Regulation 2014. A summary of the analytical results is as follows:

- TRH concentrations were reported below the adopted CT1 criteria.
- BTEX concentrations were reported below adopted CT1 criteria.
- PAH concentrations were reported below the adopted CT1 criteria.
- Metal concentrations were reported below the adopted CT1 criteria.
- OCPs/OPPs were reported below CT1 criteria.
- PCBs were reported below the adopted CT1 criteria.

Field Quality and Assurance

- Waste classification sampling was conducted on 20 July 2023 by Reditus' Senior Environmental Scientist Jack Palma who is suitably qualified and experienced in the collection of environmental samples.



- Soil samples were collected by hand or directly from the excavator bucket. Decontamination procedures were not required for the purpose of this assessment as reusable equipment was not used.
- SP-DUP3/SP-TRIP3 were inter and intra-laboratory duplicates of SP03-1, exceedances of relative percentage difference (RPD) criteria were noted. These are inferred to have resulted from the heterogenous nature of material surrounding the TIP infrastructure, hydrocarbon impacts are unlikely to have uniformly impacted surrounding soils. Comparison of all three samples has been made and all fall below the adopted CT1 criteria. It is presumed that RPD exceedances does not impact the validity of the reported results.

Laboratory QA/QC

- All analytes were reported as being analysed within their holding times.
- The primary laboratory used for soil sample analysis was Envirolab. Envirolab is accredited by NATA to ISO 17025 and has the accreditation number 2901. ALS was utilised as the secondary laboratory and is also accredited to this standard with the accreditation number 825.
- Laboratory control and duplicate samples were within acceptable ranges.

5. CONCLUSIONS AND RECOMMENDATIONS

Based on the site history, soil sampling and analytical results, the waste classification recommendations are summarised in **Table 1**.

Table 1: Waste Classification and Reuse Summary

MATERIAL TYPE	OFFSITE WASTE CLASSIFICATION	CONDITIONS COMMENTS
Stockpile – 13.5m³ In-situ Material - 1m³	General Solid Waste (non-putrescible) All results <CT1	Subject to: • Obtaining written confirmation that the receiving facility can lawfully accept the waste. • Review of recycling facilities environment protection license (where applicable).

Waste disposal must be undertaken in accordance with the NSW POEO Act (1997), POEO (Waste) Regulation 2014 and environment protection license of the receiving facility (where applicable).

No additional material including in-situ material surrounding the TIP is to be added to the existing stockpile. All new materials generated from remedial works are to be stockpiled separately per source location.

6. LIMITATIONS

The findings of this report are based on the scope of work outlined within this report. Reditus performed its services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties expressed or implied are made.



Subject to the scope of work, Reditus' assessment was limited strictly to identifying the environmental conditions associated with the subject property and does not include evaluation of any other issues. The absence of any identified hazardous or toxic materials should not be interpreted as a guarantee that such materials do not exist on the subject property.

This report does not comment on any regulatory obligations based on the findings. This report relates only to the objectives stated and does not relate to any other work undertaken for the client and the project team.

All conclusions and recommendations regarding the property are the professional opinions of Reditus personnel involved with the project, subject to the qualifications made above. While normal assessments of data reliability have been made, Reditus assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements or sources outside of Reditus, or developments resulting from situations outside the scope of this project.

Reditus is not engaged in environmental assessment and reporting for the purpose of advertising sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. The client acknowledges that this report is for the exclusive use of the client.

7. CLOSURE

We trust that this document meets your immediate requirements. Should you have any queries please feel free to contact the undersigned.

Sincerely,

Greg Bartlett – Reviewer & Approver

Partner | Principal Environmental Scientist
Certified Environmental Practitioner (1605)

Kyle Sier – Author

Environmental Scientist
Reditus Consulting Pty Ltd

APPENDICES

Appendix A – Site Figures

Appendix B – Analytical Results Tables

Appendix C – NATA Laboratory Reports

A

Site Figures





Overview



Inset



Map

22137_itr01_f01_siteloc_v01

Date of Export

02/08/2023

Author

KS

Approver

GB

Data Source

Metromap, Google Maps, Open Street Map,
NSW Government

Legend

- Major Roads
- Railways
- Surface Water
- Rivers
- Streams
- Minor Channels

Figure 1 - Site Location

138-140 Campbell Hill Road, Chester Hill NSW

22137 - Waste Classification

The Abel Tasman Village Association Limited



Map 22137_rp01_f02_samplelocs_v01		Legend Product Lines Surveyed UST Excavation Surveyed UST Excavation Chase Out Areas UST Footprints Stockpiles Validation Sample Locations Base Sample Bowser Base Sample Line Sample Wall Sample Stockpile Samples		Figure 2 - Sample Locations (Stockpile/Insitu) 138-140 Campbell Hill Road, Chester Hill NSW 22137 - Waste Classification The Abel Tasman Village Association Limited	
Date of Export 02/08/2023	Map Scale (approx. at A3) 1:125				
Author JP	Approver GB				
Data Source Metromap, Google Maps, Open Street Map, Geoscience Australia					

B

Summary Results Tables



Table 1
Waste Classification Results



					Asbestos	BTEX								TRH							TPH				
					Asbestos fibres	Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
					Detect	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						1	0.2	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	10	50	100	100	50
NSW 2014 General Solid Waste CT1 (No Leaching)							10	288	600			1,000								650					10,000
Field ID	Location Code	Depth	Date	Lab Report Number																					
SP03-1	SP03-1	0.5	20 Jul 2023	328659	ND	2	<0.2	<0.5	<1	<2	1	1	-	170	170	2,000	2,000	1,400	360	3,700	37	2,000	970	740	3,700
SP03-2	SP03-2	0.5	20 Jul 2023	328659	ND	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
SP03-3	SP03-3	0.5	20 Jul 2023	328659	ND	1	<0.2	<0.5	<1	<2	<1	<1	-	36	36	550	550	1,700	390	2,700	<25	490	1,200	850	2,500
V48	V48	1.2	20 Jul 2023	328659	-	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
V49	V49	0.6	20 Jul 2023	328660	-	<1	<0.2	<0.5	<1	<2	<1	<1	-	27	27	860	860	920	330	2,100	<25	760	610	580	1,900
V50	V50	0.6	20 Jul 2023	328660	-	4	<0.2	<0.5	<1	<2	2	2	-	140	140	1,600	1,600	790	240	2,600	28	1,600	560	460	2,700
V51	V51	0.6	20 Jul 2023	328660	-	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
V52	V52	0.6	20 Jul 2023	328660	-	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
SP-TRIP1	SP01-1	0.3	20 Jul 2023	ES2324578	-	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50
SP-TRIP3	SP03-1	0.5	21 Jul 2023	ES2324578	-	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	19	19	480	480	1,280	290	2,050	<10	420	870	600	1,890

Table 1
Waste Classification Results



																									PAH											
									</																											

Table 1
Waste Classification Results



					Metals								Phenols															SVOCS
					Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	3,4,5-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	Phenolics Total	Benamphos		
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL					4	0.4	1	1	1	0.1	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	5	0.05		
NSW 2014 General Solid Waste CT1 (No Leaching)					100	20	100		100	4	40			8,000	40					4,000								
Field ID	Location Code	Depth	Date	Lab Report Number																								
SP03-1	SP03-1	0.5	20 Jul 2023	328659	15	<0.4	15	28	15	<0.1	5	26	-	-	-	-	-	-	-	-	-	-	-	-	<5	<0.1		
SP03-2	SP03-2	0.5	20 Jul 2023	328659	<4	<0.4	9	15	9	<0.1	23	91	-	-	-	-	-	-	-	-	-	-	-	-	<5	<0.1		
SP03-3	SP03-3	0.5	20 Jul 2023	328659	<4	0.8	5	26	79	<0.1	3	82	-	-	-	-	-	-	-	-	-	-	-	-	<5	<0.1		
V48	V48	1.2	20 Jul 2023	328659	<4	<0.4	9	18	10	<0.1	13	89																
V49	V49	0.6	20 Jul 2023	328660	12	<0.4	18	31	15	<0.1	4	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
V50	V50	0.6	20 Jul 2023	328660	14	<0.4	16	31	14	<0.1	4	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
V51	V51	0.6	20 Jul 2023	328660	<4	<0.4	9	54	9	<0.1	6	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
V52	V52	0.6	20 Jul 2023	328660	<4	<0.4	9	39	11	<0.1	12	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SP-TRIP1	SP01-1	0.3	20 Jul 2023	ES2324578	<5	<1	5	6	25	<0.1	3	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SP-TRIP3	SP03-1	0.5	21 Jul 2023	ES2324578	7	<1	12	36	30	<0.1	9	91	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	-	<0.05		

					Organochlorine Pesticides																											
					4,4-DDE	α-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin	β-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	α-BHC	DDD	DDT	DDT+DDT+DDD	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	γ-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor			
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
EQL					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1		
NSW 2014 General Solid Waste CT1 (No Leaching)																		60														
Field ID	Location Code	Depth	Date	Lab Report Number																												
SP03-1	SP03-1	0.5	20 Jul 2023	328659	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1			
SP03-2	SP03-2	0.5	20 Jul 2023	328659	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1			
SP03-3	SP03-3	0.5	20 Jul 2023	328659	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1			
V48	V48	1.2	20 Jul 2023	328659																												
V49	V49	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
V50	V50	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
V51	V51	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
V52	V52	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SP-TRIP1	SP01-1	0.3	20 Jul 2023	ES2324578	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SP-TRIP3	SP03-1	0.5	21 Jul 2023	ES2324578	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2			

Table 1
Waste Classification Results



					Organophosphorous Pesticides																								
					Azinophos methyl	Isomophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenitrothion	Fenthion	Malathion	Methidathion	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Parathion	Phorate	Prothiofos	Rotenel	Phosalone	
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL					0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.1	0.05	0.1	0.05	0.05	0.05	0.1	0.1	0.1	0.2	0.1	0.1	0.05	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)									4																				
Field ID	Location Code	Depth	Date	Lab Report Number																									
SP03-1	SP03-1	0.5	20 Jul 2023	328659	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1		
SP03-2	SP03-2	0.5	20 Jul 2023	328659	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1		
SP03-3	SP03-3	0.5	20 Jul 2023	328659	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1		
V48	V48	1.2	20 Jul 2023	328659																									
V49	V49	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
V50	V50	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
V51	V51	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
V52	V52	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SP-TRIP1	SP01-1	0.3	20 Jul 2023	ES2324578	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SP-TRIP3	SP03-1	0.5	21 Jul 2023	ES2324578	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.2	-	<0.2	<0.2	-	<0.05	-	-	

					Pesticides		PCBs							
					Demeton-S-methyl	Phospho-ethyl	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)														< 50

Field ID	Location Code	Depth	Date	Lab Report Number										
SP03-1	SP03-1	0.5	20 Jul 2023	328659	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP03-2	SP03-2	0.5	20 Jul 2023	328659	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP03-3	SP03-3	0.5	20 Jul 2023	328659	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
V48	V48	1.2	20 Jul 2023	328659										
V49	V49	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-
V50	V50	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-
V51	V51	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-
V52	V52	0.6	20 Jul 2023	328660	-	-	-	-	-	-	-	-	-	-
SP-TRIP1	SP01-1	0.3	20 Jul 2023	ES2324578	-	-	-	-	-	-	-	-	-	-
SP-TRIP3	SP03-1	0.5	21 Jul 2023	ES2324578	<0.05	<0.05	-	-	-	-	-	-	-	<0.1

Table 2
Soil RPDs



				Asbestos	BTEX								TRH							TPH				
				Asbestos fibres	Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
EQL				Detect	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					1	0.2	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	10	50	100	100	50
Field ID	Date	Lab Report Number	Matrix Type																					
SP03-1	20 Jul 2023	328659	Soil	ND	2	<0.2	<0.5	<1	<2	1	1	-	170	170	2,000	2,000	1,400	360	3,700	37	2,000	970	740	3,700
SP-DUP3	20 Jul 2023	328659	Soil	-	1	<0.2	<0.5	<1	<2	<1	<1	-	25	25	240	230	750	190	1,200	<25	210	480	390	1,100
RPD				-	67	0	0	0	0	0	0	-	149	149	157	159	60	62	102	39	162	68	62	108
SP03-1	20 Jul 2023	328659	Soil	ND	2	<0.2	<0.5	<1	<2	1	1	-	170	170	2,000	2,000	1,400	360	3,700	37	2,000	970	740	3,700
SP-TRIP3	21 Jul 2023	ES2324578	Soil	-	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	19	19	480	480	1,280	290	2,050	<10	420	870	600	1,890
RPD				-	67	0	0	0	0	67	67	-	160	160	124	123	9	22	57	115	131	11	21	95

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (0 - 5 x EQL); 75 (5 - 10 x EQL); 30 (> 10 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table 2
Soil RPDs



				PAH																					
				Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	PAHs (Sum of total)	PAHs (Sum of positives)	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL				0.2	0.1	0.1	0.1	0.1	0.05	0.5	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.05
Field ID	Date	Lab Report Number	Matrix Type																						
SP03-1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	1.7	0.2	<0.1	<0.5	<0.5	-	1.9	
SP-DUP3	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.5	<0.5	-	0.50	
RPD				0	0	0	0	0	0	-	0	-	0	0	0	0	0	105	67	0	0	0	-	117	
SP03-1	20 Jul 2023	328659	Soil	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	1.7	0.2	<0.1	<0.5	<0.5	-	1.9	
SP-TRIP3	21 Jul 2023	ES2324578	Soil	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	-	
RPD				-	0	0	0	0	0	-	0	-	0	0	0	0	0	105	0	0	18	82	-	-	

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range ;
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any me

Table 2
Soil RPDs



				Metals								SVOCs	
				Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Fenamiphos	Phosalone
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				4	0.4	1	1	1	0.1	1	1	0.05	0.1
Field ID	Date	Lab Report Number	Matrix Type										
SP03-1	20 Jul 2023	328659	Soil	15	<0.4	15	28	15	<0.1	5	26	<0.1	<0.1
SP-DUP3	20 Jul 2023	328659	Soil	<4	0.4	7	46	65	<0.1	8	91	<0.1	<0.1
RPD				116	0	73	49	125	0	46	111	0	0
SP03-1	20 Jul 2023	328659	Soil	15	<0.4	15	28	15	<0.1	5	26	<0.1	<0.1
SP-TRIP3	21 Jul 2023	ES2324578	Soil	7	<1	12	36	30	<0.1	9	91	<0.05	-
RPD				73	0	22	25	67	0	57	111	0	-

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range :
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any me

Table 2
Soil RPDs



				Organochlorine Pesticides																									
				4,4-DDE	α-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin	β-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	δ-BHC	DDD	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	γ-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1
Field ID	Date	Lab Report Number	Matrix Type																										
SP03-1	20 Jul 2023	328659	Soil	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
SP-DUP3	20 Jul 2023	328659	Soil	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
RPD				0	0	0	0	-	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	
SP03-1	20 Jul 2023	328659	Soil	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
SP-TRIP3	21 Jul 2023	ES2324578	Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	
RPD				0	0	0	0	-	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range :
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any me

Table 2
Soil RPDs



				Organophosphorous Pesticides																				Pesticides					
				Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenitrothion	Fenthion	Malathion	Methidathion	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Parathion	Phorate	Prothiofos	Ronnel	Demeton-S-methyl	Pirimphos-ethyl	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.1	0.05	0.1	0.05	0.05	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.05	0.1	0.05	0.05
Field ID	Date	Lab Report Number	Matrix Type																										
SP03-1	20 Jul 2023	328659	Soil	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	
SP-DUP3	20 Jul 2023	328659	Soil	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	
RPD				0	0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	-	0	-	-	
SP03-1	20 Jul 2023	328659	Soil	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	
SP-TRIP3	21 Jul 2023	ES2324578	Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	<0.2	-	<0.2	<0.2	-	<0.05	-	<0.05	<0.05	
RPD				0	0	-	-	0	0	-	0	0	0	-	0	-	0	0	-	0	-	-	0	-	-	-	-	-	

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range :
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any me

Table 2
Soil RPDs



				PCBs							
				Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Field ID	Date	Lab Report Number	Matrix Type								
SP03-1	20 Jul 2023	328659	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-DUP3	20 Jul 2023	328659	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RPD				0	0	0	0	0	0	0	0
SP03-1	20 Jul 2023	328659	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-TRIP3	21 Jul 2023	ES2324578	Soil	-	-	-	-	-	-	-	<0.1
RPD				-	-	-	-	-	-	-	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range :
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any me

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SAMPLE RECEIPT ADVICE

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett

Sample Login Details

Your reference	22137
Envirolab Reference	328660
Date Sample Received	21/07/2023
Date Instructions Received	21/07/2023
Date Results Expected to be Reported	28/07/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	83 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	3
Cooling Method	Ice
Sampling Date Provided	YES

Comments

extra sample V4A

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Acid Extractable metals in soil	On Hold
V1-3	✓	✓	✓	✓	
V2-3	✓	✓	✓	✓	
V3-3	✓	✓	✓	✓	
V4-3.5	✓	✓	✓	✓	
V5-3	✓	✓	✓	✓	
V6-3	✓	✓	✓	✓	
V7-3.5	✓	✓	✓	✓	
V8-3	✓	✓	✓	✓	
V9-3	✓	✓	✓	✓	
V10-3	✓	✓	✓	✓	
V11-3	✓	✓	✓	✓	
V12-0.3	✓	✓	✓	✓	
V12-2.5	✓	✓	✓	✓	
V13-0.3	✓	✓	✓	✓	
V13-2.5	✓	✓	✓	✓	
V14-0.3	✓	✓	✓	✓	
V14-2.5	✓	✓	✓	✓	
V15-0.3					✓
V15-3	✓	✓	✓	✓	
V16-0.3	✓	✓	✓	✓	
V16-2.5	✓	✓	✓	✓	
V17-0.3	✓	✓	✓	✓	
V17-3	✓	✓	✓	✓	
V18-0.3	✓	✓	✓	✓	
V18-3	✓	✓	✓	✓	
V19-0.3	✓	✓	✓	✓	
V19-3	✓	✓	✓	✓	
V20-0.3	✓	✓	✓	✓	
V20-3	✓	✓	✓	✓	
V21-0.3	✓	✓	✓	✓	
V21-3	✓	✓	✓	✓	
V22-0.3					✓



Envirolab Services Pty Ltd

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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Acid Extractable metals in soil	On Hold
V22-3	✓	✓	✓	✓	
V23-0.3	✓	✓	✓	✓	
V23-2.5	✓	✓	✓	✓	
V24-0.3	✓	✓	✓	✓	
V24-2.5	✓	✓	✓	✓	
V25-0.3	✓	✓	✓	✓	
V25-2.5	✓	✓	✓	✓	
V26-0.3	✓	✓	✓	✓	
V26-2.5	✓	✓	✓	✓	
V27-0.3	✓	✓	✓	✓	
V27-2.5	✓	✓	✓	✓	
V28-0.3	✓	✓	✓	✓	
V28-2.5	✓	✓	✓	✓	
V29-0.3	✓	✓	✓	✓	
V29-2.5	✓	✓	✓	✓	
V30-0.3	✓	✓	✓	✓	
V30-3	✓	✓	✓	✓	
V31-0.3	✓	✓	✓	✓	
V31-2.5	✓	✓	✓	✓	
V32-3	✓	✓	✓	✓	
V33-3	✓	✓	✓	✓	
V34-0.5	✓	✓	✓	✓	
V35-0.5	✓	✓	✓	✓	
V36-0.5	✓	✓	✓	✓	
V37-0.3	✓	✓	✓	✓	
V38-0.3	✓	✓	✓	✓	
V39-0.3	✓	✓	✓	✓	
V40-1	✓	✓	✓	✓	
V41-0.3	✓	✓	✓	✓	
V42-0.3	✓	✓	✓	✓	
V43-0.3	✓	✓	✓	✓	
V44-0.5	✓	✓	✓	✓	

Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Acid Extractable metals in soil	On Hold
V45-0.5	✓	✓	✓	✓	
V46-0.5	✓	✓	✓	✓	
V47-0.5	✓	✓	✓	✓	
V48	✓	✓	✓	✓	
V49	✓	✓	✓	✓	
V50	✓	✓	✓	✓	
V51	✓	✓	✓	✓	
V52	✓	✓	✓	✓	
V53	✓	✓	✓	✓	
V54	✓	✓	✓	✓	
V55	✓	✓	✓	✓	
Trip Spike - Soil	✓				
Trip Blank - Soil	✓				
DUP1	✓	✓	✓	✓	
DUP2	✓	✓	✓	✓	
DUP3	✓	✓	✓	✓	
DUP4	✓	✓	✓	✓	
DUP5					✓
V4A					✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

CERTIFICATE OF ANALYSIS 328660

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	83 Soil
Date samples received	21/07/2023
Date completed instructions received	21/07/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/07/2023
Date of Issue	28/07/2023
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Dragana Tomas, Senior Chemist
 Loren Bardwell, Development Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference	UNITS	V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	81	81	78	89	91

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference	UNITS	V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	27/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	88	79	86	64	84

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference	UNITS	V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	83	78	76	86	86

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference	UNITS	V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	76	95	94	67	85

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference	UNITS	V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	71	85	72	87	86

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference	UNITS	V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	75	95	73	86

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference	UNITS	V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	80	82	86	90

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	86	83	95	82

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference	UNITS	V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	28/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	86	78	82	82

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference	UNITS	V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	79	85	86	85	89

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference	UNITS	V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	28/07/2023	28/07/2023	28/07/2023	28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	91	84	83	84	86

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference	UNITS	V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	28/07/2023	28/07/2023	28/07/2023	28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	86	88	88	76

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference	UNITS	V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	28/07/2023	28/07/2023	28/07/2023	28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	82	83	87	88	89

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference	UNITS	V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	28/07/2023	28/07/2023	28/07/2023	28/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	28	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	27	140	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	27	140	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	2	<1	<1
Naphthalene	mg/kg	<1	<1	4	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	2	<1	<1
Surrogate aaa-Trifluorotoluene	%	84	83	69	90	90

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-73	328660-74	328660-75	328660-76	328660-77
Your Reference	UNITS	V53	V54	V55	Trip Spike - Soil	Trip Blank - Soil
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	[NA]	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	[NA]	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	[NA]	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	100%	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	100%	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	100%	<1
m+p-xylene	mg/kg	<2	<2	<2	101%	<2
o-Xylene	mg/kg	<1	<1	<1	100%	<1
Naphthalene	mg/kg	<1	<1	<1	[NA]	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	[NA]	<1
Surrogate aaa-Trifluorotoluene	%	85	86	93	103	102

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328660-78	328660-79	328660-80	328660-81
Your Reference	UNITS	DUP1	DUP2	DUP3	DUP4
Depth		-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	94	98	75	92

svTRH (C10-C40) in Soil

Our Reference		328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference	UNITS	V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	86	74	67	68

svTRH (C10-C40) in Soil

Our Reference		328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference	UNITS	V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	70	68	69	68	66

svTRH (C10-C40) in Soil

Our Reference		328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference	UNITS	V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	66	66	71	63	64

svTRH (C10-C40) in Soil

Our Reference		328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference	UNITS	V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	66	67	73	72	72

svTRH (C10-C40) in Soil

Our Reference		328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference	UNITS	V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	69	68	67	66	66

svTRH (C10-C40) in Soil

Our Reference		328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference	UNITS	V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	66	68	70	66	65

svTRH (C10-C40) in Soil

Our Reference		328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference	UNITS	V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	220	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	260	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	480	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	300	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	300	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	160	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	460	<50	<50
Surrogate o-Terphenyl	%	65	64	85	65	64

svTRH (C10-C40) in Soil

Our Reference		328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	64	63	66	75	76

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference		V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	70	69	64	83	82

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference		V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	82	81	79	80	75

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference		V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	76	78	76	78

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference		V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	77	78	76	80	80

svTRH (C10-C40) in Soil

Our Reference		328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference	UNITS	V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	80	80	79	79	81

svTRH (C10-C40) in Soil

Our Reference		328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference	UNITS	V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	760	1,600	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	610	560	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	580	460	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	1,900	2,700	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	860	1,600	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	860	1,600	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	920	790	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	330	240	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	2,100	2,600	<50	<50
Surrogate o-Terphenyl	%	81	99	91	80	80

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328660-73	328660-74	328660-75	328660-78	328660-79
Your Reference		V53	V54	V55	DUP1	DUP2
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	81	82	80	79	82

svTRH (C10-C40) in Soil			
Our Reference	UNITS	328660-80	328660-81
Your Reference		DUP3	DUP4
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	80	80

PAHs in Soil						
Our Reference		328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference	UNITS	V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	98	98	108	98	94

PAHs in Soil						
Our Reference		328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference	UNITS	V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	1.8	0.5	<0.1
Fluorene	mg/kg	<0.1	<0.1	0.8	0.4	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.4	0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	2.9	1.0	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	96	93	92	92

PAHs in Soil						
Our Reference		328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference	UNITS	V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	92	93	91	95	92

PAHs in Soil						
Our Reference		328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference	UNITS	V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	0.2	0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.2	0.1	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	99	94	95	93

PAHs in Soil						
Our Reference		328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference	UNITS	V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	92	94	92	87

PAHs in Soil						
Our Reference		328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference	UNITS	V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	91	91	89	89

PAHs in Soil						
Our Reference		328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference	UNITS	V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	0.2	0.3	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.2	0.3	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	92	93	90	95	95

PAHs in Soil						
Our Reference		328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	90	88	90	90	90

PAHs in Soil						
Our Reference		328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference	UNITS	V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	1.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	89	91	92	95	93

PAHs in Soil						
Our Reference		328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference	UNITS	V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	0.1	0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.4	0.5	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.4	0.7	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.5	<0.1	0.2	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.96	1.7	0.1	0.3	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	91	91	90	87	88

PAHs in Soil						
Our Reference		328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference	UNITS	V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	89	85	86	84	84

PAHs in Soil						
Our Reference		328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference	UNITS	V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	27/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	84	86	86	86	85

PAHs in Soil						
Our Reference		328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference	UNITS	V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	81	83	81	80	86

PAHs in Soil						
Our Reference		328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference	UNITS	V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	2.4	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.1	0.2	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	0.1	2.8	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	80	83	83	83	88

PAHs in Soil						
Our Reference		328660-73	328660-74	328660-75	328660-78	328660-79
Your Reference	UNITS	V53	V54	V55	DUP1	DUP2
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	86	86	88	85	86

PAHs in Soil			
Our Reference		328660-80	328660-81
Your Reference	UNITS	DUP3	DUP4
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	87	83

Acid Extractable metals in soil

Our Reference		328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference	UNITS	V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	9	8	7	9
Copper	mg/kg	33	42	40	28	40
Lead	mg/kg	15	14	25	19	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	19	23	40	16	19
Zinc	mg/kg	64	47	69	52	78

Acid Extractable metals in soil

Our Reference		328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference	UNITS	V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	8	14	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	10	10	3	3	11
Copper	mg/kg	52	73	39	17	52
Lead	mg/kg	18	29	18	11	21
Mercury	mg/kg	0.1	0.2	<0.1	<0.1	<0.1
Nickel	mg/kg	17	24	6	5	26
Zinc	mg/kg	98	120	26	19	110

Acid Extractable metals in soil

Our Reference		328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference	UNITS	V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	8	23	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	22	15	7	9
Copper	mg/kg	39	19	29	9	41
Lead	mg/kg	21	15	10	24	17
Mercury	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Nickel	mg/kg	22	6	10	4	15
Zinc	mg/kg	120	25	69	35	54

Acid Extractable metals in soil

Our Reference		328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference	UNITS	V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	7	<4	<4	12	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	8	5	24	10
Copper	mg/kg	36	22	10	21	15
Lead	mg/kg	27	10	6	14	5
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	16	13	7	70
Zinc	mg/kg	47	35	24	26	110

Acid Extractable metals in soil

Our Reference		328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference	UNITS	V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	7	4	7	5	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	11	13	7	10
Copper	mg/kg	28	35	31	35	29
Lead	mg/kg	11	14	16	19	12
Mercury	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	8	16	6	19	4
Zinc	mg/kg	28	60	37	52	34

Acid Extractable metals in soil

Our Reference		328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference	UNITS	V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	17	4	9	13
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	10	28	9	21	12
Copper	mg/kg	33	29	37	18	26
Lead	mg/kg	18	19	17	29	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	17	8	52	6	8
Zinc	mg/kg	73	34	100	35	61

Acid Extractable metals in soil

Our Reference		328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference	UNITS	V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	10	<4	6	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	3	<0.4
Chromium	mg/kg	9	21	11	11	5
Copper	mg/kg	33	76	29	14	19
Lead	mg/kg	13	42	13	43	6
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	18	7	29	7	9
Zinc	mg/kg	61	54	70	390	41

Acid Extractable metals in soil

Our Reference		328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference	UNITS	V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	<4	8	<4	13
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	13	19	17	17
Copper	mg/kg	31	30	17	50	27
Lead	mg/kg	10	20	12	18	23
Mercury	mg/kg	<0.1	0.1	<0.1	0.1	0.1
Nickel	mg/kg	21	23	8	24	4
Zinc	mg/kg	80	61	28	96	23

Acid Extractable metals in soil

Our Reference		328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference	UNITS	V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	5	<4	11	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	15	13	25	13
Copper	mg/kg	23	14	24	16	31
Lead	mg/kg	11	11	9	21	28
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Nickel	mg/kg	9	4	17	8	8
Zinc	mg/kg	37	18	85	31	55

Acid Extractable metals in soil

Our Reference		328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference	UNITS	V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	11	8	8	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	13	14	7	10
Copper	mg/kg	33	43	44	37	40
Lead	mg/kg	18	15	21	11	21
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	20	9	13	17
Zinc	mg/kg	50	70	75	74	63

Acid Extractable metals in soil

Our Reference		328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference	UNITS	V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	18	18	6	12
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	6	17	20	7	16
Copper	mg/kg	27	35	37	40	31
Lead	mg/kg	18	20	21	12	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	39	5	5	3	4
Zinc	mg/kg	70	30	27	21	23

Acid Extractable metals in soil

Our Reference		328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference	UNITS	V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	12	15	<4	10	14
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	30	17	4	25	19
Copper	mg/kg	24	29	29	22	35
Lead	mg/kg	22	16	13	19	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	5	3	7	4
Zinc	mg/kg	33	40	22	46	23

Acid Extractable metals in soil

Our Reference		328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference	UNITS	V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	15	12	9	9	15
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	13	18	25	27
Copper	mg/kg	32	26	24	17	26
Lead	mg/kg	20	13	19	16	38
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	3	4	6	8
Zinc	mg/kg	31	19	36	27	280

Acid Extractable metals in soil

Our Reference		328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference	UNITS	V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	<4	12	14	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	18	16	9	9
Copper	mg/kg	18	31	31	54	39
Lead	mg/kg	10	15	14	9	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	13	4	4	6	12
Zinc	mg/kg	89	25	24	51	73

Acid Extractable metals in soil

Our Reference		328660-73	328660-74	328660-75	328660-78	328660-79
Your Reference	UNITS	V53	V54	V55	DUP1	DUP2
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	6	18	7	<4	8
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	17	13	10	10
Copper	mg/kg	25	54	46	53	56
Lead	mg/kg	12	23	24	24	18
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	9	7	18	19
Zinc	mg/kg	29	57	78	81	110

Acid Extractable metals in soil

Our Reference		328660-80	328660-81	328660-84	328660-85	328660-86
Your Reference	UNITS	DUP3	DUP4	V1 - [TRIPLICATE]	V11 - [TRIPLICATE]	V21 - [TRIPLICATE]
Depth		-	-	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
Arsenic	mg/kg	10	16	<4	<4	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	24	22	7	14	7
Copper	mg/kg	10	34	31	36	35
Lead	mg/kg	19	22	12	18	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	4	33	22	11
Zinc	mg/kg	21	23	54	110	70

Acid Extractable metals in soil			
Our Reference		328660-87	328660-88
Your Reference	UNITS	V26 - [TRIPLICATE]	V16 - [TRIPLICATE]
Depth		2.5	2.5
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date prepared	-	26/07/2023	26/07/2023
Date analysed	-	27/07/2023	27/07/2023
Arsenic	mg/kg	5	8
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	13	11
Copper	mg/kg	34	46
Lead	mg/kg	18	12
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	22	59
Zinc	mg/kg	72	150

Moisture						
Our Reference	UNITS	328660-1	328660-2	328660-3	328660-4	328660-5
Your Reference		V1	V2	V3	V4	V5
Depth		3	3	3	3.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.8	12	8.0	8.5	11

Moisture						
Our Reference	UNITS	328660-6	328660-7	328660-8	328660-9	328660-10
Your Reference		V6	V7	V8	V9	V10
Depth		3	3.5	3	3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	19	14	12	13	24

Moisture						
Our Reference	UNITS	328660-11	328660-12	328660-13	328660-14	328660-15
Your Reference		V11	V12	V12	V13	V13
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	18	20	14	22	11

Moisture						
Our Reference	UNITS	328660-16	328660-17	328660-19	328660-20	328660-21
Your Reference		V14	V14	V15	V16	V16
Depth		0.3	2.5	3	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	16	6.7	10	23	16

Moisture						
Our Reference	UNITS	328660-22	328660-23	328660-24	328660-25	328660-26
Your Reference		V17	V17	V18	V18	V19
Depth		0.3	3	0.3	3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	18	5.1	26	10	21

Moisture						
Our Reference	UNITS	328660-27	328660-28	328660-29	328660-30	328660-31
Your Reference		V19	V20	V20	V21	V21
Depth		3	0.3	3	0.3	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	5.0	27	6.6	22	7.3

Moisture						
Our Reference	UNITS	328660-33	328660-34	328660-35	328660-36	328660-37
Your Reference		V22	V23	V23	V24	V24
Depth		3	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	5.7	19	7.7	21	6.0

Moisture						
Our Reference	UNITS	328660-38	328660-39	328660-40	328660-41	328660-42
Your Reference		V25	V25	V26	V26	V27
Depth		0.3	2.5	0.3	2.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.0	9.3	21	6.9	24

Moisture						
Our Reference	UNITS	328660-43	328660-44	328660-45	328660-46	328660-47
Your Reference		V27	V28	V28	V29	V29
Depth		2.5	0.3	2.5	0.3	2.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	13	2.4	14	13	19

Moisture						
Our Reference	UNITS	328660-48	328660-49	328660-50	328660-51	328660-52
Your Reference		V30	V30	V31	V31	V32
Depth		0.3	3	0.3	2.5	3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	23	8.2	18	14	16

Moisture						
Our Reference	UNITS	328660-53	328660-54	328660-55	328660-56	328660-57
Your Reference		V33	V34	V35	V36	V37
Depth		3	0.5	0.5	0.5	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	8.1	25	25	21	24

Moisture						
Our Reference	UNITS	328660-58	328660-59	328660-60	328660-61	328660-62
Your Reference		V38	V39	V40	V41	V42
Depth		0.3	0.3	1	0.3	0.3
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	25	24	17	21	25

Moisture						
Our Reference	UNITS	328660-63	328660-64	328660-65	328660-66	328660-67
Your Reference		V43	V44	V45	V46	V47
Depth		0.3	0.5	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	23	23	21	18	20

Moisture						
Our Reference	UNITS	328660-68	328660-69	328660-70	328660-71	328660-72
Your Reference		V48	V49	V50	V51	V52
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	14	20	19	18	18

Moisture						
Our Reference	UNITS	328660-73	328660-74	328660-75	328660-78	328660-79
Your Reference		V53	V54	V55	DUP1	DUP2
Depth		-	-	-	-	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	23	25	24	10	19

Moisture			
Our Reference	UNITS	328660-80	328660-81
Your Reference		DUP3	DUP4
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date prepared	-	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023
Moisture	%	15	23

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	328660-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			27/07/2023	1	27/07/2023	27/07/2023		27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	1	<25	<25	0	98	100
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	1	<25	<25	0	98	100
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	94	95
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	93	94
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	93	96
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	104	108
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	104	107
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	98	1	81	89	9	84	79

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-22
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	27/07/2023	27/07/2023		27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	11	<25	<25	0	120	102
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	11	<25	<25	0	120	102
Benzene	mg/kg	0.2	Org-023	[NT]	11	<0.2	<0.2	0	114	96
Toluene	mg/kg	0.5	Org-023	[NT]	11	<0.5	<0.5	0	114	96
Ethylbenzene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	115	98
m+p-xylene	mg/kg	2	Org-023	[NT]	11	<2	<2	0	129	112
o-Xylene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	129	109
Naphthalene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	11	83	81	2	97	83

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	328660-42
Date extracted	-			[NT]	21	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	21	27/07/2023	27/07/2023		27/07/2023	27/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	21	<25	<25	0	124	96
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	21	<25	<25	0	124	96
Benzene	mg/kg	0.2	Org-023	[NT]	21	<0.2	<0.2	0	119	92
Toluene	mg/kg	0.5	Org-023	[NT]	21	<0.5	<0.5	0	118	91
Ethylbenzene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	118	91
m+p-xylene	mg/kg	2	Org-023	[NT]	21	<2	<2	0	133	103
o-Xylene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	133	103
Naphthalene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	21	85	82	4	98	80

QUALITY CONTROL : vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	328660-62
Date extracted	-			[NT]	31	24/07/2023	24/07/2023		27/07/2023	24/07/2023
Date analysed	-			[NT]	31	27/07/2023	27/07/2023		28/07/2023	28/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	31	<25	<25	0	110	114
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	31	<25	<25	0	110	114
Benzene	mg/kg	0.2	Org-023	[NT]	31	<0.2	<0.2	0	106	109
Toluene	mg/kg	0.5	Org-023	[NT]	31	<0.5	<0.5	0	105	108
Ethylbenzene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	104	107
m+p-xylene	mg/kg	2	Org-023	[NT]	31	<2	<2	0	117	122
o-Xylene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	117	122
Naphthalene	mg/kg	1	Org-023	[NT]	31	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	31	86	74	15	88	84

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date extracted	-			[NT]	41	24/07/2023	24/07/2023		24/07/2023	[NT]
Date analysed	-			[NT]	41	27/07/2023	27/07/2023		27/07/2023	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	41	<25	<25	0	119	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	41	<25	<25	0	119	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	41	<0.2	<0.2	0	117	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	41	<0.5	<0.5	0	114	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	41	<1	<1	0	119	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	41	<2	<2	0	121	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	41	<1	<1	0	124	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	41	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	41	95	94	1	108	[NT]

QUALITY CONTROL: VTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	51	28/07/2023	28/07/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	51	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	51	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	51	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	51	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	51	85	89	5	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	61	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	61	28/07/2023	28/07/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	61	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	61	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	61	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	61	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	61	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	61	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	61	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	61	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	61	88	86	2	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	71	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	71	28/07/2023	28/07/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	71	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	71	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	71	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	71	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	71	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	71	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	71	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	71	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	71	90	87	3	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	328660-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			26/07/2023	1	25/07/2023	25/07/2023		25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	1	<50	<50	0	103	89
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	1	<100	<100	0	100	90
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	1	<100	<100	0	86	73
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	1	<50	<50	0	103	89
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	1	<100	<100	0	100	90
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	1	<100	<100	0	86	73
Surrogate o-Terphenyl	%		Org-020	79	1	75	78	4	92	86

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-22
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	25/07/2023	25/07/2023		26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	11	<50	<50	0	99	93
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	11	<100	<100	0	95	89
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	11	<100	<100	0	86	90
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	11	<50	<50	0	99	93
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	11	<100	<100	0	95	89
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	11	<100	<100	0	86	90
Surrogate o-Terphenyl	%		Org-020	[NT]	11	66	66	0	90	69

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	328660-42
Date extracted	-			[NT]	21	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	21	26/07/2023	26/07/2023		26/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	21	<50	<50	0	98	98
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	21	<100	<100	0	91	99
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	21	<100	<100	0	86	106
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	21	<50	<50	0	98	98
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	21	<100	<100	0	91	99
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	21	<100	<100	0	86	106
Surrogate o-Terphenyl	%		Org-020	[NT]	21	72	66	9	67	76

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	328660-62
Date extracted	-			[NT]	31	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	31	26/07/2023	26/07/2023		25/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	31	<50	<50	0	109	107
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	31	<100	<100	0	103	107
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	31	<100	<100	0	100	111
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	31	<50	<50	0	109	107
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	31	<100	<100	0	103	107
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	31	<100	<100	0	100	111
Surrogate o-Terphenyl	%		Org-020	[NT]	31	65	67	3	88	80

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date extracted	-			[NT]	41	24/07/2023	24/07/2023		24/07/2023	[NT]
Date analysed	-			[NT]	41	25/07/2023	25/07/2023		26/07/2023	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	41	<50	<50	0	103	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	41	<100	<100	0	99	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	41	<100	<100	0	100	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	41	<50	<50	0	103	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	41	<100	<100	0	99	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	41	<100	<100	0	100	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	41	75	74	1	80	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	51	25/07/2023	25/07/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	51	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	51	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	51	80	76	5	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	61	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	61	26/07/2023	26/07/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	61	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	61	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	61	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	61	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	61	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	61	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	61	80	80	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	71	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	71	26/07/2023	26/07/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	71	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	71	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	71	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	71	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	71	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	71	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	71	80	80	0	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	328660-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	1	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	93	86
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	93	89
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	84
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	91
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	88
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	87
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	85	79
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	98	92
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	87	1	98	99	1	103	97

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-22
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	93	88
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	91	87
Fluorene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	88	84
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	96	90
Anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	92	86
Pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	91	87
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	85	79
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	11	<0.05	<0.05	0	74	92
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	11	92	94	2	93	95

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	328660-42
Date extracted	-			[NT]	21	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	21	25/07/2023	25/07/2023		26/07/2023	26/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	93	86
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	95	85
Fluorene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	88	84
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	94	90
Anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	90	86
Pyrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	91	87
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	85	77
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	21	<0.05	<0.05	0	70	74
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	21	93	87	7	102	92

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	328660-62
Date extracted	-			[NT]	31	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	31	25/07/2023	26/07/2023		26/07/2023	27/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	93	78
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	93	79
Fluorene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	90	78
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	96	80
Anthracene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	90	80
Pyrene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	91	83
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	85	73
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	31	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	31	<0.05	<0.05	0	65	78
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	31	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	31	89	92	3	91	86

QUALITY CONTROL: PAHs in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date extracted	-			[NT]	41	24/07/2023	24/07/2023		24/07/2023	[NT]
Date analysed	-			[NT]	41	26/07/2023	26/07/2023		27/07/2023	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	84	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	81	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	78	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	79	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	86	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	87	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	77	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	41	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	41	<0.05	<0.05	0	82	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	41	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	41	90	89	1	89	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	51	26/07/2023	26/07/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	51	0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	51	0.2	0.1	67	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	51	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	51	87	86	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	61	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	61	26/07/2023	26/07/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	61	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	61	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	61	86	85	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	71	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	71	27/07/2023	27/07/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	71	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	71	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	71	83	86	4	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	328660-2
Date prepared	-			26/07/2023	1	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Date analysed	-			27/07/2023	1	27/07/2023	27/07/2023		27/07/2023	27/07/2023
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	115	107
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	108	97
Chromium	mg/kg	1	Metals-020	<1	1	7	7	0	114	104
Copper	mg/kg	1	Metals-020	<1	1	33	33	0	110	120
Lead	mg/kg	1	Metals-020	<1	1	15	10	40	116	119
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	88	107
Nickel	mg/kg	1	Metals-020	<1	1	19	11	53	113	108
Zinc	mg/kg	1	Metals-020	<1	1	64	61	5	120	#

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	328660-22
Date prepared	-			[NT]	11	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Date analysed	-			[NT]	11	27/07/2023	27/07/2023		27/07/2023	27/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	11	<4	6	40	118	105
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	112	98
Chromium	mg/kg	1	Metals-020	[NT]	11	13	14	7	120	102
Copper	mg/kg	1	Metals-020	[NT]	11	39	84	73	115	109
Lead	mg/kg	1	Metals-020	[NT]	11	21	34	47	121	102
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	97	91
Nickel	mg/kg	1	Metals-020	[NT]	11	22	27	20	117	102
Zinc	mg/kg	1	Metals-020	[NT]	11	120	190	45	125	105

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	328660-42
Date prepared	-			[NT]	21	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Date analysed	-			[NT]	21	27/07/2023	27/07/2023		27/07/2023	27/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	21	<4	<4	0	122	99
Cadmium	mg/kg	0.4	Metals-020	[NT]	21	<0.4	<0.4	0	112	96
Chromium	mg/kg	1	Metals-020	[NT]	21	10	11	10	128	101
Copper	mg/kg	1	Metals-020	[NT]	21	15	25	50	118	103
Lead	mg/kg	1	Metals-020	[NT]	21	5	9	57	114	98
Mercury	mg/kg	0.1	Metals-021	[NT]	21	<0.1	<0.1	0	92	87
Nickel	mg/kg	1	Metals-020	[NT]	21	70	76	8	118	102
Zinc	mg/kg	1	Metals-020	[NT]	21	110	150	31	121	103

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	328660-62
Date prepared	-			[NT]	31	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Date analysed	-			[NT]	31	27/07/2023	27/07/2023		27/07/2023	27/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	31	13	<4	106	113	105
Cadmium	mg/kg	0.4	Metals-020	[NT]	31	<0.4	<0.4	0	105	101
Chromium	mg/kg	1	Metals-020	[NT]	31	12	7	53	119	107
Copper	mg/kg	1	Metals-020	[NT]	31	26	30	14	109	117
Lead	mg/kg	1	Metals-020	[NT]	31	13	15	14	120	108
Mercury	mg/kg	0.1	Metals-021	[NT]	31	<0.1	<0.1	0	86	90
Nickel	mg/kg	1	Metals-020	[NT]	31	8	10	22	111	108
Zinc	mg/kg	1	Metals-020	[NT]	31	61	49	22	120	108

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	41	26/07/2023	26/07/2023		[NT]	[NT]
Date analysed	-			[NT]	41	27/07/2023	27/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	41	<4	4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	41	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	41	17	12	34	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	41	50	32	44	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	41	18	18	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	41	0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	41	24	21	13	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	41	96	71	30	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	51	26/07/2023	26/07/2023		[NT]	[NT]
Date analysed	-			[NT]	51	27/07/2023	27/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	51	5	7	33	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	51	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	51	7	8	13	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	51	37	45	20	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	51	11	14	24	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	51	13	14	7	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	51	74	83	11	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	61	26/07/2023	26/07/2023		[NT]	[NT]
Date analysed	-			[NT]	61	27/07/2023	27/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	61	10	12	18	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	61	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	61	25	26	4	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	61	22	22	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	61	19	20	5	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	61	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	61	7	7	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	61	46	39	16	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	71	26/07/2023	26/07/2023		[NT]	[NT]
Date analysed	-			[NT]	71	27/07/2023	27/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	71	<4	5	22	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	71	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	71	9	10	11	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	71	54	66	20	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	71	9	11	20	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	71	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	71	6	8	29	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	71	51	58	13	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Acid Extractable Metals in Soil:

- The laboratory RPD acceptance criteria has been exceeded for 328660-1 for Pb & Ni. Therefore a triplicate result has been issued as laboratory sample number 328660-84.
- The laboratory RPD acceptance criteria has been exceeded for 328660-11 for Cu, Pb, Zn. Therefore a triplicate result has been issued as laboratory sample number 328660-85.
- The laboratory RPD acceptance criteria has been exceeded for 328660-31 for Cr. Therefore a triplicate result has been issued as laboratory sample number 328660-86.
- The laboratory RPD acceptance criteria has been exceeded for 328660-41 for Cu. Therefore a triplicate result has been issued as laboratory sample number 328660-87.
- The laboratory RPD acceptance criteria has been exceeded for 328660-21 for Cu & Pb. Therefore a triplicate result has been issued as laboratory sample number 328660-88.
- # Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

SAMPLE RECEIPT ADVICE

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett

Sample Login Details

Your reference	22137
Envirolab Reference	328659
Date Sample Received	21/07/2023
Date Instructions Received	21/07/2023
Date Results Expected to be Reported	28/07/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	23 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	3
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:

Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Misc Soil - Inorg	Acid Extractable metals in soil	Asbestos ID - soils	On Hold
SP01-1-0.3	✓	✓	✓					✓		
SP01-2-0.3	✓	✓	✓					✓		
SP01-3-0.3	✓	✓	✓					✓		
SP01-4-0.3	✓	✓	✓					✓		
SP02-1-1	✓	✓	✓					✓		
SP02-2-1	✓	✓	✓					✓		
SP02-3-1	✓	✓	✓					✓		
SP02-4-1	✓	✓	✓					✓		
SP02-5-1	✓	✓	✓					✓		
SP02-6-1	✓	✓	✓					✓		
SP02-7-1	✓	✓	✓					✓		
SP02-8-1	✓	✓	✓					✓		
SP02-9-1	✓	✓	✓					✓		
SP02-10-1	✓	✓	✓					✓		
SP02-11-1	✓	✓	✓					✓		
SP02-12-1	✓	✓	✓					✓		
SP02-13-1	✓	✓	✓					✓		
SP03-1-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SP03-2-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SP03-3-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SP-DUP1	✓	✓	✓					✓		
SP-DUP2										✓
SP-DUP3	✓	✓	✓					✓		

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

CERTIFICATE OF ANALYSIS 328659

Client Details

Client	Reditus Consulting
Attention	Greg Bartlett
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>22137</u>
Number of Samples	23 Soil
Date samples received	21/07/2023
Date completed instructions received	21/07/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	27/07/2023
Date of Issue	27/07/2023
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Asbestos Approved By

Analysed by Asbestos Approved Analyst: Anthony Clark
 Authorised by Asbestos Approved Signatory: Nyovan Moonean

Authorised By

Nancy Zhang, Laboratory Manager

Results Approved By

Dragana Tomas, Senior Chemist
 Loren Bardwell, Development Chemist
 Nick Sarlamis, Assistant Operation Manager
 Nyovan Moonean, Asbestos Approved Identifier/Counter
 Steven Luong, Senior Chemist

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference	UNITS	SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	82	99	84	66	79

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference	UNITS	SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	87	96	93	101	102

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference	UNITS	SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	87	96	98	76

vTRH(C6-C10)/BTEXN in Soil

Our Reference		328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference	UNITS	SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25	37	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	170	<25	36
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	170	<25	36
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	1	<1	<1
Naphthalene	mg/kg	<1	<1	2	<1	1
Total +ve Xylenes	mg/kg	<1	<1	1	<1	<1
Surrogate aaa-Trifluorotoluene	%	66	94	101	91	95

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		328659-21	328659-23
Your Reference	UNITS	SP-DUP1	SP-DUP3
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
Naphthalene	mg/kg	<1	1
Total +ve Xylenes	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	104

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference		SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	84	76	85	83	83

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference		SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	82	82	80	80	80

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference		SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	79	80	80	80	80

svTRH (C10-C40) in Soil						
Our Reference	UNITS	328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference		SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	2,000	<50	490
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	970	<100	1,200
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	740	<100	850
Total +ve TRH (C10-C36)	mg/kg	<50	<50	3,700	<50	2,500
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	2,000	<50	550
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	2,000	<50	550
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	1,400	<100	1,700
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	360	<100	390
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	3,700	<50	2,700
Surrogate o-Terphenyl	%	81	90	109	83	112

svTRH (C10-C40) in Soil			
Our Reference		328659-21	328659-23
Your Reference	UNITS	SP-DUP1	SP-DUP3
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50	210
TRH C ₁₅ - C ₂₈	mg/kg	<100	480
TRH C ₂₉ - C ₃₆	mg/kg	<100	390
Total +ve TRH (C10-C36)	mg/kg	<50	1,100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	240
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	230
TRH >C ₁₆ -C ₃₄	mg/kg	<100	750
TRH >C ₃₄ -C ₄₀	mg/kg	<100	190
Total +ve TRH (>C10-C40)	mg/kg	<50	1,200
Surrogate o-Terphenyl	%	80	94

PAHs in Soil						
Our Reference		328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference	UNITS	SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	98	98	99	90	92

PAHs in Soil						
Our Reference		328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference	UNITS	SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.2	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	91	92	92	94

PAHs in Soil						
Our Reference		328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference	UNITS	SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.1	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	93	92	92	92

PAHs in Soil						
Our Reference		328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference	UNITS	SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	0.1	1.7	<0.1	1.5
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	0.2	<0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.1	0.1	1.9	<0.05	1.7
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	91	90	80	79	78

PAHs in Soil			
Our Reference		328659-21	328659-23
Your Reference	UNITS	SP-DUP1	SP-DUP3
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date extracted	-	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023
Naphthalene	mg/kg	<0.1	0.5
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	0.50
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	93	95

Organochlorine Pesticides in soil					
Our Reference		328659-18	328659-19	328659-20	328659-23
Your Reference	UNITS	SP03-1	SP03-2	SP03-3	SP-DUP3
Depth		0.5	0.5	0.5	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	95	93	96

Organophosphorus Pesticides in Soil					
Our Reference		328659-18	328659-19	328659-20	328659-23
Your Reference	UNITS	SP03-1	SP03-2	SP03-3	SP-DUP3
Depth		0.5	0.5	0.5	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	95	93	96

PCBs in Soil					
Our Reference		328659-18	328659-19	328659-20	328659-23
Your Reference	UNITS	SP03-1	SP03-2	SP03-3	SP-DUP3
Depth		0.5	0.5	0.5	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	95	93	96

Misc Soil - Inorg					
Our Reference		328659-18	328659-19	328659-20	328659-23
Your Reference	UNITS	SP03-1	SP03-2	SP03-3	SP-DUP3
Depth		0.5	0.5	0.5	-
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5

Acid Extractable metals in soil

Our Reference		328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference	UNITS	SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	<4	<4	10	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	5	3	10	20	5
Copper	mg/kg	7	1	9	15	5
Lead	mg/kg	24	3	51	16	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	1	4	6	4
Zinc	mg/kg	44	20	90	21	30

Acid Extractable metals in soil

Our Reference		328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference	UNITS	SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	<4	6	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	3	3	13	4	5
Copper	mg/kg	4	2	17	7	23
Lead	mg/kg	7	3	37	24	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	2	5	4	10
Zinc	mg/kg	24	8	240	31	39

Acid Extractable metals in soil

Our Reference		328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference	UNITS	SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	9	<4	11	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	2	20	4	15	21
Copper	mg/kg	2	20	8	31	25
Lead	mg/kg	3	20	8	14	20
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	7	5	4	8
Zinc	mg/kg	8	30	32	22	42

Acid Extractable metals in soil

Our Reference		328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference	UNITS	SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	8	15	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	0.8
Chromium	mg/kg	4	11	15	9	5
Copper	mg/kg	10	39	28	15	26
Lead	mg/kg	20	20	15	9	79
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	8	5	23	3
Zinc	mg/kg	62	54	26	91	82

Acid Extractable metals in soil					
Our Reference		328659-21	328659-23	328659-24	328659-25
Your Reference	UNITS	SP-DUP1	SP-DUP3	SP01-1 - [TRIPLICATE]	SP02-7 - [TRIPLICATE]
Depth		-	-	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	26/07/2023	26/07/2023	26/07/2023	26/07/2023
Arsenic	mg/kg	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	0.4	<0.4	<0.4
Chromium	mg/kg	4	7	4	3
Copper	mg/kg	6	46	7	4
Lead	mg/kg	18	65	23	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	8	4	4
Zinc	mg/kg	35	91	41	11

Moisture						
Our Reference	UNITS	328659-1	328659-2	328659-3	328659-4	328659-5
Your Reference		SP01-1	SP01-2	SP01-3	SP01-4	SP02-1
Depth		0.3	0.3	0.3	0.3	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.5	7.2	16	20	7.7

Moisture						
Our Reference	UNITS	328659-6	328659-7	328659-8	328659-9	328659-10
Your Reference		SP02-2	SP02-3	SP02-4	SP02-5	SP02-6
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	11	12	24	10	14

Moisture						
Our Reference	UNITS	328659-11	328659-12	328659-13	328659-14	328659-15
Your Reference		SP02-7	SP02-8	SP02-9	SP02-10	SP02-11
Depth		1	1	1	1	1
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.0	24	10	22	25

Moisture						
Our Reference	UNITS	328659-16	328659-17	328659-18	328659-19	328659-20
Your Reference		SP02-12	SP02-13	SP03-1	SP03-2	SP03-3
Depth		1	1	0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/07/2023	24/07/2023	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023	25/07/2023	25/07/2023	25/07/2023
Moisture	%	9.1	23	21	18	17

Moisture			
Our Reference		328659-21	328659-23
Your Reference	UNITS	SP-DUP1	SP-DUP3
Depth		-	-
Date Sampled		20/07/2023	20/07/2023
Type of sample		Soil	Soil
Date prepared	-	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023
Moisture	%	11	19

Asbestos ID - soils				
Our Reference		328659-18	328659-19	328659-20
Your Reference	UNITS	SP03-1	SP03-2	SP03-3
Depth		0.5	0.5	0.5
Date Sampled		20/07/2023	20/07/2023	20/07/2023
Type of sample		Soil	Soil	Soil
Date analysed	-	27/07/2023	27/07/2023	27/07/2023
Sample mass tested	g	Approx. 115g	Approx. 50g	Approx. 85g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	328659-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			26/07/2023	1	26/07/2023	26/07/2023		26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	1	<25	<25	0	89	81
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	1	<25	<25	0	89	81
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	97	89
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	87	79
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	87	78
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	88	79
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	91	82
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	95	1	82	73	12	92	85

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	26/07/2023	26/07/2023		26/07/2023	26/07/2023
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	11	<25	<25	0	84	79
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	11	<25	<25	0	84	79
Benzene	mg/kg	0.2	Org-023	[NT]	11	<0.2	<0.2	0	93	83
Toluene	mg/kg	0.5	Org-023	[NT]	11	<0.5	<0.5	0	83	76
Ethylbenzene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	81	76
m+p-xylene	mg/kg	2	Org-023	[NT]	11	<2	<2	0	82	79
o-Xylene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	85	80
Naphthalene	mg/kg	1	Org-023	[NT]	11	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	11	93	82	13	86	72

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	18	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	18	26/07/2023	26/07/2023		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	18	37	30	21	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	18	170	150	12	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	18	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	18	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	18	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	18	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	18	1	1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	18	2	3	40	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	18	101	81	22	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate		Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	328659-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	1	25/07/2023	25/07/2023		25/07/2023	27/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	1	<50	<50	0	119	109
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	1	<100	<100	0	124	104
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	1	<100	<100	0	114	90
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	1	<50	<50	0	119	109
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	1	<100	<100	0	124	104
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	1	<100	<100	0	114	90
Surrogate o-Terphenyl	%		Org-020	81	1	84	88	5	93	84

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate		Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	25/07/2023	25/07/2023		26/07/2023	26/07/2023
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	11	<50	<50	0	111	128
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	11	<100	<100	0	115	115
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	11	<100	<100	0	129	107
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	11	<50	<50	0	111	128
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	11	<100	<100	0	115	115
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	11	<100	<100	0	129	107
Surrogate o-Terphenyl	%		Org-020	[NT]	11	79	78	1	85	83

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate		Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	18	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	18	26/07/2023	26/07/2023		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	18	2000	1700	16	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	18	970	870	11	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	18	740	660	11	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	18	2000	1700	16	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	18	1400	1200	15	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	18	360	320	12	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	18	109	96	13	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	328659-2
Date extracted	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	1	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	92
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	91
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	90
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	92
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	92	90
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	93
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	95	97
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	74	82
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	99	1	98	97	1	98	99

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	92	80
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	0.3	100	91	89
Fluorene	mg/kg	0.1	Org-022/025	[NT]	11	0.1	0.3	100	90	86
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	0.2	67	92	83
Anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	0.1	0	92	82
Pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	0.1	0	91	87
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	95	75
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	11	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	11	<0.05	<0.05	0	74	84
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	11	93	90	3	98	78

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	18	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	18	25/07/2023	25/07/2023		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	18	1.7	1.5	12	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	18	0.2	0.2	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	18	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	18	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	18	80	79	1	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	18	25/07/2023	25/07/2023		25/07/2023	25/07/2023
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	84	88
HCB	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	84	86
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	67	65
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	89	87
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	88	86
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	98	94
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	98	94
Endrin	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	80	74
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	88	86
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	60	60
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	98	18	100	99	1	96	99

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	18	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	105	89
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	81	79
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	125	117
Malathion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	91	91
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	86	84
Fenthion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	105	107
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	88	84
Phosalone	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	98	18	100	99	1	96	99

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date extracted	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			25/07/2023	18	25/07/2023	25/07/2023		25/07/2023	25/07/2023
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	89	90
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	98	18	100	99	1	96	99

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date prepared	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			24/07/2023	18	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	18	<5	<5	0	100	99

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	328659-2
Date prepared	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			26/07/2023	1	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Arsenic	mg/kg	4	Metals-020	<4	1	<4	7	55	107	111
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	98	91
Chromium	mg/kg	1	Metals-020	<1	1	5	11	75	101	100
Copper	mg/kg	1	Metals-020	<1	1	7	10	35	106	110
Lead	mg/kg	1	Metals-020	<1	1	24	25	4	98	96
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	86	86
Nickel	mg/kg	1	Metals-020	<1	1	4	5	22	102	96
Zinc	mg/kg	1	Metals-020	<1	1	44	45	2	101	102

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	328659-19
Date prepared	-			[NT]	11	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			[NT]	11	26/07/2023	26/07/2023		26/07/2023	26/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	11	<4	<4	0	106	100
Cadmium	mg/kg	0.4	Metals-020	[NT]	11	<0.4	<0.4	0	98	92
Chromium	mg/kg	1	Metals-020	[NT]	11	2	4	67	101	98
Copper	mg/kg	1	Metals-020	[NT]	11	2	6	100	106	104
Lead	mg/kg	1	Metals-020	[NT]	11	3	3	0	99	94
Mercury	mg/kg	0.1	Metals-021	[NT]	11	<0.1	<0.1	0	84	81
Nickel	mg/kg	1	Metals-020	[NT]	11	3	6	67	102	97
Zinc	mg/kg	1	Metals-020	[NT]	11	8	14	55	101	105

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	18	24/07/2023	24/07/2023		[NT]	[NT]
Date analysed	-			[NT]	18	26/07/2023	26/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	18	15	15	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	18	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	18	15	16	6	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	18	28	32	13	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	18	15	16	6	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	18	5	6	18	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	18	26	30	14	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Acid Extractable Metals in Soil:

- The laboratory RPD acceptance criteria has been exceeded for 328659-1 for Cr. Therefore a triplicate result has been issued as laboratory sample number 328659-24.
- The laboratory RPD acceptance criteria has been exceeded for 328659-11 for Zn. Therefore a triplicate result has been issued as laboratory sample number 328659-25.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ES2324578

Client	: REDITUS CONSULTING PTY LTD.	Laboratory	: Environmental Division Sydney
Contact	: GREG BARTLETT	Contact	: Customer Services ES
Address	: 1A/29-33 Waratah Street KIRRAWEE	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: gregbartlett@reditus.com.au	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: 22137	Page	: 1 of 2
Order number	: 22137	Quote number	: ES2019REDITUS0001 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	:		
Sampler	: HASSAN ELBATOORY, JACK PALMA		

Dates

Date Samples Received	: 24-Jul-2023 14:21	Issue Date	: 25-Jul-2023
Client Requested Due Date	: 28-Jul-2023	Scheduled Reporting Date	: 28-Jul-2023

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 8.0'C, 6.8'C, 4.8'C - Ice Bricks present
Receipt Detail	: Hard Esky	No. of samples received / analysed	: 3 / 2

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- 25/07/23: This is an updated SRN which indicates the change of analysis to sample #3 'SP-TRIP3' for this work order.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Volatile organic compound analysis may be compromised as sample containers contained headspace. Please contact ALS for further information.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months $\pm$ 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

Matrix: SOIL

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold)	No analysis	SOIL - E	Moisture	SOIL - S	TRH/BTR	SOIL - S 8 metals
ES2324578-001	20-Jul-2023 00:00	SP-TRIP1			✓				✓
ES2324578-002	20-Jul-2023 00:00	SP-TRIP2	✓						
ES2324578-003	21-Jul-2023 00:00	SP-TRIP3			✓		✓		

Sample(s) have been received within the recommended holding times for the requested analysis.

ACCOUNTS

- A4 - AU Tax Invoice (INV)

Email accounts@reditusconsulting.com

Esdat Deliverables

- EDI Format - ESDAT (ESDAT)

Email reditusconsulting@esdat.com.au

GREG BARTLETT

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

[illegible]

hassanel batoory

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

[illegible]

JACK PALMA

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

[illegible]



CHAIN OF CUSTODY FORM - Client

Copyright and Confidential

Client: Redius Consulting	Client Project Name/Number/She etc (ie report title):
Contact Person: Jack Palma / Greg Bartlett	PO No.: 22137
Project Mgr: Greg Bartlett	Envirolab Quote No.:
Sample: Jack Palma / Hassan Elahyoo	Date results required: Standard
Address: Unit 1A, Level 1, 20-33 Warrah Street Kirrawee NSW	Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Phone: 02 9521 6567	Additional report format: excel
Mobile: 0401 278 820	Lab Comments:
Email Invoice To: accounts@rediusconsulting.com.au	
Email Results To: gregbartlett@redius.com.au	
gbsbarlett@redius.com.au	
gbsbarlett@redius.com.au	

Sample Information

Envirolab Sample ID	Client Sample ID or Information	Depth	Date sampled	Type of sample	Hold	Combo 3	Combo 8a	Tests Required	Comments
1	SP01-1	0.3	20/07/2023	Soil		X			
2	SP01-2	0.3	20/07/2023	Soil		X			
3	SP01-3	0.3	20/07/2023	Soil		X			
4	SP01-4	0.3	20/07/2023	Soil		X			
5	SP02-1	1	20/07/2023	Soil		X			
6	SP02-2	1	20/07/2023	Soil		X			
7	SP02-3	1	20/07/2023	Soil		X			
8	SP02-4	1	20/07/2023	Soil		X			
9	SP02-5	1	20/07/2023	Soil		X			
10	SP02-6	1	20/07/2023	Soil		X			
11	SP02-7	1	20/07/2023	Soil		X			
12	SP02-8	1	20/07/2023	Soil		X			
13	SP02-9	1	20/07/2023	Soil		X			
14	SP02-10	1	20/07/2023	Soil		X			
15	SP02-11	1	20/07/2023	Soil		X			
16	SP02-12	1	20/07/2023	Soil		X			
17	SP02-13	1	21/07/2023	Soil		X			
18	SP03-1	0.5	20/07/2023	Soil		X			
19	SP03-2	0.5	20/07/2023	Soil		X			
20	SP03-3	0.5	20/07/2023	Soil		X			
21	SP-DUP-1	-	20/07/2023	Soil		X			
22	SP-DUP-2	-	20/07/2023	Soil		X			
23	SP-DUP-3	-	21/07/2023	Soil		X			
24	SP-Trip-1	1	20/07/2023	Soil		X			
25	SP-Trip-2	2	20/07/2023	Soil		X			
26	SP-Trip-3	3	21/07/2023	Soil		X			
27									

Please tick the box if observed settled sediment present in water sample is to be included in the extraction and/or analysis

Relinquished by (Company): Redius

Print Name: Jack Palma
Date & Time: 21/07/2023 13:30
Signature: [Signature]

Received by (Company): ELS SYD

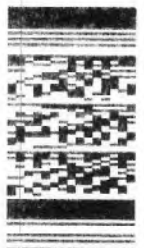
Print Name: Sarah P
Date & Time: 21/07/23, 16:55
Signature: [Signature]

Job number: 328659
Temperature: 30°C
TAT Req. SAME day / 1 / 2 / 3 / 4

Lab Use Only
Cooling: Ice pack / None
Security seal: Intact / Broken

ENVIROLAB GROUP

National phone number 1300 424 344
Sydney Lab - Envirolab Services
17 Ashby St, Chislewood, NSW 2067
02 9910 6200 | sydney@envirolab.com.au
Perth Lab - WPI Laboratories
16-18 Hayden Crt, Myerwa, WA 6164
08 9317 2505 | lab@wpi.com.au
Melbourne Lab - Envirolab Services
266 Smeaton Drive, Croydon South, VIC 3136
03 9763 2400 | melbourne@envirolab.com.au
Adelaide Office - Envirolab Services
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08 7067 6800 | adelaide@envirolab.com.au
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20a, 10-20 Depot St, Brisbane, QLD 4004
07 3266 9532 | brisbane@envirolab.com.au
Darwin Office - Envirolab Services
20a, 10-20 Depot St, Darwin, NT 0820
08 9467 1201 | darwin@envirolab.com.au



Environmental Division
Sydney
Work Order Reference
ES2324578

Telephone: +61-2-8784 8555

Received:

21/7/23
@1421

200 21/7/23 1510



QUALITY CONTROL REPORT

Work Order	: ES2324578	Page	: 1 of 11
Client	: REDITUS CONSULTING PTY LTD.	Laboratory	: Environmental Division Sydney
Contact	: GREG BARTLETT	Contact	: Customer Services ES
Address	: 1A/29-33 Waratah Street KIRRAWEE	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 22137	Date Samples Received	: 24-Jul-2023
Order number	: 22137	Date Analysis Commenced	: 25-Jul-2023
C-O-C number	: ----	Issue Date	: 28-Jul-2023
Sampler	: HASSAN ELBATOORY, JACK PALMA		
Site	:		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 2		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5195805)									
ES2323131-004	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	17	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	10	18.1	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	13	17	28.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	<5	45.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	71	78	10.1	0% - 50%
ES2324569-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5195832)									
ES2324520-001	Anonymous	EA055: Moisture Content	----	0.1	%	18.4	18.5	0.9	0% - 50%
ES2324569-001	Anonymous	EA055: Moisture Content	----	0.1	%	7.9	8.1	2.1	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5195833)									
ES2324579-004	Anonymous	EA055: Moisture Content	----	0.1	%	22.1	22.8	3.0	0% - 20%
EW2303291-001	Anonymous	EA055: Moisture Content	----	0.1	%	2.3	3.0	27.4	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5195804)									
ES2323131-004	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2324569-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 5192912)									
ES2324162-004	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5192915)									
ES2324162-004	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 5192915)									
ES2324162-004	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 5192915) - continued									
ES2324162-004	Anonymous	EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5191410)									
ES2324460-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
ES2324579-004	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5191410)									
ES2324460-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5191410) - continued										
ES2324460-001	Anonymous	EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
	EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES2324579-004	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	2.1	2.1	0.0	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	0.5	<0.5	0.0	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	2.6	2.1	21.3	No Limit	
			EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5191411)								
ES2324460-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit	
ES2324579-004	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	2320	2600	11.5	0% - 20%	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	1010	870	14.8	0% - 20%	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5192447)										
ES2324579-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	
ES2324579-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5191411)									
ES2324460-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2324579-004	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	1490	1740	15.7	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	1910	1880	1.8	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5192447)									
ES2324579-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	11	11	0.0	No Limit
ES2324579-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 5192447)									
ES2324579-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2324579-002	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5195805)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	95.6	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	90.4	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	110	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	102	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	101	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	95.9	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	88.0	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5195804)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	91.4	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5192912)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	116	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 5192915)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.6	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.9	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.9	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	66.0	116
EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	69.0	115
EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.8	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	98.5	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	62.0	124



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068A: Organochlorine Pesticides (OC) (QCLot: 5192915) - continued								
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	82.5	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	100	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5192915)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	102	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	92.9	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	91.2	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	90.3	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	95.9	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.7	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	81.5	41.0	123
EP075(SIM)A: Phenolic Compounds (QCLot: 5191410)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	78.7	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	76.8	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	81.3	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	75.2	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	67.4	54.0	114
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	79.5	68.0	126
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	70.3	66.0	120
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	77.9	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	84.4	70.0	116
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	66.3	54.0	114



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)A: Phenolic Compounds (QCLot: 5191410) - continued								
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	67.2	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	32.4	10.0	80.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5191410)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	108	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	100	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	80.1	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	81.9	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	80.5	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	83.4	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	81.5	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	83.3	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	73.9	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	80.1	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	75.8	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	88.4	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	77.3	70.0	126
EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	67.4	61.0	121
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	68.5	62.0	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	69.1	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5191411)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	98.1	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	102	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	101	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5192447)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	88.4	72.2	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5191411)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	101	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	101	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	102	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5192447)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	88.7	72.4	133
EP080: BTEXN (QCLot: 5192447)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	106	76.0	124



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080: BTEXN (QCLot: 5192447) - continued								
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	102	78.5	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	108	77.4	121
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	101	78.2	121
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	103	81.3	121
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	78.8	122

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5195805)							
ES2323131-004	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	104	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	90.8	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	102	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	103	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	91.4	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.0	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5195804)							
ES2323131-004	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	91.9	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5192912)							
ES2324162-004	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	111	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 5192915)							
ES2324162-004	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	96.3	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	90.1	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	102	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	104	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	84.3	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	79.3	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5192915)							
ES2324162-004	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	90.2	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	91.4	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	93.3	70.0	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5192915) - continued							
ES2324162-004	Anonymous	EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	98.7	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	85.1	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5191410)							
ES2324460-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	74.7	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	82.2	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	74.1	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	80.5	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	53.4	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5191410)							
ES2324460-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	84.8	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	90.0	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5191411)							
ES2324460-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	109	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	102	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	103	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5192447)							
ES2324579-004	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	120	60.4	142
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5191411)							
ES2324460-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	96.8	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	107	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	91.4	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5192447)							
ES2324579-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	121	61.1	142
EP080: BTEXN (QCLot: 5192447)							
ES2324579-004	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	95.8	62.1	122
		EP080: Toluene	108-88-3	2.5 mg/kg	95.9	66.6	119
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	104	67.4	123
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	100	66.4	121
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	98.4	70.7	121
		EP080: Naphthalene	91-20-3	2.5 mg/kg	99.4	61.1	115



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2324578	Page	: 1 of 5
Client	: REDITUS CONSULTING PTY LTD.	Laboratory	: Environmental Division Sydney
Contact	: GREG BARTLETT	Telephone	: +61-2-8784 8555
Project	: 22137	Date Samples Received	: 24-Jul-2023
Site	:	Issue Date	: 28-Jul-2023
Sampler	: HASSAN ELBATOORY, JACK PALMA	No. of samples received	: 3
Order number	: 22137	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) SP-TRIP1	20-Jul-2023	----	----	----	26-Jul-2023	03-Aug-2023	✓
Soil Glass Jar - Unpreserved (EA055) SP-TRIP3	21-Jul-2023	----	----	----	26-Jul-2023	04-Aug-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) SP-TRIP1	20-Jul-2023	26-Jul-2023	16-Jan-2024	✓	27-Jul-2023	16-Jan-2024	✓
Soil Glass Jar - Unpreserved (EG005T) SP-TRIP3	21-Jul-2023	26-Jul-2023	17-Jan-2024	✓	27-Jul-2023	17-Jan-2024	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) SP-TRIP1	20-Jul-2023	26-Jul-2023	17-Aug-2023	✓	28-Jul-2023	17-Aug-2023	✓
Soil Glass Jar - Unpreserved (EG035T) SP-TRIP3	21-Jul-2023	26-Jul-2023	18-Aug-2023	✓	28-Jul-2023	18-Aug-2023	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) SP-TRIP3	21-Jul-2023	26-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Sep-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) SP-TRIP3	21-Jul-2023	26-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Sep-2023	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068) SP-TRIP3	21-Jul-2023	26-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Sep-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	28-Jul-2023	03-Sep-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) SP-TRIP1	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Sep-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	28-Jul-2023	03-Sep-2023	✓

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 Work Order : ES2324578
 Client : REDITUS CONSULTING PTY LTD.
 Project : 22137



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) SP-TRIP1	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Aug-2023	✓
Soil Glass Jar - Unpreserved (EP080) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Aug-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) SP-TRIP1	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Aug-2023	✓
Soil Glass Jar - Unpreserved (EP080) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Aug-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) SP-TRIP1	20-Jul-2023	25-Jul-2023	03-Aug-2023	✓	27-Jul-2023	03-Aug-2023	✓
Soil Glass Jar - Unpreserved (EP080) SP-TRIP3	21-Jul-2023	25-Jul-2023	04-Aug-2023	✓	27-Jul-2023	04-Aug-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	34	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.



CERTIFICATE OF ANALYSIS

Work Order : **ES2324578**
Client : **REDITUS CONSULTING PTY LTD.**
Contact : **GREG BARTLETT**
Address : **1A/29-33 Waratah Street**
KIRRAWEE
Telephone : **----**
Project : **22137**
Order number : **22137**
C-O-C number : **----**
Sampler : **HASSAN ELBATOORY, JACK PALMA**
Site :
Quote number : **EN/222**
No. of samples received : **3**
No. of samples analysed : **2**

Page : **1 of 8**
Laboratory : **Environmental Division Sydney**
Contact : **Customer Services ES**
Address : **277-289 Woodpark Road Smithfield NSW Australia 2164**
Telephone : **+61-2-8784 8555**
Date Samples Received : **24-Jul-2023 14:21**
Date Analysis Commenced : **25-Jul-2023**
Issue Date : **28-Jul-2023 16:10**



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP080: The result for sample ES2324578-003 was confirmed by re-analysis.
- EP071: Results of sample SP-TRIP3 have been confirmed by re-extraction and re-analysis.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		10.9	18.1	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	7	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		5	12	----	----	----
Copper	7440-50-8	5	mg/kg		6	36	----	----	----
Lead	7439-92-1	5	mg/kg		25	30	----	----	----
Nickel	7440-02-0	2	mg/kg		3	9	----	----	----
Zinc	7440-66-6	5	mg/kg		38	91	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	----	----	----
4,4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	<0.05	----	----	----
4,4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg		----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg		----	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		----	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		----	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg		----	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		----	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg		----	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg		----	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg		----	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		----	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		----	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg		----	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		----	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		----	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	<0.5	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		----	<0.5	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		----	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	<0.5	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		----	<2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	----	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	420	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	870	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	600	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	1890	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	19	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	19	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	480	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	1280	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	290	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	2050	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	480	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	102	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	83.3	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	88.7	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		83.2	90.9	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		80.7	86.0	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		72.1	86.6	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		85.5	88.4	----	----	----
Anthracene-d10	1719-06-8	0.5	%		91.6	96.2	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		84.4	92.1	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		96.6	89.1	----	----	----
Toluene-D8	2037-26-5	0.2	%		108	101	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP-TRIP1	SP-TRIP3	----	----	----
Sampling date / time					20-Jul-2023 00:00	21-Jul-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2324578-001	ES2324578-003	-----	-----	-----
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		107	105	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131



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