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Detailed Site Investigation

25-27 Leeds Street, Rhodes, NSW

Project No. 22148
Version 4

9 September 2024

Reditus Consulting Pty Ltd
ABN: 34 631 168 502

Detailed Site Investigation

25-27 Leeds Street, Rhodes, NSW

DOCUMENT CONTROL

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Abbreviations

TERM	DEFINITION
ACM	Asbestos Containing Material
AF/FA	Asbestos Fines / Fibrous Asbestos
AHD	Australian Height Datum
ANZG	Australia and New Zealand Guidelines
ASC	Assessment of Site Contamination
ASS	Acid Sulfate Soil
ASSMP	Acid Sulfate Soil Management Plan
bgl	below ground level
BTEX	Benzene Toluene Ethylbenzene Xylene
CEC	Cation Exchange Capacity
COC	Chain of Custody
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DO	Dissolved Oxygen
DPI	Department of Primary Industries
DQO	Data Quality Objective
DSI	Detailed Site Investigation
EIL	Ecological Investigation Level
EPA	Environment Protection Authority
ESL	Ecological Screening Level
HEPA	Heads of Environment Protection Agencies
HIL	Health Investigation Level
HSL	Health Screening Level
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
OC	Organic Carbon
OCP	Organochloride Pesticides
OPP	Organophosphorus Pesticides

TERM	DEFINITION
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PFAS	Per- and polyfluoroalkyl Substances
PFHxS	Perfluorohexanesulphonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
PID	Photoionisation Detector
PPM	Parts Per Million
PQL	Practical Quantification Limit
QA/QC	Quality Assurance / Quality Control
RPD	Relative Percentage Difference
RTK	Real-time kinematic positioning
SAC	Soil Assessment Criteria
SD	Standard Deviation
SEARs	Secretary’s Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SPR	Source-Receptor-Pathway
TOC	Top-of-Casing
TPH	Total Petroleum hydrocarbons
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
USCS	Unified Soil Classification System
VOC	Volatile Organic Compounds

Executive Summary

Reditus Consulting Pty Ltd (Reditus) was engaged by Billbergia Pty Ltd (the client) to complete a Detailed Site Investigation (DSI) for the proposed residential development located at 25-27 Leeds Street, Rhodes, NSW (the site).

The site is currently occupied by a large commercial building tenanted by various businesses. It is understood that the site is proposed to be redeveloped to include multi-storey residential development with basement car parking.

The objectives of the DSI were to evaluate the possibility for contamination to be present at the site as a result of current and former land use activities.

The objectives of this investigation were achieved by completing the following:

- Desktop review of the site setting and site history.
- Review of previous environmental investigations and supplement those investigations with further assessment.
- Drilling of 15 soil borings across the site and installation of 5 groundwater monitoring wells.
- Collection of 30 soil samples and analysis at a National Association of Testing Authorities (NATA) accredited laboratory for a range of contaminants of potential concern (CoPC).
- Collection of groundwater samples from the 5 new and 5 existing groundwater monitoring wells at the site and analysis for a range of CoPC.
- Preparation of this DSI report.

Based on a review of the site history, previous investigation, observations made during fieldwork, results of laboratory analysis and the proposed land use scenario, Reditus concludes the following:

- Fill materials at the site are suitable to remain onsite, from a contamination perspective, for the proposed residential land use.
- Residual natural soils are also suitable for the proposed residential land use. However, excavation of natural material and/or dewatering will require management of acid sulfate soils (ASS).
- Exceedances to the ecological criteria in soil are not seen to be an issue as this material will be removed during excavation of the basement.
- The groundwater data was consistent with previous investigations which identified heavy metals, namely copper, lead, nickel, and zinc, and Perfluorooctanesulfonic acid (PFOS) at concentrations exceeding ecological criteria. The presence of metals in groundwater appears to be a regional issue given the presence in up-gradient wells and the lack of source areas on the site. PFOS in groundwater also appears to be related to an offset source given the reduction in concentrations by over two orders of magnitude across the site in the direction of groundwater flow.
- The findings of this investigation were consistent with previous assessments completed at the site.

Based on the above, Reditus considers that the site is suitable for the proposed development (mixed use high density residential with basement carparking) and the northern section (the foreshore area within the site boundary) is suitable to be dedicated to Council for use as a park.

The scope of work completed during this DSI has satisfied Items 13, 16, and 17 of the SEARs and Item 3 of the SEARs cover letter.

Given the elevated concentrations of heavy metals and PFOS in groundwater it is recommended that groundwater not be abstracted for beneficial use at the site. As dewatering will be required to facilitate the basement excavation a dewatering management plan and an acid sulfate soil management plan will be required to ensure protection of the surrounding environment during the works. If excavation and/or groundwater extraction is required within the foreshore area of the site, the same controls will be required.

Reditus considers that the consent authority may be satisfied that the required considerations of Clause 4.6 of State Environmental Planning Policy (Resilience and Hazards) 2021 are satisfied for the following reasons:

- This DSI (Reditus) and previous investigations (Jacobs (2016) and ADE (2022)) completed on the development site has adequately assessed the site history to identify potential sources of contamination, and has suitability assessed the potential risk posed by contaminants to health and the environment. As such, Clause 4.6(1)(a) of SEPP (Resilience and Hazards) 2021 has been successfully achieved.

- This DSI has determined that the land can be made suitable in its current state for the purposes for which the development is proposed to be carried out (as mixed use high density residential). As such, Clause 4.6(1) (b) and (c) of SEPP (Resilience and Hazards) 2021 have been successfully achieved.
- The DSI has been completed in accordance with the contaminated land planning guidelines, satisfying Clause 4.6(2) and 4.6(3) of SEPP (Resilience and Hazards) 2021.

1 Introduction

1.1 Commissioning

Reditus Consulting Pty Ltd (Reditus) was engaged by Billbergia Pty Ltd (the client) to complete a Detailed Site Investigation (DSI) for the proposed residential development located at 25-27 Leeds Street, Rhodes, NSW (the site). The location and layout of the site is presented in **Figure 1**, **Appendix A**.

1.2 Background

The site is occupied by a large warehouse with ground level and first floor car parking. A range of commercial tenants currently lease various parts of the building for uses including pet supplies, golf cart repairs, floorboard distribution, and furniture display.

A development application (DA2023/0235) was lodged with the City of Canada Bay (CCB) in October 2023 for the *demolition of all buildings onsite and site preparation; excavation for 2 basement levels with vehicular access via Blaxland Road; construction of a mixed-use development containing six (6) buildings ranging from 9 to 13 storeys and comprising: 7 retail premises, 249 apartments, landscape works including tree removal, through site links, communal and private open space and a foreshore park*.

On 9 February 2024 a memo was issued by the Department of Planning, Housing and Infrastructure (DPHI) relating to “Infill Affordable Housing Leeds Street Rhodes (SSD-67419241)”. The Planning Secretary’s Environmental Assessment Requirements (SEARs) for the SSD required the following regarding contamination at the site. These requirements from the industry specific SEARs and the SEARs cover letter.

ISSUE	DETAIL
Cover Letter Requirements	
Item 3	*Additional contamination assessment and remediation methods specific to the foreshore land that is proposed to be dedicated.*
Industry Specific Requirements	
Issue 13	*Ground and Water Conditions which requires a Salinity Management Plan and/or Acid Sulfate Soils Management Plan. Similarly, City of Canada Bay Council have requested A preliminary assessment carried out in accordance with the ASSMAC Acid Sulphate Soil Manual which identifies the depth of the present of ASS to what the site is proposed to excavate and fill in the data gaps which have been identified by the DESI, dated June 2023.*
Issue 16	*Contamination and Remediation which states in accordance with Chapter 4 of SEPP (Resilience and Hazards) 2021, assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable (or will be suitable, after remediation) for the development.*
Issue 17	*Waste Management which states If buildings are proposed to be demolished or altered, provide a hazardous materials survey*

This DSI was completed to support the State Significant Development Application (SSDA) and SEARs in accordance with State Environmental Planning Policy (Resilience and Hazards) 2021 requirements. The DSI includes assessment to define the nature, extent, and degree of contamination (if any); to assess potential risk posed by contaminants to health and the environment (if any); and to obtain sufficient information to assess environmental risk and inform recommendations to render the site suitable (if required) for the proposed redevelopment.

Reditus notes that this report, including its conclusions and recommendations, must be read in conjunction with the Statement of Limitations provided in **Section 13.**

1.3 Objectives

The objective of the DSI was to determine whether the site is suitable for the proposed development (including the future foreshore dedication to council) in its current form or if further investigation/remediation/management is required.".

1.4 Scope of Works

The achieve the objectives outlined above, Reditus completed the following:

- Desktop review of the site history and site setting including review of previous investigations.
- Completion of an intrusive investigation including:
    - Location of underground services using an accredited cable locator at each proposed location.
    - Drilling of 15 boreholes, to supplement the 9 existing boreholes at the site to supplement the previous investigation locations conducted onsite.
    - Soil samples were collected from each bore near the surface (0.1-03m bgl), at 0.5 bgl, and at regular 1 metre intervals. Additional samples were taken at depths where the geology changed, and in zones of gross contamination.
    - Each soil sample location was logged in general accordance with the Unified Soil Classification System (USCS). Each soil sample was screened with a Photoionisation Detector (PID) to detect the potential presence of volatile organic compounds (VOCs).
    - Collection of soil samples from each borehole, nominally one of the fill/near surface material and one representative soil sample from underlying material. Soil samples were submitted to a NATA accredited laboratory for analysis of a range of analytes associated with the site history.
    - Conversion of 5 of the new boreholes into groundwater monitoring wells.
    - Groundwater sampling of the existing and newly installed groundwater monitoring wells using low-flow sampling methods.
    - Groundwater samples were submitted to the NATA accredited laboratory for analysis for a range of analytes associated with the site history.
    - The analytical data was compared against the human health and ecological guidelines for the proposed development.
- Preparation of a DSI report in general accordance with the ASC NEPM, NSW EPA (2020) and other relevant NSW EPA reporting guidelines.

2 Site Details

2.1 Site Identification

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	25-27 Leeds Street, Rhodes, NSW
Title and Land Information	• 25 Leeds St: – Lot C DP367132 – Lot A DP329241 • 27 Leeds St: Lot 2 DP1192949
Site Area	Approximately 1.16ha
Local Government Area	City of Canada Bay Council
Site Coordinates to the approximate centre of the site (GDA2020 MGA Zone 56)	Easting: 323198.33 Northing: 6255760.83
Zoning	MU1 Mixed Use City of Canada Bay Local Environment Plan 2013
Current Owner	Billbergia
Current Land Use	Commercial.
Future Land Use	Mixed use Commercial/Residential.
Trigger for Assessment	To provide information to satisfy requirements of the SEARs for the SSD (see Section 1.2)
Surrounding Land Uses	The land uses currently surrounding the site include: • **North:** Parramatta River. • **South:** Leeds Street and low density residential. • **East:** Commercial. • **West**: Blaxland Road, John Whitton Reserve, and rail bridge.
Site Layout	**Figure 2**, **Appendix A**

2.2 Site Condition

The following site observations were recorded during a site visit by Reditus' Principal Environmental Engineer, Toby Scrivener on 2 May 2024:

- The site was sealed with concrete and asphalt hardstand.
- 25 Leeds Street was occupied by a building which was tenanted by a furniture display and commercial kitchen.

- 27 Leeds Street comprised a large warehouse which was tenanted by various commercial users including a pet supplies, golf cart repairer and floorboard distributer.
- An upper level carpark was constructed over the southern portion of the site.
- The hardstand was generally in good condition.
- Odours and other indicators or contamination such as staining were not observed.
- Vegetation on the boundary of the site appeared in good condition.

Photographs from the site inspection are provided in **Appendix B**.

3 Site Setting and Surrounding Environment

The following details regarding the site setting and surrounding environment has been taken from the previous investigations (see Section 4).

Table 2. Site Setting and Surrounding Environment

ITEM	DETAIL
Topography and Hydrology	There is a high point with an approximate elevation of 20 m above the Australian Height Datum (AHD) around the central western part of the Investigation Area. The ground then slopes down to the Parramatta River. There is a rock cutting around the properties at the eastern end of Leeds Street on the southern side of the street. Surface water across the Investigation Area would generally flow to the Council drainage network before discharging to Parramatta River at numerous discharge points. Besides Parramatta River, there are no other natural surface water bodies within or adjoining the Investigation Area (Jacobs 2016).
Regional geology	The "Sydney Soil Landscape Series Sheet 9130" map produced by the Soil Conservation Service of NSW indicates that soils within the Investigation Area are within the Blacktown soil landscape grouping. The landscape in this grouping is characterised as gently undulating rises to steep low hills on Wianamatta Group shales and Hawkesbury sandstone. Soils are characterised as shallow to moderately deep (<100cm) Red and Brown Podzolic Soils on crests, upper slopes and well drained areas; deep (150-300cm) Yellow Podzolic Soils and Soloths on lower slopes and in areas of poor drainage. The "Sydney Geological Series Sheet 9130, 1:100,000 scale" map produced by the Geological Survey of NSW indicates that geology in the Investigation Area consists of Wianamatta Group Hawkesbury Sandstone (Rh) which is overlain by Ashfield Shale (Rwa) in the more elevated areas away from the Parramatta River (Jacobs 2016).
Site Soil Description	The generalised site stratigraphy was summarised by Jacobs (2016) as follows: 1) Fill material varying in depth from approximately 1 metre in the southern portion of the site to approximately 4 metres in the areas close to the Parramatta River. Fill material was observed to consist of silty clay or sand soils with some areas of gravel and crushed rock. Building material waste such as bricks, timber was observed in fill material in some locations. 2) Residual silty clay and clay soil with a thickness varying from not present in the south-eastern portion of the site to approximately 1 – 1.5 metres in the central portion and greater than 5 metres in north-eastern portion of the site near Parramatta River. Shells were observed in the soil at several locations adjacent to Parramatta River. 3) Sandstone was encountered at depths ranging from 1 metre bgl in the south-eastern portion of the site to 6 to 7 metres bgl in the central and northern portions of the site. There was some variation in the boreholes adjacent to Parramatta River, potentially due to the reclamation of land in this area.

ITEM	DETAIL
Acid Sulfate Soils (ASS)	A review of the Canada Bay Local Environmental Plan 2009 acid sulfate soil risk map indicated that the majority of the site is located within a Class 2 ASS risk area, whilst the southwestern portion is located within a Class 5 ASS risk area. Acid sulfate soils in a Class 2 areas are likely to be found below the natural ground surface. Acid sulfate soils are not usually found in Class 5 areas, however, are within 500m of adjacent Class 1, 2, 3 or 4 soils. Previous investigations have identified the presence of ASS to 2 metres bgl however further assessment was required to assess ASS below 2 metres to the depth of the proposed development excavation.
Registered Groundwater Bore Search	A review of the Department of Primary Industries (DPI) register of water bores determined that there were no registered bores in the Investigation Area. The nearest registered bores to the Investigation Area were: • A cluster of bores registered as monitoring wells located in Anderson Park, close to the ferry wharf on the opposite side of Parramatta River, approximately 300 metres northeast of the Investigation Area boundary. • Several registered bores at Wentworth Point, approximately 750 metres west of the Investigation Area boundary. These are noted to be monitoring wells. • A registered bore to the west of the intersection of Oulton Ave and Homebush Bay Drive approximately 800 metres southwest of the boundary of the Investigation Area. This is noted as a test irrigation well, installed to a depth of 180 metres bgl. Sydney Water supplies potable water throughout the Investigation Area. None of the information reviewed by Jacobs indicates that there is any beneficial use of groundwater in the Investigation Area (Jacobs 2016).
Regional Hydrogeology	A review of hydrogeology map of Australia (Geoscience Australia) indicated the aquifer type beneath the site is a fractured or fissured, extensive aquifer of low to moderate productivity. Groundwater was mapped by Jacobs (2016) to flow in a northerly direction toward Parramatta River.
Depth to Water Table	Groundwater was generally encountered by Jacobs (2016) in the fill / soil layer at approximately 3 metres bgl in the boreholes located adjacent to Parramatta River and between 2.5 and 5 metres bgl in the central portion of the site.
Yield and Inferred Groundwater Quality	There is no available information on the yield and groundwater quality in the surrounding area.
Groundwater Embargoes	No groundwater embargoes apply to the site.
Sensitive Environments	The nearest sensitive environment includes the Parramatta River on the northern boundary of the site.

The observations made by Reditus during this investigation are similar to that made by Jacobs (2016) and others during previous investigations.

4 Site History

Jacobs (2016) conducted a detailed review of the site history through interrogation of Canada Bay Council files, historical aerial photographs, property titles, business directories, contaminated land records, and previous investigations.

Industrial development of the Rhodes peninsula commenced with the establishment of the NSW State Sawmill in the early 1900s. This was located to the north of Leeds Street (and appears to comprise the site). The northern portion of the site and land to the east was reclaimed from the Parramatta River in the 1920s.

Historical industry surrounding the site included:

- The John Darling & Son flour mill to the west of the rail bridge, this later became Allied Feeds.
- Timbrol Limited, a timber preservative manufacturer was located to the south of Allied Feeds. Timbrol later merged with Union Carbon to produce chemical such as pesticides, herbicides and polyethylene film.
- State Power Station on Uhr's Point.
- Iron works to the south of the site, this later became Rhodes Corporate Park.

Most of the industry located outside of the Investigation Area closed operations from the 1980s. Large scale remediation of the areas on the western side of the railway and to the south of the Investigation Area was performed from the 1980s to 2000s in order to enable commercial and residential development. This included the remediation of dioxin contaminated waste that was used to reclaim land from Homebush Bay as well as the partial remediation of dioxin contaminated sediments in Homebush Bay.

5 Previous Investigations

Previous investigations made available to Reditus include the following:

- Jacobs (2016) Rhodes East Priority Investigation Area Contamination and Acid Sulphate Soils Report.
- ADE Consulting Group (2020) PFAS Investigation of Rhodes East – Leeds Foreshore Rhodes East Site 1 – Leeds Foreshore
- ADE Consulting Group (2023) Detailed Site Investigation 25-27 Leeds Street, Rhodes, NSW
- ADE Consulting Group (2023) Acid Sulfate Soil Management Plan 25 – 27 Leeds Street, Rhodes NSW

The following table summarise the details from the above reports.

Table 3 Previous Investigations

REPORT	KEY ITEMS
Jacobs (2016) Rhodes East Priority Investigation Area Contamination and Acid Sulphate Soils Report.	Jacobs completed: • a desktop review of the site history and site setting • a soil and groundwater assessment. The investigation included 25-27 Leeds St and land to the east. The investigation area is referred to as "the Rhodes East Priority Investigation Area" The investigation identified seven areas of potential concern: • AEI 1: Reclaimed land north of Leeds Street prior to 1928 • AEI 2: Sawmill and timber activities in the current industrial area from approximately 1912 to 1972 • AEI 3: Historical power station at Uhrs Point from 1914 to sometime between 1961 and 1972 • AEI 4: Reclaimed land in the northern portion of 1 – 3 Leeds Street between 1961 and 1972 • AEI 5: Industrial activities in the current industrial area after approximately 1972 • AEI 6: Industrial activities at 14 Cavell Avenue • AEI 7: Land contamination from asbestos containing materials Of these, AEI 1, 2, 3, 5 and 7 are relevant to the site. The soil and groundwater assessment included drilling 16 soil borings across the investigation area and installation of 8 groundwater monitoring wells. Soil and groundwater samples were collected and analysed for a range of CoPC. The analytical data identified Total Recoverable Hydrocarbons (TRH), Polycyclic Aromatic Hydrocarbons (PAH) and dioxins in soil at concentrations exceeding the human health assessment criteria in locations outside of the site. Copper, lead and nickel was detected in groundwater at concentrations exceeding the assessment criteria on and offsite. Groundwater was identified at depths ranging 2.5-5 metres bgl and was inferred to flow to the north toward Parramatta River. Jacobs reviewed acid sulfate soil mapping and a report from a nearby site (1-3 Leeds St). From this Jacobs concluded that an acid sulfate soil management plan would be required where intrusive works or dewatering were to occur.

REPORT	KEY ITEMS
ADE Consulting Group (2020) PFAS Investigation of Rhodes East – Leeds Foreshore Rhodes East Site 1 – Leeds Foreshore	The investigation included the site and area to the east "Site 1 – Leeds Foreshore" and a parcel of land to the south of Leeds St "Site 2 – Education Land". 5 soil borings were drilled to a depth of 6 metres bgl and soil samples collected from fill and natural materials. 3 existing groundwater monitoring wells sampled. 2 surface water samples were collected. The results indicated low levels of Per- and polyfluoroalkyl substances (PFAS)were present in the sampled media.
ADE Consulting Group (2022a) Detailed Site Investigation 25-27 Leeds Street, Rhodes, NSW	ADE completed soil and groundwater sampling across the greater Rhodes East site. The investigation identified hotspots of PFAS within soils in the greater investigation area. but not within the current site footprint. ADE confirmed the presence of acid sulfate soils and recommended the need for an Acid Sulfate Soil Management Plan (ASSMP).
ADE Consulting Group (2023) Acid Sulfate Soil Management Plan 25 – 27 Leeds Street, Rhodes NSW	The ASSMP is specific to the site at 25-27 Leeds St. The ASSMP provides a range of management strategies including excavation and liming to reduce the pH and direct excavation and disposal.

6 Preliminary Conceptual Site Model

Based on the information presented in Sections 1-4 of this report, a Conceptual site Model (CSM) has been prepared for the site. The ASC NEPM (2013) defines a CSM as:

> ***"A representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors"***

The essential elements of the CSM, as required by the ASC NEPM (2013), include an understanding of:

- Known and potential sources of contamination and contaminants of concern including the mechanism(s) of contamination (e.g., 'top down' spill or sub-surface release from corroded tank or pipe).
- Potentially affected media (soil, sediment, groundwater, surface water, indoor and ambient air) and human and ecological receptors.
- Potential and complete exposure pathways.

A tabular CSM provided in **Table 5** preliminarily identifies complete and potential Source, Pathway, Receptor (SPR) linkages.

6.1 Potential Sources of Contamination

The potential sources of contamination identified during the DSI are summarised in **Table 4.**

Table 4. Potential Sources of Contamination

SOURCE	AREAS OF CONCERN	CONTAMINANTS OF POTENTIAL CONCERN
Historical use of fill	Potential importation of fill from an unknown source used for reclaiming foreshore.	Metals, TRH, BTEX, PAHs, OCP, OPP, Asbestos, Dixons/furans
Historical land uses including timber milling/treatment,	Entire site	Metals, pesticides
Historical surrounding land use including chemical manufacture/storage	Groundwater migrating onto the site	Pesticides, metals, VOCs, PFAS
Weathering of potentially hazardous building materials	Surface soils surrounding former structure onsite along eastern site boundary.	Asbestos and lead.
Historical use of pesticides	Weed and onsite vermin control.	OCPs and OPPs.

6.2 Potentially Affected Media

The potentially affected media at the site includes soil and groundwater.

6.3 Potential Receptors

It is understood that the proposed residential development will feature some landscaped areas with accessible soils.

Based on the proposed land use, the potential receptors at and near the site include the following:

- Construction/maintenance workers.
- Future site users.

- Offsite residents.
- Parramatta River.

6.4 Potential Transport Mechanisms and Exposure Pathways

Potential transport mechanisms, exposure pathways and receptors relevant to the site may include:

- Direct contact with potentially contaminated soils during near or sub-surface works at the site (i.e., trenching and/or excavation works during construction or by future occupants).
- Inhalation/ingestion of disturbed soil/dust.
- Inhalation of vapours.
- Surface water run-off discharging into stormwater or running off directly to the Parramatta River.
- Groundwater migrating onto the site and leaving the site and mixing with surface water of the Parramatta River.
- Plant uptake/ingestion my microorganisms and biomagnification/bioaccumulation.

6.5 Source, Pathway and Receptor Linkages

A preliminary tabular CSM has been prepared for the site based on the outcomes of the desktop assessment in **Table 5** below. The tabular CSM describes potential linkages and assesses each of the linkages as possible or unlikely based on the likelihood of occurrence and availability of data.

Table 5. Preliminary Exposure Pathway Assessment

SOURCE	EXPOSURE PATHWAY	RECEPTOR	EXPOSURE
Fill materials of unknown origin.	• Direct contact with potentially contaminated soils during sub-surface works at the site • Inhalation of dust and vapours. • Ingestion of mobilised dust. • Surface water run-off.	• Construction Workers. • Future site users. • Maintenance workers[1]. • Offsite Maintenance workers[1]. • Offsite receptors.	**Possible** The SPR linkage is potentially complete. Assessment of CoPCs in surface and sub-surface soils is warranted.
Historical land uses including timber milling/treatment			
Historical surrounding land use including chemical manufacture/storage	• Groundwater/surface water interaction. • Vapour intrusion into building airspace.	• Maintenance workers[1]. • Construction Workers. • Future site users. • Offsite receptors.	**Possible** The SPR linkage is potentially complete. Assessment of CoPCs in groundwater is warranted.
Weathering of potentially hazardous building materials.	• Direct contact with potentially contaminated soil during surface and sub-surface works or by futures users of the area. • Inhalation of dust. • Ingestion of potentially contaminated soil. • Surface water run-off.	• Construction Workers. • Future site users. • Maintenance workers[1]. • Offsite receptors.	**Possible** The SPR linkage is potentially complete. Assessment of CoPCs in surface and sub-surface soils.
Historical use of pesticides	• Direct contact with contaminated soil.	• Future site users.	**Possible**

SOURCE	EXPOSURE PATHWAY	RECEPTOR	EXPOSURE
	• Inhalation dust. • Surface water run-off .	• Construction workers. • Maintenance workers[1]. • Offsite receptors.	The SPR linkage is potentially complete. Assessment of CoPCs in surface and sub-surface soils.

Notes:

1. Maintenance workers attending the site, particularly if works require excavation, trenching or any activities applicable to the sub-surface of the site.

7 Sampling and Analysis Plan

7.1 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 DSI 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; and
- **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 6** Error! Reference source not found.below and were derived in accordance with Australian Standard 4482.1-2005.

Table 6. Data Quality Objectives

ITEM	DETAIL
Step 1: State the problem	The site is proposed to be redeveloped for residential land use. Previous investigations have identified the presence of contaminants of potential concern in soil and groundwater at the site at concentrations that have the potential to pose an unacceptable risk to human health and ecological receptors under the proposed land use. Delineation of the nature and extent of contamination at the stie is required to inform future remediation and/or management decisions.

ITEM	DETAIL
Step 2: Identify the decision/goal of the study	If elevated concentrations of CoPCs are identified at the site: • What is the extent of the impact? • 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 setting, in the context of land contamination?
Step 3: Identify the information inputs	Key data required to resolve the project problem included: • Site history and setting • Historical soil and groundwater data • Site observations during field works. • The CSM • The proposed land use and development plans • Published Tier 1 assessment criteria.
Step 4: Define the boundaries of the study	This investigation was restricted to the physical site boundaries, as shown in **Figure 2, Appendix A**. The vertical extent of the study boundaries was limited to a maximum depth of 12 metres bgl.
Step 5: Develop a decision rule	If the concentrations of CoPC in soil are reported to be below the relevant adopted tier 1 assessment guidelines, then the site will be deemed suitable, and no management/remediation options will be proposed for the proposed land use at the site. If, however, the concentration of one or more CoPC are greater than the guidelines, then further investigation will be required to horizontally and vertically delineate the extent of the impact and/or recommendations made for the remediation/management of contamination to render the site suitable for the proposed development and future land dedication to council of the foreshore park.

ITEM	DETAIL
Step 6: Specify tolerable limits on decision errors	The laboratory data quality indicators are as follows: • Relative Percentage Difference (RPD) for laboratory duplicates for TPH and BTEX analysis is less than 60%; and • Recovery of matrix spikes and surrogate spikes is as per the laboratory's Quality Assurance targets accepted under their NATA accreditation. Precision is measured using the Standard Deviation (SD) or RPD. Replicate data for field duplicates of organics is expected to be as follows: • RPD criteria of 50% or less, for concentrations greater than or equal to 10 times practical quantitation limits (PQL). • RPD criteria of 75% or less, for concentrations between 5 and 10 times the PQL; and • RPD criteria of 100% or less, for concentrations less than 5 times PQL. 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 PQL; and • RPD criteria of 100% or less, for concentrations < 5 times PQL. Where acceptable limits for field duplicates are 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 (2013). In order to achieve this level of confidence, the investigation has been designed as described below.
Step 7: Optimise the design	Sampling locations were selected based on site access restrictions and infilling of areas not previously assessed. Groundwater monitoring wells were located to target upgradient and downgradient locations. Soil samples were collected at relevant intervals, changes in geology or in zones of gross contamination and locations selected for efficient and representative sampling. Soil samples for acid sulfate soil analysis were selected based on depth above and below the proposed excavation extent and also on field observations. All media sampling was completed in accordance with Reditus standard operating procedures and relevant industry guidelines.

7.2 Schedule of Works

Fieldworks including borehole drilling, soil sampling, monitoring well installation and well development were completed on 20 – 23 May 2024 by Reditus' Senior Environmental Scientist Renee Ashton.

Groundwater gauging, sampling and GPS surveying were completed on 30 and 31 May 2024 by Reditus' Environmental Scientist Kyle Sier.

7.3 Sampling Analysis Plan and Sampling Rationale

The intention of the sampling plan was to attain the objectives stated in **Section 1.3**. To achieve this, a judgemental (targeted) sampling design program was adopted for this investigation. The sampling plan was based on a review of the previous investigations, the site history, the site walkover and NSW EPA (2022) Sampling Design Guidelines, and targeted the location of potentially contaminating infrastructure, inferred groundwater flow direction, and had the goal of providing sufficient data to allow for definition, assessment and characterisation of soil and groundwater.

The sampling plan, rationale and analysis undertaken is summarised in **Table 7** and locations of soil and groundwater sample locations are presented in **Figure 3**, **Appendix A**.

Table 7. Sampling Analysis Plan and Rationale

SAMPLE LOCATIONS	MEDIA	RATIONALE	DEPTH (m)
NEW LOCATIONS			
BH101 / RMW1	Soil, Groundwater	Data gap in existing dataset in northwest of site and assessment of foreshore area.	6m – estimated depth to top of bedrock
BH102 / RMW2	Soil, Groundwater	Data gap in existing dataset in northwest of site and assessment of foreshore area. Deep well for dewatering assessment	10m – to assess for groundwater dewatering
BH103 / RMW3	Soil, Groundwater	Data gap in existing dataset in centre/north of site and assessment of foreshore area.	6m – estimated depth to top of bedrock
BH104 / RMW4	Soil, Groundwater	Data gap in existing dataset in centre/north of site and assessment of foreshore area. Deep well for dewatering assessment.	10m – to assess for groundwater dewatering
BH105	Soil	Data gap in existing dataset in west of site	6m – estimated depth to top of bedrock
BH106	Soil	Data gap in existing dataset in centre/west of site	6m – estimated depth to top of bedrock
BH107	Soil	Data gap in existing dataset in centre/east of site	6m – estimated depth to top of bedrock
BH108	Soil	Data gap in existing dataset in west of site	6m – estimated depth to top of bedrock
BH109	Soil	Data gap in existing dataset in centre of site	4m – estimated depth to top of bedrock
BH110	Soil	Data gap in existing dataset in central/south of site	4m – estimated depth to top of bedrock
BH111	Soil	Data gap in existing dataset in east of site	4m – estimated depth to top of bedrock
BH112	Soil	Data gap in existing dataset in central/south of site	4m – estimated depth to top of bedrock
BH113	Soil	Data gap in existing dataset on eastern side of site	4m – estimated depth to top of bedrock
BH114	Soil	Data gap in existing dataset in south-eastern corner of site	4m – estimated depth to top of bedrock
BH115 / RMW05	Soil/Groundwater	Upgradient location, deep well for dewatering	10m – to assess for groundwater dewatering

SAMPLE LOCATIONS	MEDIA	RATIONALE	DEPTH (m)
NEW LOCATIONS			
EXISTING LOCATIONS (ADE 2022)			
MW1-B	Groundwater	To obtain current data point	Depth (6.15m) Sample depth: Mid-point of water column in screened interval
MW2-B	Groundwater	To obtain current data point	Depth (11m) Sample depth: Mid-point of water column in screened interval
MW3-B	Groundwater	To obtain current data point	Depth (5.93m) Sample depth: Mid-point of water column in screened interval
MW4-B	Groundwater	To obtain current data point	Depth (5.7m) Sample depth: Mid-point of water column in screened interval

7.3.1 SOIL SAMPLING

Soil sampling was completed as follows:

- All soil borings were advanced with a drill rig utilising push tubes to allow for the collection of soil samples, followed by solid flight augers to facilitate well installation (where required).
- To achieve the target depth for the deep monitoring wells, once refusal was met on sandstone the drilling method was changed to coring. Where zones of weathered material were observed, samples were collected in accordance with the method described below.
- Soil samples were generally collected from the surface (0.1 metres), 0.5 metres bgl, 1 metre bgl, and every metre thereafter until the target depth was reached.
- The soil samples were collected directly from disposable push tube sleeves, the auger tip or from weathered zones within the core sample using dedicated nitrile gloves.
- Efforts were made to minimise disturbance of the material being sampled to the extent practicable. Such techniques included taking the sample directly from the auger tip to prevent cross-contamination and minimise the potential for loss of VOCs.
- Each soil sample was described in general accordance with the USCS and details of any discolouration, staining, odours or other indicators of contamination were also noted. Borehole logs are provided in **Appendix D**.
- Part of the soil sample was placed into a snap lock plastic bag for screening with a PID and part being placed directly into a laboratory prepared 250 mL glass jar with the details of the sample, including the sample name, the job number, the date of the sample and the sample depth.

To assess the presence, form and concentration of asbestos in soil, the following methodology was followed:

- Soil samples were collected in accordance with the ASC NEPM (2013) methodology for asbestos gravimetric sampling and submitted for asbestos in soil quantification analysis, which included:
  - A 500 mL soil sample was collected from each test-pit and placed into snap lock plastic bag (double bagged), for laboratory analysis of asbestos fines and friable asbestos (AF and FA).
  - A 10 L sample was collected from the fill material at each test-pit was collected. Each 10 L sample was spread over a contrasting surface (i.e., tarpaulin) and inspected for bonded Asbestos Containing Material (ACM)fragments. Any ACM or FA identified was collected, bagged and submitted to the laboratory for asbestos identification and the weight of asbestos fragments collected.

  The percentage soil asbestos from collected ACM fragments was calculated as follows:

$$\%Soil\ Asbestos = \frac{\%Asbestos\ Content \times ACM\ (kg)}{Soil\ Volume\ (L) \times Soil\ Density\ (kg/L)}$$

where:

- % Asbestos Content by weight (within asbestos cement materials) = 10% to 15% (Reditus has adopted 15% for the sake of conservatism)
- Soil Density (for sand material) = 1.65 kg/L

7.3.2 WELL DEVELOPMENT AND GROUNDWATER SAMPLING

5 of the soil borings were installed to either the top of rock or to 10 metres bgl and converted to groundwater monitoring wells. 2 of the 5 newly installed wells (RMW01 and RMW04) were screened from at least 1 metre above the saturated zone to the bottom of the borehole (totalling approximately 3m). The remaining 3 newly installed wells (RMW02, RMW03 and RMW05) were installed into the deeper sandstone bedrock with a 1 metre screen length. The groundwater monitoring wells were constructed using 50 mm internal diameter, Class 18 flush jointed unplasiticised polyvinyl chloride (uPVC) with machine slots of 0.5 mm to 1.0 mm width. 1-2 mm washed graded gravel was then packed from the base of the well up to 0.5 metres above the screen. A minimum 1 metre thick bentonite seal was installed above the gravel pack, with cement grout finishing the well to the surface. Each well was finished with a trafficable Gatic cover.

All monitoring wells were developed using a stainless-steel bailer and 12V groundwater development pump after installation and at least one week before groundwater sampling. The process was used to disturb the water column within the well annulus to remove any groundwater and well debris that may have been introduced since installation. Where practicable, a minimum quantity of three casing volumes of water was removed or until purged dry, whichever came first. The well was then left to stabilise for at least one week prior to purging and sampling.

During the groundwater monitoring event, each groundwater monitoring well was gauged for depth to water, depth to product, and depth to base from the top of casing (TOC) using an oil/water interface probe prior to purging and sampling. If product was identified during gauging, a clear plastic bailer was inserted into the well and the extent, appearance, apparent age and odour of the product was recorded.

Following gauging, each well as then purged using a low-flow peristaltic pump until groundwater quality parameters had stabilised to within the groundwater stabilisation criteria listed in **Table 8**. Physicochemical parameters were monitoring using a calibrated HANNA water quality meter placed within a flow cell. Once the parameters were within the stabilisation criteria, the sample was collected.

Table 8. Groundwater Physicochemical Stabilisation Criteria

PHYSICOCHEMICAL PARAMETER	PURGING STABILISATION CRITERIA
Dissolved Oxygen	+/- 10%
Electrical Conductivity	+/- 3%
Oxidation-Reduction Potential	+/- 10%
pH	+/- 0.1
Temperature	+/- 10%

Groundwater samples were collected directly into appropriately preserved laboratory supplied sampling containers and labelled with the date, sample name, sampler name and project number. Samples for dissolved metals were field filtered using a 0.45-micron Millipore bell filter.

Fresh high-density polyethylene tubing was used at each monitoring well, and the interface probe was thoroughly decontaminated between gauging events with a phosphate free detergent and rinsed with deionised water followed by potable water.

Field forms from the groundwater monitoring event are provided in **Appendix E**.

7.3.3 SURVEYING

The TOC height relative to AHD was obtained for each well using a Real-time kinematic positioning (RTK) GPS (Trimble) to allow for the interpolation of groundwater contours and approximation of groundwater flow direction.

TOC measurements were collected in the GDA2020 MGA Zone 56 coordinate reference system. Where GPS signal was poor, laser level measurements were utilised.

7.3.4 SAMPLING HANDLING

Sample handling and transportation was completed as follows:

- Each sample was collected in laboratory supplied and preserved sample containers.
- The sample containers were filled to ensure no headspace for volatile to off-gas.
- The sample containers were labelled with the project number, sampler, sample location and depth, and sampling date.
- The samples were immediately stored in an ice cooled esky to keep them chilled, prior to being couriered to the laboratory under a signed chain of custody (COC) form filled out with the required analysis (provided in Appendix F).
- The eskies were couriered to the laboratories within holing times.

7.4 Laboratory Analysis and Methods

Laboratory analytical methods and analyte PQLs are presented in the analytical laboratory certificates provided in **Appendix F** and were considered appropriate for the quantification of the CoPC identified in the CSM.

7.5 Tier 1 Assessment 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 pathways and CoPCs and proposed land use.

In Australia, appropriate HILs (including interim HILs for vapour intrusion 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 CSM (that is, whether the exposure pathways are plausible and whether exposure will result in harm).

Tier 1 screening criteria (including HILs and 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 was calculated and compared to relevant Tier 1 screening criteria. However, the implications of localised elevated values should also be considered. In order to adopt the 95% UCL result, the analyte data set must also meet the following criteria:

- The 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.

The tier 1 assessment 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’.

7.5.1 SOIL

The soil assessment criteria (SAC) adopted for this assessment were:

- ASC NEPM (2013) HIL-B criteria values have been adopted to assess concentrations of CoPC in soil for site suitability and human health in a high density residential land use scenario.
- ASC NEPM (2013) HSL-A/B guidelines for vapour intrusion have been adopted to evaluate the risk posed from vapour intrusion in a mixed-use high-density residential land use scenario. The soil HSLs are based on depth of impacts, overlying soil type and land use. After a review of subsurface conditions, the guidelines for sand were conservatively selected.
- ASC NEPM (2013) ESLs and EILs were both selected to determine the risk of potential contamination to identified ecological receptors on the site, in the context of an urban residential/public open space. Both ESL and EIL criteria values are applicable for the first 2 metres of the soil profile.
- ASC NEPM (2013) health screening levels for asbestos contamination in soil, which are based on specific land use exposure scenarios, for three forms of asbestos: bonded ACM, FA and AF. The laboratory method for analysis of asbestos in bulk materials is based on AS 4964-2004. Consequently, a practical quantification limit equal to or less than 0.001% by weight cannot be reported as a NATA accredited limit which is required to compare against the AF/FA assessment criteria. The NATA accredited limit is 0.1g/kg (equivalent to 0.01% w/w). For this assessment both the NATA and non-NATA accredited results have been reported. The health screening level for high density residential land use have been adopted for this assessment
- EIL criteria values were derived using site measured values and the NEPM EIL Interactive Calculation Worksheet available at http://www.nepc.gov.au/nepms/assessment-site-contamination/toolbox. The output from the EIL calculation is available in **Appendix G**. The following input parameters were reported from soil samples collected from the site:
  - **Cation exchange capacity (CEC)**: 3 cmol_c/kg
  - **Clay (%)**: 25 %
  - **pH**: 4.6
  - **Soil organic carbon (OC %)**: 2.8 %
- PFAS assessment criteria were taken from the Heads of Environmental Protection Authorities (HEPA, 2020) PFAS NEMP v2.0 for a residential with minimal access to soil land use scenario.
- In lieu of Australian guidelines, the dioxins and furans were assessed with respect to the tier 1 published criteria presented in CCME (2002).

Soil analytical results and guideline criteria are tabulated in **Table 1**, **Appendix C.**

7.5.2 GROUNDWATER

Selection of the Groundwater Assessment Criteria is based on the proposed development of the site to a residential land use and proximity of the site to identified receptors.

The tier 1 assessment criteria were adopted from:

- ASC NEPM (2013).
- Australian and New Zealand Governments Guidelines for Fresh and Marine Water Quality 2018.
- HEPA (2020)
- National Health and Medical Research Council (NHMRC) Australian Drinking Water Guidelines 6, 2011, Version 3.8 Updated September 2022.

The groundwater analytical data were compared against the following adopted Tier 1 screening criteria:

- ANZG (2018) 95% species protection default guideline values (DGVs) (supersedes the ASC NEPM (2013) Groundwater Investigation Levels (GIL)) for Freshwater.
  - The selection of Marine Water criteria is based on the proximity of the Site to the Parramatta River, which is likely to accept both surface water and potentially groundwater discharge from the Site.

  - Use of the 95% protection level assumes that the surrounding watercourses are moderately disturbed ecosystems. This is as defined in Section 3.1 of the guidelines as receiving road and storm water runoff from adjacent industry and residential properties, consistent with the setting and environment surrounding the site.
  - The ANZG (2018) is a revision of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ 2000) presented as an online platform, to improve usability and facilitate updates as new information becomes available.
  - Revisions to DGVs since the ANZECC & ARMCANZ (2000) guidelines have been provided for the ‘aquatic ecosystem’ community value. DGVs have been revised for physical and chemical (PC) stressors based on increased understanding, broader monitoring data collected since 2000.
  - The NEPM ASC (2013) GILs were derived using the ANZECC & ARMCANZ (2000), which were subsequently revised (superseded) in ANZG (2018). As such, the ANZG (2018) DGVs will be used as an initial screening in place of the NEPM ASC (2013) GIL criteria as they provide concentrations which once exceeded require further investigation into receptors and points of discharge.
- HEPA (2020) PFAS NEMP 2.0 Table 1 Recreational Water guideline criteria have been adopted to assess concentrations of PFAS compounds in groundwater which may discharge into the Parramatta River.
- HEPA (2020) PFAS NEMP 2.0 Table 5, Marine Water 95% species protection - slightly to moderately disturbed systems exposure scenario guideline criteria have been adopted to assess concentrations of PFAS in groundwater which may discharge into Parramatta River and be ingested by ecological aquatic receptors.
- HEPA (2020) PFAS NEMP 2.0 Table 5, Marine Water 99% species protection – high conservation value systems exposure scenario guideline criteria have been adopted to assess concentrations of PFAS in groundwater to allow for biomagnification.
- NEPM ASC (2013) Groundwater HSL for vapour intrusion HSL-A&B (GW HSL-A&B) for residential land use with groundwater depth 2-<4m within sand have been adopted to assess vapour intrusion in a residential land use setting. The 'coarse' soil texture has been selected following a review of predominant subsurface conditions.
- ANZG (2023) Toxicant default guideline values for aquatic ecosystem protection: Dioxins in freshwater (adopted in the absence of marine water guidelines) Toxicant default guideline values, 2,3,7,8-TCDD in freshwater, moderate reliability for 95 % protection of species.

Groundwater is not abstracted at the site or down-gradient for beneficial use such as drinking water or irrigation. As such the respective criteria for these have not been considered further.

8 Quality Assurance and Quality Control (QAQC)

8.1 Field Quality Assurance

8.1.1 DETAILS OF SAMPLING TEAM

Fieldworks including the site inspection and soil sampling were completed by Reditus' personnel who are suitably qualified and experienced in the collection of environmental samples.

8.1.2 DECONTAMINATION PROCEDURES

Single use equipment was utilised where possible. Equipment that required decontamination, including the oil-water interface probe, low flow pump were washed in a Liquinox then triple rinsed in clean water.

8.1.3 CHAIN OF CUSTODY DETAILS

All samples were transported to the laboratory under a 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. COCs are provided in **Appendix F** along with the laboratory reports.

8.1.4 FIELD DUPLICATE SAMPLES

Sampling Splitting Techniques

Soil duplicates and triplicate samples 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.

Statement of Duplicate Frequency

Field duplicates and triplicates were collected at a rate of 1:15 (soil) and 1:10 (groundwater) This complies with the Australian Standard 4482.1-2005 and Reditus' QA frequency ranges.

The following soil QA/QC samples were collected:

- DUP02 and TRIP02 were respectively soil intra-laboratory and inter-laboratory duplicates of sample BH102_2m.
- DUP03 and TRIP03 were respectively soil intra-laboratory and inter-laboratory duplicates of sample BH107_3m.

The following groundwater QA/QC samples were collected:

- DUP1 and TRIP1 were respectively soil intra-laboratory and inter-laboratory duplicates of sample MW1-B.
- DUP2 and TRIP2 were respectively soil intra-laboratory and inter-laboratory duplicates of sample EW1.

8.1.5 TRIP BLANKS AND TRIP SPIKES

Trip spikes are used to assess contamination from field conditions at the time of the sampling event and that the sampling procedures are adequate in preventing cross contamination of VOCs during sample transport and storage.

The results of trip spikes and trip blanks were within acceptable ranges as shown in **Appendix F.**

8.1.6 RINSATE BLANKS

Rinsate blanks are used to assess the potential for cross contamination between sampling to ensure decontamination procedures are adequate throughout the investigation.

The results of rinsate sampling were within acceptable ranges and are provided in **Appendix F**.

8.2 Laboratory QA/QC

The following is a summary of the internal laboratory QA/QC procedures. Detailed laboratory QA/QC is provided in **Appendix F**.

8.2.1 SAMPLE HOLDING TIMES

All holding times were reported as being within specified ranges with the exception of the chromium suite. As such the acid sulfate soil data will be seen as an estimate of the true value. It is noted that the Scr results exceeded the criteria and therefore the management decisions for the site are unaffected by the holding time non-conformance.

8.2.2 LABORATORY ACCREDITATION AND ANALYTICAL METHODS USED

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

Envirolab is accredited by NATA to ISO/IEC 17025 with the accreditation number 1261, while ALS is also accredited to this standard with the accreditation number 825.

8.2.3 LABORATORY CONTROL SAMPLES

Laboratory control samples were reported within acceptable ranges.

8.2.4 LABORATORY RELATIVE PERCENT DIFFERENCE (RPD)

All internal laboratory RPDs met acceptance criteria with the exception of samples 352254-1 for lead and zinc and 352254-17 which exceeded the criteria for zinc. As such, triplicate results were issued (laboratory sample numbers 352254-42 and 352254-43).

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

8.3.1 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.

8.3.2 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.

8.3.3 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.

8.3.4 PRECISION

- Intra-laboratory and inter-laboratory duplicates were collected at the following rates:
  - Soil intra-laboratory and inter-laboratory duplicates frequency were collected at a rate of 1:15 primary samples.
  - Groundwater intra-laboratory and inter-laboratory duplicates frequency were collected at a rate of 1:10 primary samples.
- QA/QC sample collection rate follows the guidance provided in AS4482.1-2005.

8.3.5 RELATIVE PERCENT DIFFERENCE

Refer to **Table 4 and Table 5, Appendix B** for Relative Percent Differences (RPDs) calculations. 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:

- BH102_2m and TRIP02

  - Chromium (total) – 40%
  - Lead – 32%
- BH107_3m and TRIP03
  - Copper – 43%
  - Lead – 63%

Reditus considers that these RPD exceedances are likely to be due to the heterogeneity of sampled soil. Reditus hence does not consider that these RPD exceedances have affected the integrity of the analytical results.

All groundwater RPDs were within acceptable ranges.

9 Results

9.1 Field Observations

9.1.1 SOIL

Soil samples collected from the boreholes were logged in general accordance with the USCS. Borehole logs are provided as **Appendix D**. The soils encountered during the intrusive investigation are summarised below:

Fill

- Fill material was encountered at depths up to 2.5 metres bgl and comprised gravelly sand and silty sand. The greatest depth of fill was observed in the northern portion of the site (i.e. the foreshore area).

Natural

- Natural material comprised silty sand and sandy clay.
- Estuarine mud with shell inclusions was observed in bores drilled on the northern side of the site (foreshore area) at depths of 3 metres bgl.
- Weathered sandstone was observed at all locations on top of competent sandstone bedrock.
- Depth to rock ranged between 1.6 metres bgl in the south of the site to 7 metres bgl in the north.

9.1.2 GROUNDWATER

Groundwater was encountered in soil borings at depths greater than 3 metres bgl in residual soils and in bedrock.

Groundwater field sheets are included in **Appendix E**. A summary of the results is provided below:

Table 9. Stabilised Groundwater Physicochemical Parameters

ID	pH	TEMP (^{O}C)	EC (mS/cm)	DO (ppm)	REDOX (mV)
Shallow Wells					
RMW01*	4.33	21.1	17.58	3.78.	-122.5
RMW03*	4.35	21.60	21.82	5.73	212.1
EW1	5.66	21.4	7.65	4.31	23.3
MW1-B	6.26	22.2	7.23	3.30	-118.4
MW2-B	6.25	20.8	10.76	3.64	-147.6
MW3-B*	6.74	21.3	38.10	3.91	91.6
MW4-B	4.63	21.4	0.603	3.14	91.7
Deep Wells					
RMW02* (deep)	4.18	19.9	17.70	4.33	-132.1
RMW04* (deep)	5.58	22.1	12.53	5.02	48.3
RMW05 (deep)	5.62	21.2	4.816	4.55	55.9

*located in the foreshore area

The following can be seen from the above:

- The water in the shallow and deep wells is acidic.
- Depending on location at the site, the groundwater is fresh (MW4-B) to brackish. The EC at MW3-B is representative of seawater.

- The DO indicates well oxygenated water in the shallow and deep wells.
- The redox values indicate variable reducing and oxidating environments depending on the location at the site.

There does not appear to be a difference in physico-chemical parameters between the shallow and deep wells which may indicated interconnectivity between the water bearing zones.

Groundwater was observed at depths between 1.8 metres bgl and 4.3 metres bgl and was inferred to flow to the north/northeast (see **Figure 4, Appendix A**).

9.2 Analytical Results

9.2.1 SOIL – CONTAMINATION ASSESSMENT

A summary of the soil analytical results can be found in **Table 1, Appendix C**. The following section outlines the key findings of the comparison between laboratory results and the site assessment criteria.

Soil sample locations are presented on **Figure 3, Appendix A**.

Table 10. Soil Analytical Data Summary

ANALYTE	NUMBER OF RESULTS	NUMBER OF DETECTS	MINIMUM CONCENTRATION (mg/kg)	MAXIMUM CONCENTRATION (mg/kg)	EXCEEDANCES
BTEXN					
Benzene	30	0	<0.2	<0.2	None
Toluene	30	0	<0.5	<0.5	None
Ethylbenzene	30	0	<0.5	<1	None
Xylene Total	30	0	<0.5	<1	None
Naphthalene	30	0	<0.1	<0.5	None
TRH					
F1	30	0	<10	<25	None
F2	30	0	<50	<50	None
F3	30	1	<100	230	None
F4	30	0	<100	<100	None
PAH					
BaP	30	2	<0.05	<0.5	None
BaP TEQ	30	2	<0.5	1.2	None
PAHs (total)	28	4	<0.05	0.4	None
Metals					
Arsenic	32	17	<4	21	None
Cadmium	32	0	<0.4	<1	None
Chromium (III+VI)	32	32	6	36	None

ANALYTE	NUMBER OF RESULTS	NUMBER OF DETECTS	MINIMUM CONCENTRATION (mg/kg)	MAXIMUM CONCENTRATION (mg/kg)	EXCEEDANCES
Copper	32	31	1	470	2 x EIL BH108 (0.3m), BH113 (0.5m)
Lead	32	32	2	220	None
Mercury	32	0	<0.1	<0.1	None
Nickel	32	25	<1	22	3 x EIL BH108 (0.3m), BH109 (0.3m), BH111 (0.5m)
Zinc	32	29	<1	600	1 x EIL BH113 (0.5m)
Pesticides					
OCP	13	0	<0.1	<0.1	None
OPP	13	0	<0.1	<0.1	None
PCBs (Sum of total)	13	0	<0.1	<0.1	
PFAS					
PFOA	10	0	<0.0001	<0.0001	None
PFOS	10	1	<0.0001	0.0002	None
PFHxS	10	0	<0.0001	<0.0001	None
PFHxS+PFOS	10	1	<0.0001	0.0002	None
Asbestos					
Asbestos (<2mm AF/FA)	12	0	<0.001	<0.001	None
Asbestos (ACM >7mm)	12	0	<0.01	<0.01	None
Total Asbestos	12	0	<0.1	<0.1	None
Dioxins/Furans TEQ (pg/g)	6	0	0	3.178	None

9.2.2 SOIL – ACID SULFATE SOIL ASSESSMENT

A summary of the soil ASS analytical results can be found in **Table 2, Appendix C**. The following section outlines the key findings of the comparison between laboratory results and the site assessment criteria.

Soil sample locations are presented on **Figure 3, Appendix A**.

Table 11. Acid Sulfate Soil Data

FIELD ID	DEPTH (m bgl)	NET ACIDITY (ACIDITY UNITS) MOLE H^+/T	NET ACIDITY (SULFUR UNITS) %S
ACID SULFATE SOIL MANAGEMENT LIMITS (ASSMAC 1998)		18	0.03
BH102	**4**	500	0.80
BH102	**6**	150	0.24
BH103	**4**	<5	<0.005
BH103	**6**	30	0.050
BH105	**4**	340	0.55
BH106	**3**	87	0.14
BH106	**6**	27	0.044
BH107	**4**	240	0.38
BH109	**2**	<5	0.0060
BH114	**1**	110	0.18
BH115	**5.1**	22	0.040
BH115	**10.7**	130	0.21

It can be seen from the table above that ASS is present in 10 of the 12 samples analysed ranging in depth from 1 metre bgl to 10.7 metres bgl. Therefore, an ASSMP is required to be prepared and implemented during the excavation and dewatering works for the proposed development.

9.2.3 GROUNDWATER

A summary of the soil analytical results can be found in **Table 3, Appendix C**. The following section outlines the key findings of the comparison between laboratory results and the site assessment criteria.

Soil sample locations are presented on **Figure 3, Appendix A**.

Table 12. Groundwater Analytical Data Summary

ANALYTE	NO SAMPLES	NO. DETECTS	MIN (ug/L)	MAX (ug/L)	EXCEEDENCES
BTEX					
Benzene	10	0	<1	<1	None
Toluene	10	1	<1	46	None
Ethylbenzene	10	0	<1	<1	None
m+p-xylene	10	0	<2	<2	None
o-xylene	10	0	<1	<1	None
Naphthalene	10	0	<1	<1	None
TRH					

ANALYTE	NO SAMPLES	NO. DETECTS	MIN (ug/L)	MAX (ug/L)	EXCEEDENCES
F1	10	2	<10	50	None
F2	10	0	<50	<50	None
PAH					
Benzo(a)pyrene	10	0	<0.1	<0.1	None
Metals					
Arsenic-Dissolved	10	6	<1	9	None
Cadmium-Dissolved	10	4	<0.1	1.1	None
Chromium-Dissolved	10	3	<11	3	None
Cobalt-Dissolved	5	5	25	92	5 x Marine: RMW01, RMW02, RMW03, RMW04, RMW05
Copper-Dissolved	10	4	<1	120	3 x Marine: MW4-B, RMW02, RMW03
Lead-Dissolved	10	3	<3	44	2 x Marine: RMW02, RMW03
Mercury-Dissolved	10	0	<0.05	<0.05	None
Nickel-Dissolved	10	8	<1	130	3 x Marine: EW1, RMW03, RMW05
Zinc-Dissolved	10	10	4	620	8 x Marine: EW1, MW1-B, MW3-B, RMW01, RMW02, RMW03, RMW04, RMW05
PFAS					
PFHxS	7	5	<0.0002	0.068	None
PFOS	7	6	<0.0002	0.013	6 x 99% LoP: MW1-B, MW2-B, MW3-B, MW4-B, RMW01, RMW04

ANALYTE	NO SAMPLES	NO. DETECTS	MIN (ug/L)	MAX (ug/L)	EXCEEDENCES
PFOA	7	6	<0.0002	0.018	None
PFHxS+PFOS	7	6	<0.0002	0.071	None
Dioxins/Furans TEQ (pg/L)	3	3	ND	0.036	None

9.3 Extent of Uncertainties in the Results

The sampling methodologies used by Reditus during this investigation has 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 onsite from the conditions reported herein.

10 Discussion

The previous investigations completed at the site did not identify the presence of contamination in soil however the sampling density was less than required by NSW EPA (2022). The soil sampling completed as part of the current investigation increased the sampling density to meet the requirements of NSW EPA (2022), i.e. 23 locations for the site area of 1.16ha.

Observations made during the current site works indicated:

- The current land use has limited potential to impact soil and groundwater.
- The soil profile observed was consistent with previous assessments. The depth to sandstone rock was shallow (<1 metres bgl) in the southern portion, tending deeper to the north and was deepest on the northern boundary in areas known to be reclaimed land (>6 metres bgl).
- The depth to groundwater was consistent with previous investigations and was identified on average at 2.5 metres bgl below ground level and flowed to the north toward the Parramatta River.

The soil analytical data shows the following:

- The concentrations of all CoPC in soil were less than the human health assessment criteria, indicating the site is suitable for the proposed residential land use and the foreshore area is suitable for to be dedicated to council (from a contamination perspective).
- Exceedances to ecological assessment criteria were observed in the basement area, however these will be removed during excavation of the basement.
- Asbestos was not detected in any sample analysed.
- Acid sulfate soils are present at the site which will require management during excavation and dewatering.

The groundwater analytical data shows the following:

- Risks to human health from a vapour intrusion pathway are not present onsite.
- CoPC including PAH, BTEX, TRH, and PFAS were not detected at concentrations exceeding human health assessment criteria.
- PFOS was detected at concentrations exceeding the interim marine 99% level of protection assessment criteria across the site including the foreshore area. This indicates a potential risk to ecological receptors where groundwater and surface water interface. However, given the significant dilution expected this is unlikely to pose an unacceptable risk.
- The greatest PFOS concentrations were observed in the southeast (Leeds St side) and northeast (foreshore area) corners of the site and decreased by two orders of magnitude at the western and northern (foreshore) boundaries of the site. This indicates source of PFOS is not related to the site and is likely to be related to offsite uses to the east. Refer to concentration contour provided in **Figure 5, Appendix A**.
- Heavy metals including copper, lead, nickel and zinc were detected at concentrations exceeding ecological criteria. As for PFAS, the potential exists for ecological receptors of the Parramatta River to be impacted from the groundwater. Dilution of the groundwater at the surface water interface is likely to reduce the risk to ecological receptors. The source of heavy metals is from an upgradient off-site receptor and not attributed to current or historical land use.

Refer to **Figure 6a & 6b, Appendix A**, showing soil and groundwater exceedances respectively from Reditus's investigation, and **Figure 7, Appendix A**, for groundwater exceedances from previous investigations.

11 Refined Conceptual Site Model

Based on the results of the investigation and the preliminary CSM presented in **Section 5** has been refined to identify complete and potential pathways between the known or potential source(s) and the receptor(s).

Table 13. Refined Conceptual Site Model

SOURCE	EXPOSURE PATHWAY	RECEPTOR	EXPOSURE
Fill materials of unknown origin.	• Direct contact with potentially contaminated soils during sub-surface works at the site • Inhalation of dust and vapours. • Ingestion of mobilised dust. • Surface water run-off.	• Construction Workers. • Future site users. • Maintenance workers[1]. • Offsite Maintenance workers[1]. • Offsite receptors.	**Unlikely** Soil results indicate that a source of significant soil contamination is not present.
Historical land uses including timber milling/treatment			
Historical surrounding land use including chemical manufacture/storage	• Groundwater/surface water interaction. • Vapour intrusion into building airspace.	• Maintenance workers[1]. • Construction Workers. • Future site users. • Offsite receptors.	**Possible** The SPR linkage is potentially complete if an exposure path to groundwater is created during future site development. The potential exists for groundwater to contaminate receiving waters, however dilution at the interface is likely to significantly reduce the concentrations and therefore reduce the risk to receptors.
Weathering of potentially hazardous building materials.	• Direct contact with potentially contaminated soil during surface and sub-surface works or by futures users of the area. • Inhalation of dust. • Ingestion of potentially contaminated soil. • Surface water run-off.	• Construction Workers. • Future site users. • Maintenance workers[1]. • Offsite receptors.	**Unlikely** CoPC associated with hazardous building materials such as asbestos and lead were not detected in soil at concentrations exceeding the land use criteria.
Historical use of pesticides	• Direct contact with contaminated soil. • Inhalation dust. • Surface water run-off .	• Future site users. • Construction workers. • Maintenance workers[1]. • Offsite receptors.	**Unlikely** Soil results indicate that a source of significant soil contamination is not present.

Notes:
Maintenance workers attending the site, particularly if works require excavation, trenching or any activities applicable to the sub-surface of the site.

12 Conclusions and Recommendations

12.1 Conclusions

Based on a review of the site history, observations made during fieldwork, results of laboratory analysis and the proposed land use scenario, Reditus concludes the following:

- Fill materials at the site are suitable to remain onsite, from a contamination perspective, for the proposed residential land use.
- Residual natural soils are also suitable for the proposed residential land use. However, excavation of natural material and/or dewatering will require management of acid sulfate soils.
- Exceedances to the ecological criteria in soil are not seen to be an issue as this material will be removed during excavation of the basement.
- The groundwater data was consistent with previous investigations which identified heavy metals, namely copper, lead, nickel, and zinc, and PFOS at concentrations exceeding ecological criteria. The presence of metals in groundwater appears to be a regional issue given the presence in up-gradient wells and the lack of source areas on the site. PFOS in groundwater also appears to be related to an offset source given the reduction in concentrations by over two orders of magnitude across the site in the direction of groundwater flow.
- The findings of this investigation were consistent with previous assessments completed at the site.

Based on the above, Reditus considers that the site is suitable for the proposed development (mixed use high density residential with basement carparking) and the northern section (the foreshore area within the site boundary) is suitable to be dedicated to Council for use as a park.

The scope of work completed during this DSI has satisfied Items 13, 16, and 17 of the SEARs and Item 3 of the SEARs cover letter.

Given the elevated concentrations of heavy metals and PFOS in groundwater it is recommended that groundwater not be abstracted for beneficial use at the site. As dewatering will be required to facilitate the basement excavation a dewatering management plan and an acid sulfate soil management plan will be required to ensure protection of the surrounding environment during the works. If excavation and/or groundwater extraction is required within the foreshore area of the site, the same controls will be required.

Reditus considers that the consent authority may be satisfied that the required considerations of Clause 4.6 of State Environmental Planning Policy (Resilience and Hazards) 2021 are satisfied for the following reasons:

- This DSI (Reditus) and previous investigations (Jacobs (2016) and ADE (2022)) completed on the development site has adequately assessed the site history to identify potential sources of contamination, and has suitability assessed the potential risk posed by contaminants to health and the environment. As such, Clause 4.6(1)(a) of SEPP (Resilience and Hazards) 2021 has been successfully achieved.
- This DSI has determined that the land can be made suitable in its current state for the purposes for which the development is proposed to be carried out (as mixed use high density residential). As such, Clause 4.6(1) (b) and (c) of SEPP (Resilience and Hazards) 2021 have been successfully achieved.
- The DSI has been completed in accordance with the contaminated land planning guidelines, satisfying Clause 4.6(2) and 4.6(3) of SEPP (Resilience and Hazards) 2021.

13 Limitations

This report has been prepared in accordance with the scope of services described in the **Section 1.3**. The letter 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-site or undertake and 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 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.

14 References

Previous Investigations

Jacobs (2016) Rhodes East Priority Investigation Area Contamination and Acid Sulphate Soils Report.

ADE Consulting Group (2020) PFAS Investigation of Rhodes East – Leeds Foreshore Rhodes East Site 1 – Leeds Foreshore

ADE Consulting Group (2023) Detailed Site Investigation 25-27 Leeds Street, Rhodes, NSW

ADE Consulting Group (2023) Acid Sulfate Soil Management Plan 25 – 27 Leeds Street, Rhodes NSW

Environmental Planning

NSW Environmental Planning and Assessment Act (the EP&A Act 1979).

NSW State Environmental Planning Policy Number (SEPP) Resilience and Hazards 2021. Superseding SEPP55 – Remediation of Land, 1998.

Site Contamination

CCME (2002) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health Polychlorinated Dibenzo-P-Dioxins and Polychlorinated Dibenzofurans (PCDD/Fs)

CRC Care (2011) Health screening levels for petroleum hydrocarbons in soil and groundwater. Part 1: Technical development document.

NSW Contaminated Land Management Act (the CLM Act 1997).

NSW EPA statutory guidelines made or approved under section 105 of the CLM Act, including:

- *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, August 2022.*
- *NSW EPA Guidelines for the Assessment and Management of Groundwater Contamination, 2007.*
- *NSW EPA Guidelines for Assessment and Management of Hazardous Ground Gases, 2020.*

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.

- ANZG (2023) Toxicant default guideline values for aquatic ecosystem protection: Dioxins in freshwater (adopted in the absence of marine water guidelines).

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.

Heads of Environment Protection Authorities (2020) PFAS National Environmental Management Plan version 2.0 (the PFAS NEMP 2.0), 2020.

Acid Sulfate Soils

The Acid Sulfate Soil Management Advisory Committee (ASSMAC) Acid Sulfate Soils Assessment Guidelines 1998 (Also referred to as the "Acid Sulfate Soils Manual").

Soil Conservation Service of NSW "Sydney Soil Landscape Series Sheet 9130, 1989.

Geological Survey of NSW "Sydney Geological Series Sheet 9130, 1:100,000 scale" map (First Edition 1983)".

Geoscience Australia "Hydrogeology Map of Australia", 1987.

Waste

NSW Protection of the Environment Operations (Waste) Regulations 2014.

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

NSW EPA Resource Recovery Order, Excavated Natural Material Order under Part 9, Clause 93 of POEO Waste Regulation 2014 (the ENM Order 2014).

Asbestos

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

A

Figures

Map

22148_rp01_f01_siteloc_v01

Date of Export

07/06/2024

Author	**Approver**
JP	TS

Data Source

Metromap, Google Maps, Open Street Map, NSW Government

Legend

🟥 Site Boundary
🟨 Lot Boundaries
— Major Roads
┼ Railways
▭ Surface Water

Watercourses

— Rivers
— Stream (Perennial)
- - Stream (Non-Perennial)
- - Unnamed Stream (Non-Perennial)
- - Other Channels

Figure 1 - Site Location

25-27 Leeds Street, Rhodes NSW 2138

22148 - Detailed Site Investigation

Billbergia Pty Ltd

Map	
22148_rp01_f02_sitelayout_v01	
Date of Export	**Map Scale (approx. at A3)**
19/06/2024	1:650
Author	**Approver**
JP	TS
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

🟥 Site Boundary
🟨 Lot Boundaries

Figure 2 - Site Layout

25-27 Leeds Street, Rhodes NSW 2138

22148 - Detailed Site Investigation

Billbergia Pty Ltd

Map	
22148_rp01_f03_samplelocs_v01	
Date of Export	**Map Scale (approx. at A3)**
24/06/2024	1:650
Author	**Approver**
JP	TS
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

🟥 Site Boundary
🟨 Lot Boundaries

Sample Locations - Reditus, 2024
⊕ Borehole
⊕ Groundwater Monitoring Well

Sample Locations - ADE, 2020-2022
🟩 Borehole
⊕ Groundwater Monitoring Well

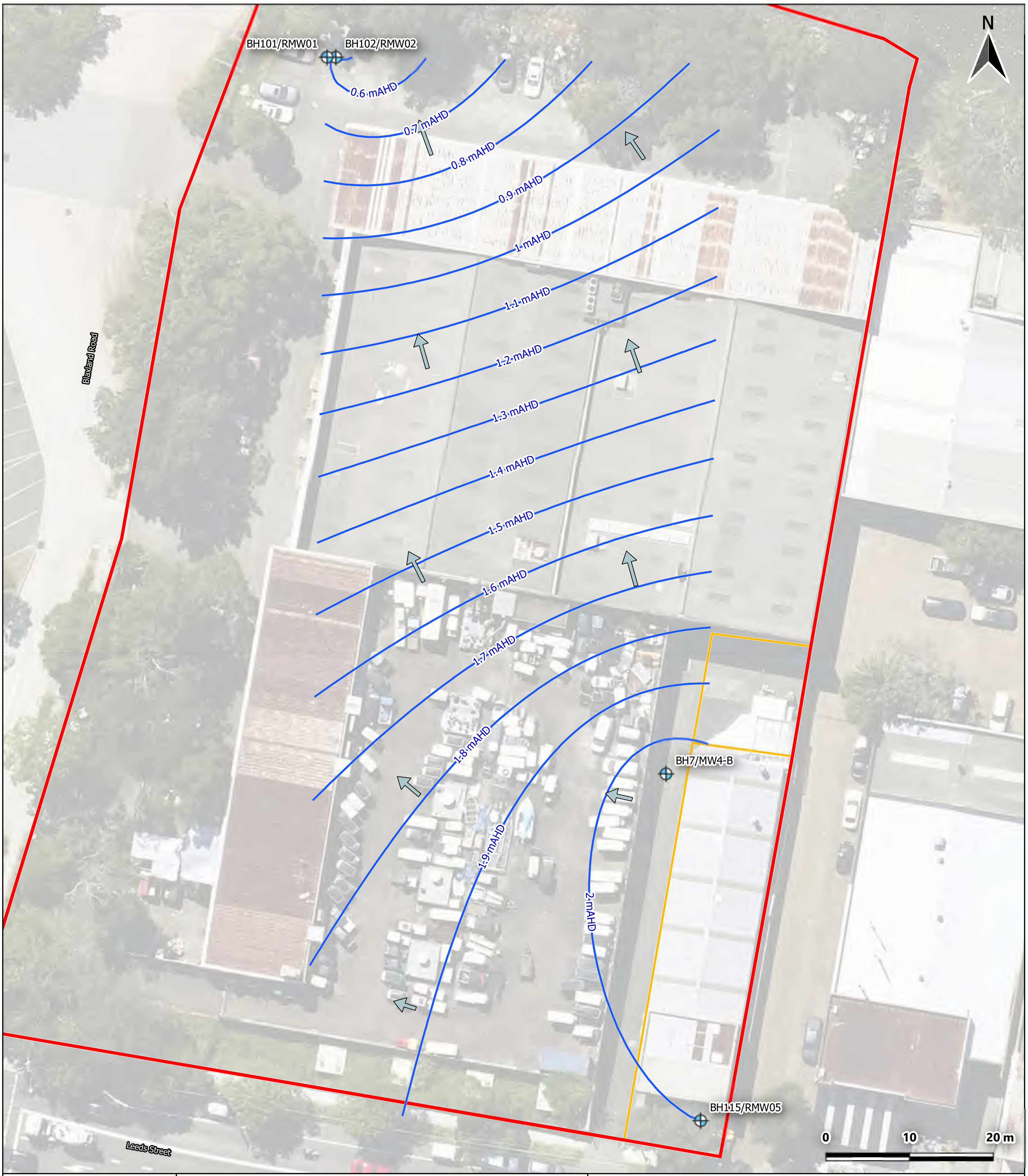
Sample Locations - Jacobs, 2016
▨ Borehole
⊕ Groundwater Monitoring Well

Figure 3 - Sample Locations

25-27 Leeds Street, Rhodes NSW 2138

22148 - Detailed Site Investigation

Billbergia Pty Ltd



Map 22148_rp01_f04_gwcont_v01	
Date of Export 19/06/2024	**Map Scale (approx. at A3)** 1:550
Author JP	**Approver** TS
Data Source Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- 🟥 Site Boundary
- 🟨 Lot Boundaries
- ⊕ Groundwater Monitoring Well
- — Inferred Groundwater Elevation Contours (m AHD)
- ➪ Inferred Groundwater Flow Direction

Figure 4 - Groundwater Elevation Contours

25-27 Leeds Street, Rhodes NSW 2138

22148 - Detailed Site Investigation

Billbergia Pty Ltd

Map

22148_rp01_f05_PFOSGWcont_v01

Date of Export

24/06/2024

Map Scale (approx. at A3)

1:450

Author

JP

Approver

TS

Data Source

Metromap, Google Maps, Open Street Map, Geoscience Australia

Legend

🟥 Site Boundary
🟧 Lot Boundaries
⊕ Groundwater Monitoring Well
— Inferred PFOS in Groundwater Concentration Contours (µg/L)

Figure 5 - Groundwater PFOS Concentration Contours

25-27 Leeds Street, Rhodes NSW 2138

22148 - Detailed Site Investigation

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PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines
NEPM 2013 Table 1A(1) HILs Res B Soil
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
  >=0m, <1m
  >=1m, <2m
  >=2m, <4m
  >=4m
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil

		Ni
Field ID	**Depth**	**mg/kg**
BH109	**0.3**	**16**

		Cu	Ni
Field ID	**Depth**	**mg/kg**	**mg/kg**
BH108	**0.3**	**41**	**22**

		Ni
Field ID	**Depth**	**mg/kg**
BH111	**0.5**	**15**

		Cu	Zn
Field ID	**Depth**	**mg/kg**	**mg/kg**
BH113	**0.5**	**470**	**600**

Map
22148_rp01_f06a_soilex_v01

Date of Export 24/06/2024
Map Scale (approx. at A3) 1:800

Author JP
Approver TS

Data Source
Metromap, Google Maps, Open Street Map, Geoscience Australia

Legend

🟥 Site Boundary
🟨 Lot Boundaries

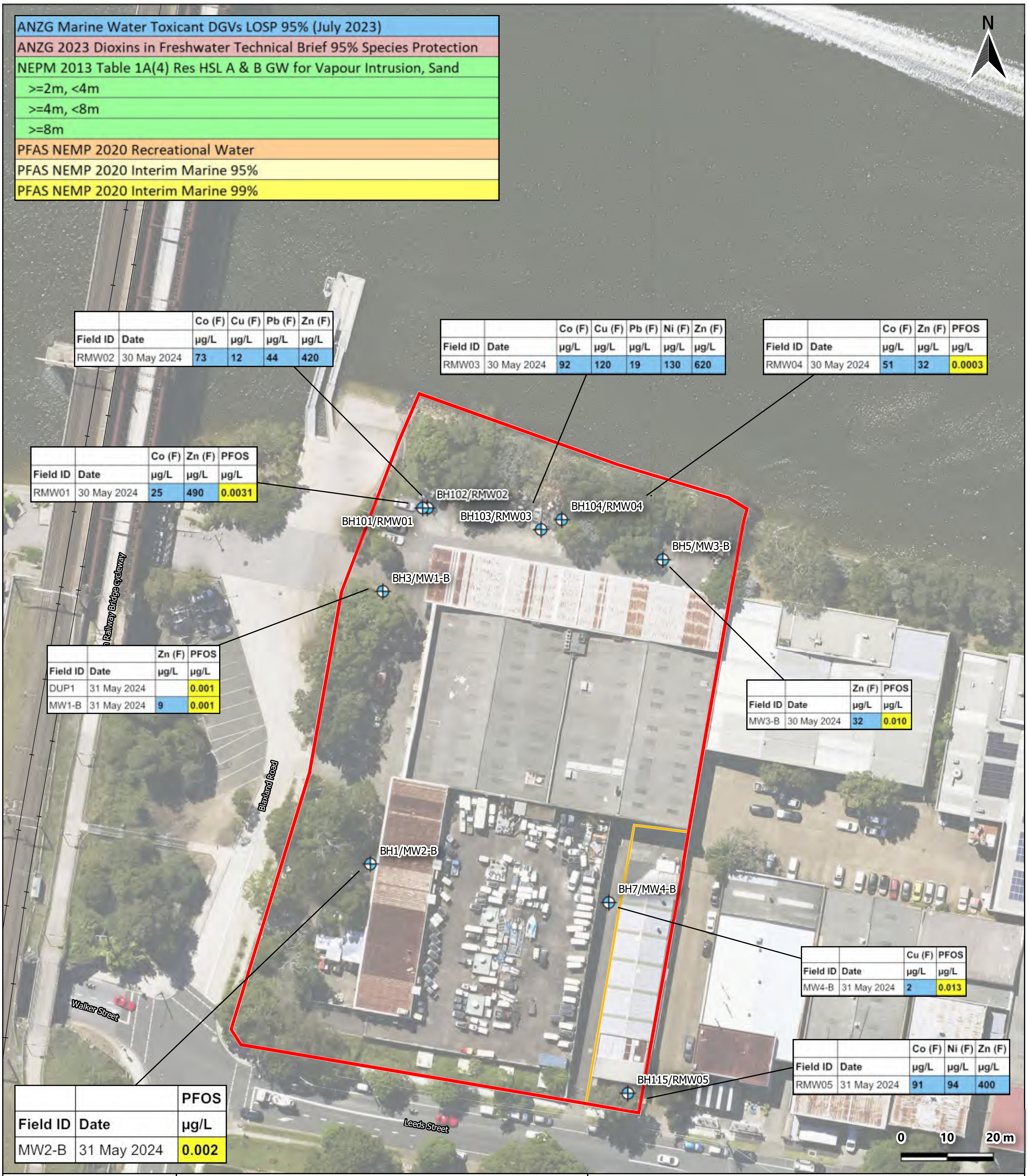
Sample Locations
⊕ Borehole

Figure 6a - Soil Criteria Exceedances

25-27 Leeds Street, Rhodes NSW 2138

22148 - Detailed Site Investigation

Billbergia Pty Ltd



ANZG Marine Water Toxicant DGVs LOSP 95% (July 2023)
ANZG 2023 Dioxins in Freshwater Technical Brief 95% Species Protection
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand
>=2m, <4m
>=4m, <8m
>=8m
PFAS NEMP 2020 Recreational Water
PFAS NEMP 2020 Interim Marine 95%
PFAS NEMP 2020 Interim Marine 99%

		Co (F)	Cu (F)	Pb (F)	Zn (F)
Field ID	Date	µg/L	µg/L	µg/L	µg/L
RMW02	30 May 2024	73	12	44	420

		Co (F)	Cu (F)	Pb (F)	Ni (F)	Zn (F)
Field ID	Date	µg/L	µg/L	µg/L	µg/L	µg/L
RMW03	30 May 2024	92	120	19	130	620

		Co (F)	Zn (F)	PFOS
Field ID	Date	µg/L	µg/L	µg/L
RMW04	30 May 2024	51	32	0.0003

		Co (F)	Zn (F)	PFOS
Field ID	Date	µg/L	µg/L	µg/L
RMW01	30 May 2024	25	490	0.0031

		Zn (F)	PFOS
Field ID	Date	µg/L	µg/L
DUP1	31 May 2024		0.001
MW1-B	31 May 2024	9	0.001

		Zn (F)	PFOS
Field ID	Date	µg/L	µg/L
MW3-B	30 May 2024	32	0.010

		Cu (F)	PFOS
Field ID	Date	µg/L	µg/L
MW4-B	31 May 2024	2	0.013

		Co (F)	Ni (F)	Zn (F)
Field ID	Date	µg/L	µg/L	µg/L
RMW05	31 May 2024	91	94	400

		PFOS
Field ID	Date	µg/L
MW2-B	31 May 2024	0.002

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Date of Export	**Map Scale (approx. at A3)**
24/06/2024	1:1,000
Author	**Approver**
JP	TS
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

🟥 Site Boundary
🟧 Lot Boundaries

Sample Locations

⊕ Groundwater Monitoring Well

Figure 6b - Groundwater Criteria Exceedances

25-27 Leeds Street, Rhodes NSW 2138

22148 - Detailed Site Investigation

Billbergia Pty Ltd

🟦 ANZG Marine Water Toxicant DGVs LOSP 95% (July 2023)
🟥 ANZG 2023 Dioxins in Freshwater Technical Brief 95% Species Protection
🟩 NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand
🟩 >=2m, <4m
🟩 >=4m, <8m
🟩 >=8m
🟧 PFAS NEMP 2020 Recreational Water
🟨 PFAS NEMP 2020 Interim Marine 95%
🟨 PFAS NEMP 2020 Interim Marine 99%

		Zn	PFOS
Field ID	Report/Date	µg/L	µg/L
MW3-B	ADE (2022)	26	0.02

		Zn
Field ID	Report/Date	µg/L
MW1-B	ADE (2022)	44

		Zn
Field ID	Report/Date	µg/L
MW2-B	ADE (2022)	34

		Zn
Field ID	Report/Date	µg/L
MW4-B	ADE (2022)	19

Map	
22148_rp01_f07_histgw_v01	
Date of Export	**Map Scale (approx. at A3)**
24/06/2024	1:1,000
Author	**Approver**
JP	TS
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

🟥 Site Boundary
🟨 Lot Boundaries

Sample Locations

⌖ Groundwater Monitoring Well

Figure 7 - Historical Groundwater Criteria Exceedances

25-27 Leeds Street, Rhodes NSW 2138

22148 - Detailed Site Investigation

Billbergia Pty Ltd

B

Photoboard

Photo No.	Date
1	20/5/2024
Direction Facing	
-	
Description	
Drilling within golf cart workshop	

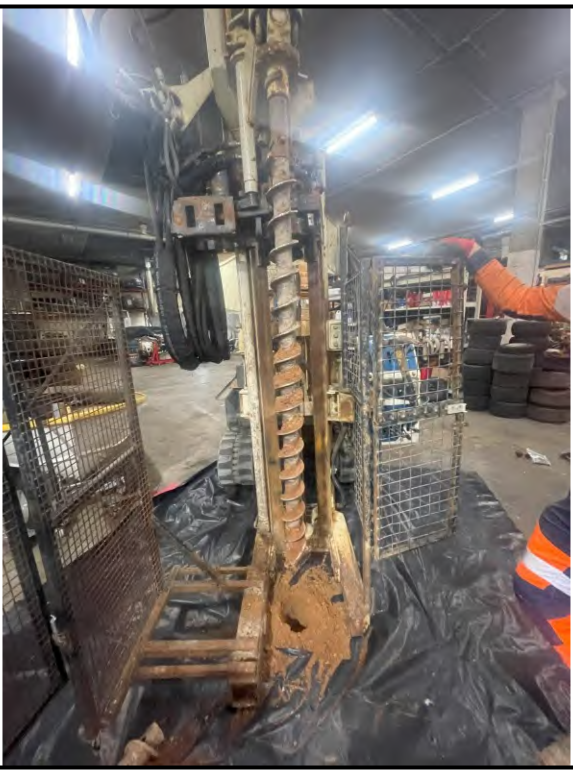
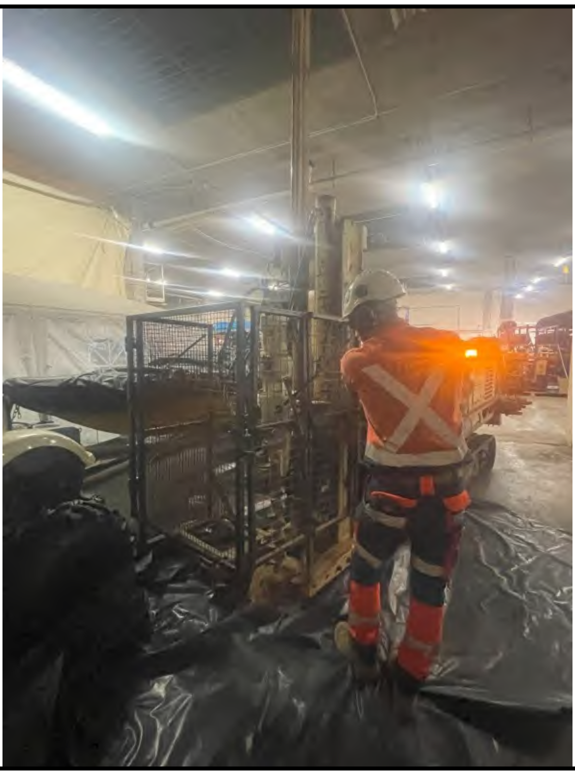


Photo No.	Date
2	20/5/2024
Direction Facing	
-	
Description	
Drilling within golf cart workshop	



APPENDIX B
SITE PHOTOGRAPHS

Report Title
Detailed Site Investigation

Client Name	Site Location	Project Number
Billbergia Pty Ltd	25-27 Leeds Street, Rhodes NSW	22148

Photo No.	Date
3	20/5/2024

Direction Facing
N

Description
Drilling near NW corner of site

Photo No.	Date
4	20/5/2024

Direction Facing
N

Description
Drilling within driveway of 25 Leeds Street

Photo No.	Date
5	21/5/2024
Direction Facing	
N	
Description	
Drilling near NW corner of site	

Photo No.	Date
6	21/5/2024
Direction Facing	
-	
Description	
Sandstone core	

APPENDIX B
SITE PHOTOGRAPHS

Report Title
Detailed Site Investigation

Client Name	Site Location	Project Number
Billbergia Pty Ltd	25-27 Leeds Street, Rhodes NSW	22148

Photo No.	Date
7	21/5/2024

Direction Facing
-

Description
Sandstone core

Photo No.	Date
8	21/5/2024

Direction Facing
NW

Description
Monitoring well installation

Photo No.	Date
9	21/5/2024
Direction Facing	
S	
Description	
Drilling within flooring warehouse	

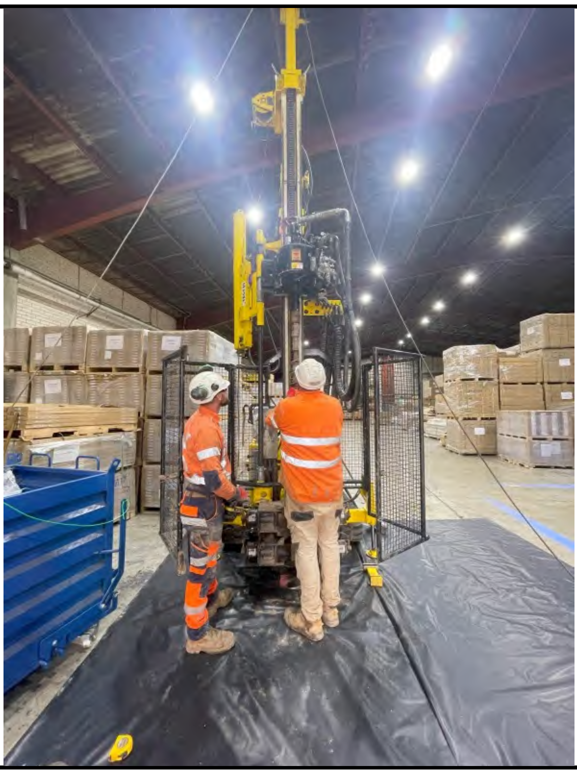


Photo No.	Date
10	22/5/2024
Direction Facing	
W	
Description	
Drilling towards southern site boundary	

APPENDIX B SITE PHOTOGRAPHS		
Report Title Detailed Site Investigation		
Client Name Billbergia Pty Ltd	Site Location 25-27 Leeds Street, Rhodes NSW	Project Number 22148

Photo No.	Date	
11	23/05/2024	
Direction Facing NE		
Description Drilling at 25 Leeds Street		

C

Summary Results Tables

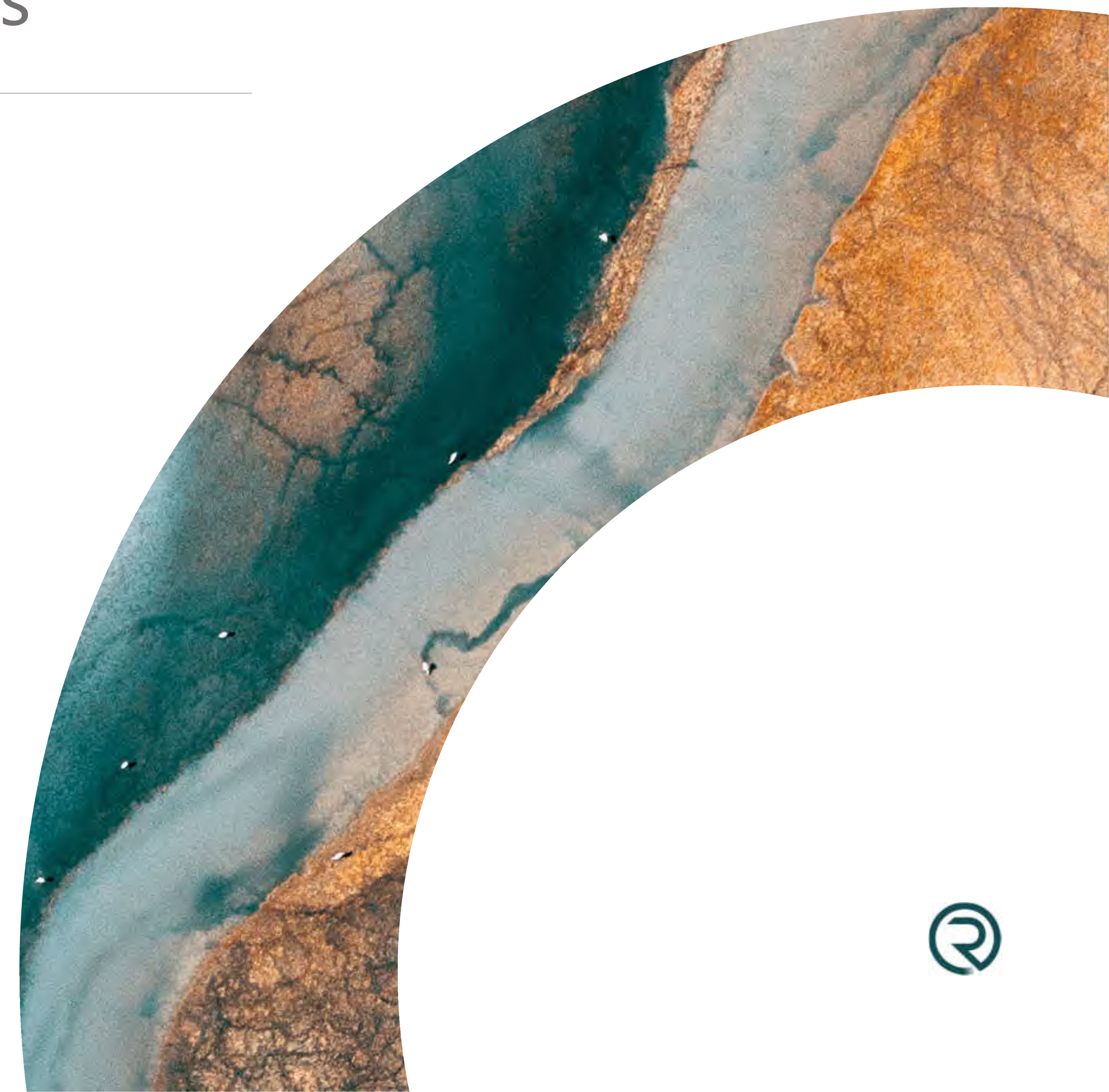


Table 1
Soil Analytical Results Summary

				BTEX								Asbestos				
				Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Asbestos (<2mm AF/FA)		Asbestos (ACM >7mm) Estimation	Total Asbestos	Asbestos fibres
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	%w/w	%w/w	g/kg	Detect
EQL				1	0.2	0.5	0.5	0.5	0.5	0.5	0.2					
PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)																
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines																
NEPM 2013 Table 1A(1) HILs Res B Soil																
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																
>=0m, <1m				3	0.5	160	55			40						
>=1m, <2m				NL	0.5	220	NL			60						
>=2m, <4m				NL	0.5	310	NL			95						
>=4m				NL	0.5	540	NL			170						
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space																
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil					50	85	70			105						
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																
Field ID	**Depth**	**Date**	**Lab Report**													
BH102	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH102	**2**	**21 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH102 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**1**	**22 May 2024**	**352254 / PFE1917**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH103	**3**	**22 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH103	**4**	**22 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH105	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH105	**3**	**21 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH106	**0.5**	**22 May 2024**	**352254 / PFE1917**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH106	**2**	**22 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH107	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH107	**3**	**21 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH107 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	**0.3**	**23 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH109	**0.3**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH109	**0.5**	**20 May 2024**	**PFE1917**	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	**1**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH110	**0.25**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH110	**1**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH111	**0.5**	**23 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH111	**2**	**23 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH112	**0.3**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH112	**1**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH113	**0.5**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH113	**2**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH114	**0.5**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	**ND**	<0.001	<0.01	<0.1	**ND**
BH114	**1**	**20 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
BH115	**0.2**	**23 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	**ND**
BH115	**1**	**23 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
DUP02 (BH102)	**2**	**21 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
DUP03 (BH107)	**3**	**21 May 2024**	**352254**	<1	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	-
TRIP02 (BH102)	**2**	**21 May 2024**	**ES2417505**	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	-	-	-	-
TRIP03 (BH107)	**3**	**21 May 2024**	**ES2417505**	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	-	-	-	-

ND = Non-detect at 0.1g/kg limit of reporting
^ Chromium (III+VI) concentrations have been compared to Chromium (VI) HIL criteria

Table 1
Soil Analytical Results Summary

					TRH							PAH																				
				Naphthalene (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)	Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benz(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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	10	10	50	50	100	100	50	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	0.5	0.5	0.5	0.05
PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)																																
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines																																
NEPM 2013 Table 1A(1) HILs Res B Soil																													4	4	400	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																
>=0m, <1m				3		45		110																		3						
>=1m, <2m				NL		70		240																		NL						
>=2m, <4m				NL		110		440																		NL						
>=4m				NL		200		NL																		NL						
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space																										170						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil						180	120	120	300	2,800							0.7															
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil					700		1,000		2,500	10,000																						
Field ID	**Depth**	**Date**	**Lab Report**																													
BH102	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.1	<0.1	<0.1	<0.1	**0.06**	-	<0.1	-	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.5	<0.5	-	**0.3**
BH102	**2**	**21 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH102 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**1**	**22 May 2024**	**352254 / PFE1917**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH103	**3**	**22 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH103	**4**	**22 May 2024**	**352254**	<1	<25	<25	<50	<50	**230**	<100	**230**	<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
BH105	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH105	**3**	**21 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH106	**0.5**	**22 May 2024**	**352254 / PFE1917**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH106	**2**	**22 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH107	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH107	**3**	**21 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH107 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	**0.3**	**23 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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	-	**0.2**
BH109	**0.3**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH109	**0.5**	**20 May 2024**	**PFE1917**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	**1**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH110	**0.25**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH110	**1**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH111	**0.5**	**23 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.1	<0.1	<0.1	<0.1	**0.07**	-	<0.1	-	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.5	<0.5	-	**0.4**
BH111	**2**	**23 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH112	**0.3**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH112	**1**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH113	**0.5**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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	-	**0.1**
BH113	**2**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH114	**0.5**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH114	**1**	**20 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH115	**0.2**	**23 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
BH115	**1**	**23 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
DUP02 (BH102)	**2**	**21 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
DUP03 (BH107)	**3**	**21 May 2024**	**352254**	<1	<25	<25	<50	<50	<100	<100	<50	<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
TRIP02 (BH102)	**2**	**21 May 2024**	**ES2417505**	<1	<10	<10	<50	<50	<100	<100	<50	-	<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	-
TRIP03 (BH107)	**3**	**21 May 2024**	**ES2417505**	<1	<10	<10	<50	<50	<100	<100	<50	-	<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	-

ND = Non-detect at 0.1g/kg limit of reporting
^ Chromium (III+VI) concentrations have been compared to Chromium (VI) HIL criteria

Table 1
Soil Analytical Results Summary

					Inorganics						Metals								
				Naphthalene (BTEX)	Exchangeable Calcium	pH 1:5 soil:water	Exchangeable Magnesium	Exchangeable Potassium	Exchangeable Sodium	Cation Exchange Capacity	Arsenic	Cadmium	Chromium (III+VI)	Copper	Iron	Lead	Mercury	Nickel	Zinc
				mg/kg	meq/100g	-	meq/100g	meq/100g	meq/100g	meq/100g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	0.1		0.1	0.1	0.1	1	4	0.4	1	1	10	1	0.1	1	1
PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)																			
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines																			
NEPM 2013 Table 1A(1) HILs Res B Soil											500	150	500^	30,000		1,200	120	1,200	60,000
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																			
>=0m, <1m				3															
>=1m, <2m				NL															
>=2m, <4m				NL															
>=4m				NL															
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space											100		430	40		1,100		15	150
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																			
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																			
Field ID	**Depth**	**Date**	**Lab Report**																
BH102	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	-	-	-	-	-	-	<4	<0.4	**8**	**18**	-	**32**	<0.1	**5**	**54**
BH102	**2**	**21 May 2024**	**352254**	<1	**0.8**	**4.4**	**1.3**	**0.2**	**0.8**	**3.1**	**6**	<0.4	**12**	**5**	**27,000**	**13**	<0.1	<1	**3**
BH102 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	**5**	<0.4	**9**	**19**	-	**44**	<0.1	**6**	**51**
BH103	**1**	**22 May 2024**	**352254 / PFE1917**	<1	-	-	-	-	-	-	**6**	<0.4	**6**	**21**	-	**19**	<0.1	**2**	**23**
BH103	**3**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	**6**	<0.4	**16**	**8**	-	**17**	<0.1	**2**	**7**
BH103	**4**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	**21**	<0.4	**6**	**3**	-	**6**	<0.1	**3**	**9**
BH105	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	-	-	-	-	-	-	**5**	<0.4	**13**	**12**	-	**30**	<0.1	**5**	**39**
BH105	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	**9**	<0.4	**18**	**5**	-	**12**	<0.1	**1**	**11**
BH106	**0.5**	**22 May 2024**	**352254 / PFE1917**	<1	-	-	-	-	-	-	<4	<0.4	**7**	**16**	-	**15**	<0.1	**6**	**30**
BH106	**2**	**22 May 2024**	**352254**	<1	**1.1**	**4.9**	**1.2**	**0.2**	**0.3**	**2.9**	<4	<0.4	**9**	**3**	**16,000**	**10**	<0.1	<1	**2**
BH107	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	-	-	-	-	-	-	**5**	<0.4	**9**	**17**	-	**19**	<0.1	**8**	**51**
BH107	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**7**	**11**	-	**24**	<0.1	**3**	**45**
BH107 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	**5**	<0.4	**8**	**19**	-	**18**	<0.1	**6**	**33**
BH108	**0.3**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	**5**	<0.4	**8**	**41**	**35,000**	**19**	<0.1	**22**	**75**
BH109	**0.3**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**9**	**40**	-	**18**	<0.1	**16**	**59**
BH109	**0.5**	**20 May 2024**	**PFE1917**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**10**	**1**	-	**10**	<0.1	**2**	**13**
BH110	**0.25**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**8**	**13**	-	**2**	<0.1	**6**	**26**
BH110	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**36**	**8**	-	**21**	<0.1	**7**	**69**
BH111	**0.5**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	**4**	<0.4	**16**	**21**	-	**31**	<0.1	**15**	**79**
BH111	**2**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**8**	**1**	-	**3**	<0.1	<1	<1
BH112	**0.3**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**9**	**13**	-	**12**	<0.1	**9**	**51**
BH112	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**16**	**6**	-	**8**	<0.1	**3**	**12**
BH113	**0.5**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	**8**	<0.4	**23**	**470**	-	**220**	<0.1	**12**	**600**
BH113	**2**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	**9**	<0.4	**18**	**34**	-	**28**	<0.1	**11**	**91**
BH114	**0.5**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	**6**	<0.4	**23**	**3**	-	**16**	<0.1	**4**	**4**
BH114	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	**4**	<0.4	**12**	**4**	-	**17**	<0.1	<1	**1**
BH115	**0.2**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	**12**	<0.4	**29**	**13**	-	**16**	<0.1	**4**	**25**
BH115	**1**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**7**	**2**	-	**14**	<0.1	<1	<1
DUP02 (BH102)	**2**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	**5**	<0.4	**10**	**3**	-	**11**	<0.1	<1	**3**
DUP03 (BH107)	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	<4	<0.4	**7**	**13**	-	**25**	<0.1	**3**	**42**
TRIP02 (BH102)	**2**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	<5	<1	**8**	<5	-	**18**	<0.1	<2	<5
TRIP03 (BH107)	**3**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	<5	<1	**8**	**17**	-	**46**	<0.1	**6**	**58**

ND = Non-detect at 0.1g/kg limit of reporting
^ Chromium (III+VI) concentrations have been compared to Chromium (VI) HIL criteria

Table 1
Soil Analytical Results Summary

					Dioxins and Furans																
				Naphthalene (BTEX)	1,2,3,4,6,7,8-Heptachlorooxanthrene	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,2,3,4,7,8-Hexachlorooxanthrene	1,2,3,4,7,8-Hexachlorodibenzofuran	1,2,3,6,7,8-Hexachlorooxanthrene	1,2,3,6,7,8-Hexachlorodibenzofuran	1,2,3,7,8,9-Hexachlorooxanthrene	1,2,3,7,8,9-Hexachlorodibenzofuran	2,3,7,8-Tetrachlorooxanthrene	1,2,3,7,8-Pentachlorooxanthrene	1,2,3,7,8-Pentachlorodibenzofuran	2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,7,8-Pentachlorodibenzofuran	2,3,7,8-Tetrachlorodibenzofuran	1,2,3,4,6,7,8,9-Octachlorooxanthrene	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
				mg/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL				1																	
PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)																					
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines																					
NEPM 2013 Table 1A(1) HILs Res B Soil																					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																					
>=0m, <1m				3																	
>=1m, <2m				NL																	
>=2m, <4m				NL																	
>=4m				NL																	
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space																					
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																					
Field ID	**Depth**	**Date**	**Lab Report**																		
BH102	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	**120**	**57**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50	<2.0	<2.0	<2.0	<2.0	<0.50	**1,400**	**18**
BH102	**2**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH102 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**1**	**22 May 2024**	**352254 / PFE1917**	<1	**7.3**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50	<2.0	<2.0	<2.0	<2.0	<0.50	**760**	<5.0
BH103	**3**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**4**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	**21**	**3.9**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50	<2.0	<2.0	<2.0	<2.0	<0.50	**2,300**	<5.0
BH105	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	**0.5**	**22 May 2024**	**352254 / PFE1917**	<1	**13**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50	<2.0	<2.0	<2.0	<2.0	<0.50	**580**	<5.0
BH106	**2**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	**12**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50	<2.0	<2.0	<2.0	<2.0	<0.50	**1,200**	<5.0
BH107	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	**0.3**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	**0.3**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	**0.5**	**20 May 2024**	**PFE1917**	-	**6.1**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50	<2.0	<2.0	<2.0	<2.0	<0.50	**800**	<5.0
BH109	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	**0.25**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	**0.5**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	**2**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	**0.3**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	**0.5**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	**2**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	**0.5**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	**0.2**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	**1**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP02 (BH102)	**2**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP03 (BH107)	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP02 (BH102)	**2**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP03 (BH107)	**3**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND = Non-detect at 0.1g/kg limit of reporting
^ Chromium (III+VI) concentrations have been compared to Chromium (VI) HIL criteria

Table 1
Soil Analytical Results Summary

					Dioxins I-TEQ 1xLOR																	
				Naphthalene (BTEX)	1234678-HpCDD I-TEQ3 (LOR)	1234678-HpCDF I-TEQ3 (LOR)	1234789-HpCDF I-TEQ3 (LOR)	123478-HxCDD I-TEQ3 (LOR)	123478-HxCDF I-TEQ3 (LOR)	123678-HxCDD I-TEQ3 (LOR)	123678-HxCDF I-TEQ3 (LOR)	123789-HxCDD I-TEQ3 (LOR)	123789-HxCDF I-TEQ3 (LOR)	12378-PeCDD I-TEQ3 (LOR)	12378-PeCDF I-TEQ3 (LOR)	234678-HxCDF I-TEQ3 (LOR)	23478-PeCDF I-TEQ3 (LOR)	2378-TCDD I-TEQ3 (LOR)	2378-TCDF I-TEQ3 (LOR)	OCDD I-TEQ3 (LOR)	OCDF I-TEQ3 (LOR)	OCDF I-TEQ3 (LOR)
				mg/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL				1																		
PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)																						
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines																						4
NEPM 2013 Table 1A(1) HILs Res B Soil																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																						
>=0m, <1m				3																		
>=1m, <2m				NL																		
>=2m, <4m				NL																		
>=4m				NL																		
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space																						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																						
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																						
Field ID	Depth	Date	Lab Report																			
BH102	0.5	21 May 2024	352254 / PFE1917	<1	1.2	0.56	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	0.018	3.178
BH102	2	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH102 - [TRIPLICATE]	0.5	21 May 2024	352254	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	1	22 May 2024	352254 / PFE1917	<1	0.073	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.76	-	0.833
BH103	3	22 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	4	22 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	0.5	21 May 2024	352254 / PFE1917	<1	0.21	0.039	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	2.549
BH105	3	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	0.5	22 May 2024	352254 / PFE1917	<1	0.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.58	-	0.71
BH106	2	22 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	0.5	21 May 2024	352254 / PFE1917	<1	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	1.32
BH107	3	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107 - [TRIPLICATE]	0.5	21 May 2024	352254	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	0.3	23 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	0.3	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	0.5	20 May 2024	PFE1917	-	0.061	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	0.861
BH109	1	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	0.25	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	1	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	0.5	23 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	2	23 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	0.3	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	1	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	0.5	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	2	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	0.5	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	1	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	0.2	23 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	1	23 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP02 (BH102)	2	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP03 (BH107)	3	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP02 (BH102)	2	21 May 2024	ES2417505	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP03 (BH107)	3	21 May 2024	ES2417505	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND = Non-detect at 0.1g/kg limit of reporting
^ Chromium (III+VI) concentrations have been compared to Chromium (VI) HIL criteria

Table 1
Soil Analytical Results Summary

					Organochlorine Pesticides																					
				Naphthalene (BTEX)	4,4-DDE	a-BHC	Aldrin	Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor	Mirex
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.1	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	0.1
PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)																										
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines																										
NEPM 2013 Table 1A(1) HILs Res B Soil															600				20			10		15	500	20
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																										
>=0m, <1m				3																						
>=1m, <2m				NL																						
>=2m, <4m				NL																						
>=4m				NL																						
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space											180															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																										
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																										
Field ID	**Depth**	**Date**	**Lab Report**																							
BH102	**0.5**	**21 May 2024**	**352254 / PFE1917**	<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	<0.1	<0.1
BH102	**2**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH102 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**1**	**22 May 2024**	**352254 / PFE1917**	<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	<0.1	<0.1
BH103	**3**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**4**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	**0.5**	**21 May 2024**	**352254 / PFE1917**	<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	<0.1	<0.1
BH105	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	**0.5**	**22 May 2024**	**352254 / PFE1917**	<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	<0.1	<0.1
BH106	**2**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	**0.5**	**21 May 2024**	**352254 / PFE1917**	<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	<0.1	<0.1
BH107	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	**0.3**	**23 May 2024**	**352254**	<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	<0.1	<0.1
BH109	**0.3**	**20 May 2024**	**352254**	<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	<0.1	<0.1
BH109	**0.5**	**20 May 2024**	**PFE1917**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	**0.25**	**20 May 2024**	**352254**	<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	<0.1	<0.1
BH110	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	**0.5**	**23 May 2024**	**352254**	<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	<0.1	<0.1
BH111	**2**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	**0.3**	**20 May 2024**	**352254**	<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	<0.1	<0.1
BH112	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	**0.5**	**20 May 2024**	**352254**	<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	<0.1	<0.1
BH113	**2**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	**0.5**	**20 May 2024**	**352254**	<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	<0.1	<0.1
BH114	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	**0.2**	**23 May 2024**	**352254**	<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	<0.1	<0.1
BH115	**1**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP02 (BH102)	**2**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP03 (BH107)	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP02 (BH102)	**2**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP03 (BH107)	**3**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND = Non-detect at 0.1g/kg limit of reporting
^ Chromium (III+VI) concentrations have been compared to Chromium (VI) HIL criteria

Table 1
Soil Analytical Results Summary

					Organophosphorous Pesticides																				
				Naphthalene (BTEX)	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenamiphos	Fenitrothion	Fenthion	Malathion	Methidathion	Methyl parathion	Mevinphos (Phosdrin)	Parathion	Phorate	Ronnel	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
EQL				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	0.1
PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)																									
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines																									
NEPM 2013 Table 1A(1) HILs Res B Soil							340																		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																									
>=0m, <1m				3																					
>=1m, <2m				NL																					
>=2m, <4m				NL																					
>=4m				NL																					
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space																									
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																									
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																									
Field ID	**Depth**	**Date**	**Lab Report**																						
BH102	**0.5**	**21 May 2024**	**352254 / PFE1917**	<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	<0.1
BH102	**2**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH102 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**1**	**22 May 2024**	**352254 / PFE1917**	<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	<0.1
BH103	**3**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**4**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	**0.5**	**21 May 2024**	**352254 / PFE1917**	<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	<0.1
BH105	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	**0.5**	**22 May 2024**	**352254 / PFE1917**	<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	<0.1
BH106	**2**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	**0.5**	**21 May 2024**	**352254 / PFE1917**	<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	<0.1
BH107	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	**0.3**	**23 May 2024**	**352254**	<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	<0.1
BH109	**0.3**	**20 May 2024**	**352254**	<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	<0.1
BH109	**0.5**	**20 May 2024**	**PFE1917**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	**0.25**	**20 May 2024**	**352254**	<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	<0.1
BH110	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	**0.5**	**23 May 2024**	**352254**	<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	<0.1
BH111	**2**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	**0.3**	**20 May 2024**	**352254**	<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	<0.1
BH112	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	**0.5**	**20 May 2024**	**352254**	<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	<0.1
BH113	**2**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	**0.5**	**20 May 2024**	**352254**	<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	<0.1
BH114	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	**0.2**	**23 May 2024**	**352254**	<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	<0.1
BH115	**1**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP02 (BH102)	**2**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP03 (BH107)	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP02 (BH102)	**2**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP03 (BH107)	**3**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND = Non-detect at 0.1g/kg limit of reporting
^ Chromium (III+VI) concentrations have been compared to Chromium (VI) HIL criteria

Table 1
Soil Analytical Results Summary

					PCBs								Particle Size	Organic									
				Naphthalene (BTEX)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Clay in soils <2um	TOC %	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		100	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0001	0.0002
PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)																	2		2				
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines																							
NEPM 2013 Table 1A(1) HILs Res B Soil												1											
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																							
>=0m, <1m				3																			
>=1m, <2m				NL																			
>=2m, <4m				NL																			
>=4m				NL																			
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																							
Field ID	**Depth**	**Date**	**Lab Report**																				
BH102	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002
BH102	**2**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	**20**	**3,100**	-	-	-	-	-	-	-	-	-
BH102 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**1**	**22 May 2024**	**352254 / PFE1917**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	**0.0002**	<0.0002	<0.0002	<0.0001	<0.0002
BH103	**3**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	**4**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002
BH105	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	**0.5**	**22 May 2024**	**352254 / PFE1917**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002
BH106	**2**	**22 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	**30**	**2,600**	-	-	-	-	-	-	-	-	-
BH107	**0.5**	**21 May 2024**	**352254 / PFE1917**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002
BH107	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107 - [TRIPLICATE]	**0.5**	**21 May 2024**	**352254**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	**0.3**	**23 May 2024**	**352254**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
BH109	**0.3**	**20 May 2024**	**352254**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002
BH109	**0.5**	**20 May 2024**	**PFE1917**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	**0.25**	**20 May 2024**	**352254**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002
BH110	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	**0.5**	**23 May 2024**	**352254**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002
BH111	**2**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	**0.3**	**20 May 2024**	**352254**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002
BH112	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	**0.5**	**20 May 2024**	**352254**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
BH113	**2**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	**0.5**	**20 May 2024**	**352254**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002
BH114	**1**	**20 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	**0.2**	**23 May 2024**	**352254**	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
BH115	**1**	**23 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP02 (BH102)	**2**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP03 (BH107)	**3**	**21 May 2024**	**352254**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP02 (BH102)	**2**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP03 (BH107)	**3**	**21 May 2024**	**ES2417505**	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND = Non-detect at 0.1g/kg limit of reporting
^ Chromium (III+VI) concentrations have been compared to Chromium (VI) HIL criteria

Table 1
Soil Analytical Results Summary

				PFAS																						
				Naphthalene (BTEX)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS	Sum of PFAS (PFOS + PFOA)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.0001	0.0001	0.0005	0.0005	0.0001	0.005	0.0005	0.0005	0.0001	0.0001	0.0002	0.0002	0.001	0.001	0.0002	0.001	0.001	0.0002	0.005	0.0001	0.0001	0.0001
PFAS NEMP 2020 Residential with minimal opportunities for soil access (HIL B)						20																		2		
CCME 2002 Canadian Soil Quality Guidelines, Table 5 SQGHH - Residential/Parkland, provisional guidelines																										
NEPM 2013 Table 1A(1) HILs Res B Soil																										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																										
>=0m, <1m				3																						
>=1m, <2m				NL																						
>=2m, <4m				NL																						
>=4m				NL																						
NEPM 2013 Table 1B(5) Site-Specific EIL - Urban Res & Public Open Space																										
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																										
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																										
Field ID	Depth	Date	Lab Report																							
BH102	0.5	21 May 2024	352254 / PFE1917	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	<0.0001	<0.0001	<0.0001
BH102	2	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH102 - [TRIPLICATE]	0.5	21 May 2024	352254	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	1	22 May 2024	352254 / PFE1917	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	**0.0002**	**0.0002**	**0.0002**
BH103	3	22 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	4	22 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	0.5	21 May 2024	352254 / PFE1917	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	<0.0001	<0.0001	<0.0001
BH105	3	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	0.5	22 May 2024	352254 / PFE1917	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	<0.0001	<0.0001	<0.0001
BH106	2	22 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	0.5	21 May 2024	352254 / PFE1917	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	<0.0001	<0.0001	<0.0001
BH107	3	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107 - [TRIPLICATE]	0.5	21 May 2024	352254	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	0.3	23 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	0.3	20 May 2024	352254	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	<0.0001	<0.0001	<0.0001
BH109	0.5	20 May 2024	PFE1917	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	1	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	0.25	20 May 2024	352254	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	<0.0001	<0.0001	<0.0001
BH110	1	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	0.5	23 May 2024	352254	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	<0.0001	<0.0001	<0.0001
BH111	2	23 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	0.3	20 May 2024	352254	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	<0.0001	<0.0001	<0.0001
BH112	1	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	0.5	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	2	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	0.5	20 May 2024	352254	<1	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005	<0.0001	<0.0001	<0.0001
BH114	1	20 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	0.2	23 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	1	23 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP02 (BH102)	2	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP03 (BH107)	3	21 May 2024	352254	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP02 (BH102)	2	21 May 2024	ES2417505	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP03 (BH107)	3	21 May 2024	ES2417505	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND = Non-detect at 0.1g/kg limit of reporting
^ Chromium (III+VI) concentrations have been compared to Chromium (VI) HIL criteria

Table 2

Soil Analytical Results Summary
Acid Sulfate Soils

				Acid Sulphate Soils - Acid Base Accounting				Acid Sulphate Soils - Acidity Trail		Acid Sulphate Soils - ANC		Acid Sulphate Soils - Liming Rate		Acid Sulphate Soils - pH	Acid Sulphate Soils - Potential Acidity		Acid Sulphate Soils - Retained Acidity		Acid Sulphate Soils - Sulfur Trail
				a-Net Acidity without ANCE	**s-Net Acidity without ANCE**	**Net Acidity (acidity units)**	**Net Acidity (sulfur units)**	**Titratable Actual Acidity (sulfur units)**	**Titratable Actual Acidity**	**Acid Neutralising Capacity**	**Acid Neutralising Capacity (sulfur units)**	**Liming Rate**	**Liming Rate excluding ANC**	**pHKCl**	**Chromium Reducible Sulphur (acidity units)**	**Chromium Reducible Sulfur**	**HCl Extractable Sulfur**	**Net Acid Soluble Sulfur**	**KCl Extractable Sulfur**
				moles H+/t	**% S**	**mole H+/t**	**%S**	**%S**	**mole H+/t**	**%CaCO3**	**%S**	**kg CaCO3/t**	**kg CaCO3/t**	**-**	**mole H+/t**	**%w/w**	**%S**	**%S**	**%**
EQL				5	0.005	5	0.005	0.01	5	0.05	0.05	0.75	0.75		3	0.005	0.005	0.005	0.005
National Acid Sulfate Soils Guidance (June 2018)				18	0.03											0.01			
ASSMAC (1998) Assessment Guidelines Table 4.4; >1,000 tonnes disturbed, coarse texture				18	0.03														
Field ID	**Depth**	**Date**	**Lab Report**																
BH102	**4**	**21 May 2024**	**352254**	**870**	**1.4**	**500**	**0.80**	<0.01	<5	**2.8**	**0.88**	**38**	**65**	**9.1**	**870**	**1.4**	-	-	-
BH102	**6**	**21 May 2024**	**352254**	**230**	**0.37**	**150**	**0.24**	<0.01	<5	**0.60**	**0.19**	**11**	**17**	**7.8**	**230**	**0.37**	-	-	-
BH103	**4**	**22 May 2024**	**352254**	**420**	**0.68**	<5	<0.005	<0.01	<5	**3.5**	**1.1**	<0.75	**32**	**8.9**	**420**	**0.68**	-	-	-
BH103	**6**	**22 May 2024**	**352254**	**30**	**0.047**	**30**	**0.050**	**0.03**	**21**	-	-	**2**	**2.2**	**4.0**	<3	<0.005	**0.044**	**0.012**	**0.038**
BH105	**4**	**21 May 2024**	**352254**	**340**	**0.55**	**340**	**0.55**	<0.01	<5	-	-	**26**	**26**	**5.6**	**340**	**0.54**	-	-	-
BH106	**3**	**22 May 2024**	**352254**	**87**	**0.14**	**87**	**0.14**	**0.12**	**74**	-	-	**7**	**6.6**	**3.8**	**10**	**0.02**	**0.007**	**0.009**	<0.005
BH106	**6**	**22 May 2024**	**352254**	**27**	**0.044**	**27**	**0.044**	<0.01	<5	-	-	**2**	**2.0**	**5.4**	**26**	**0.04**	-	-	-
BH107	**4**	**21 May 2024**	**352254**	**240**	**0.38**	**240**	**0.38**	<0.01	<5	-	-	**18**	**18**	**6.3**	**240**	**0.38**	-	-	-
BH109	**2**	**20 May 2024**	**352254**	<5	**0.0060**	<5	**0.0060**	<0.01	<5	-	-	<0.75	<0.75	**5.1**	<3	<0.005	-	-	-
BH114	**1**	**20 May 2024**	**352254**	**110**	**0.18**	**110**	**0.18**	**0.16**	**99**	-	-	**8.5**	**8.5**	**3.5**	**10**	**0.02**	**0.018**	**0.010**	**0.013**
BH115	**5.1**	**23 May 2024**	**352254**	**22**	**0.035**	**22**	**0.040**	**0.02**	**11**	-	-	**2**	**1.7**	**4.4**	<3	<0.005	**0.037**	**0.019**	**0.028**
BH115	**10.7**	**23 May 2024**	**352254**	**130**	**0.21**	**130**	**0.21**	<0.01	<5	-	-	**9.8**	**9.8**	**5.6**	**130**	**0.21**	-	-	-
Statistics																			
Number of Results				**12**	**12**	**12**	**12**	**12**	**12**	**3**	**3**	**12**	**12**	**12**	**12**	**12**	**4**	**4**	**4**
Number of Detects				**11**	**12**	**10**	**11**	**4**	**4**	**3**	**3**	**10**	**11**	**12**	**9**	**9**	**4**	**4**	**3**
Minimum Concentration				**<5**	**0.006**	**<5**	**<0.005**	**<0.01**	**<5**	**0.6**	**0.19**	**<0.75**	**<0.75**	**3.5**	**<3**	**<0.005**	**0.007**	**0.009**	**<0.005**
Minimum Detect				**22**	**0.006**	**22**	**0.006**	**0.02**	**11**	**0.6**	**0.19**	**2**	**1.7**	**3.5**	**10**	**0.02**	**0.007**	**0.009**	**0.013**
Maximum Concentration				**870**	**1.4**	**500**	**0.8**	**0.16**	**99**	**3.5**	**1.1**	**38**	**65**	**9.1**	**870**	**1.4**	**0.044**	**0.019**	**0.038**
Maximum Detect				**870**	**1.4**	**500**	**0.8**	**0.16**	**99**	**3.5**	**1.1**	**38**	**65**	**9.1**	**870**	**1.4**	**0.044**	**0.019**	**0.038**
Average Concentration *				**209**	**0.34**	**137**	**0.22**	**0.031**	**19**	**2.3**	**0.72**	**10**	**16**	**5.8**	**190**	**0.31**	**0.027**	**0.012**	**0.02**
Median Concentration *				**120**	**0.195**	**98.5**	**0.16**	**0.005**	**2.5**	**2.8**	**0.88**	**7.75**	**9.15**	**5.5**	**78**	**0.125**	**0.0275**	**0.011**	**0.0205**
Standard Deviation *				**247**	**0.4**	**154**	**0.25**	**0.052**	**33**	**1.5**	**0.47**	**12**	**19**	**1.9**	**260**	**0.42**	**0.017**	**0.0045**	**0.016**
95% UCL (Student's-t) *				**337.3**	**0.543**	**216.5**	**0.348**	**0.0579**	**35.64**	**4.851**	**1.524**	**16.46**	**25.37**	**6.78**	**324.9**	**0.522**	**0.0465**	**0.0178**	**0.0389**
% of Detects				**92**	**100**	**83**	**92**	**33**	**33**	**100**	**100**	**83**	**92**	**100**	**75**	**75**	**100**	**100**	**75**
% of Non-Detects				**8**	**0**	**17**	**8**	**67**	**67**	**0**	**0**	**17**	**8**	**0**	**25**	**25**	**0**	**0**	**25**

* A Non Detect Multiplier of 0.5 has been applied.

Table 3

Groundwater Analytical Results Summary

Field ID	Date	Lab Report Number	BTEX								TRH						
			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)**
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			1	1	1	1	2	1	2	1	10	10	50	50	100	100	50
ANZG Marine Water Toxicant DGVs LOSP 95% (July 2023)			70	700	180	80											
ANZG 2023 Dioxins in Freshwater Technical Brief 95% Species Protection																	
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand >=2m, <4m			NL	800	NL	NL			NL			1,000		1,000			
PFAS NEMP 2020 Recreational Water																	
PFAS NEMP 2020 Interim Marine 95%																	
PFAS NEMP 2020 Interim Marine 99%																	
EW1	**31 May 2024**	**352854-A**	<1	<1	<1	<1	<2	<1	-	-	<10	<10	<50	<50	<100	<100	<50
MW1-B	**31 May 2024**	**352854-A**	<1	<1	<1	<1	<2	<1	-	-	<10	<10	<50	<50	<100	<100	<50
MW2-B	**31 May 2024**	**352854-A**	<1	<1	<1	<1	<2	<1	-	-	<10	<10	<50	<50	<100	<100	<50
MW3-B	**30 May 2024**	**352732-A / PFF0035**	<1	<1	<1	<1	<2	<1	-	-	<10	<10	<50	<50	<100	<100	<50
MW4-B	**31 May 2024**	**352854-A**	<1	<1	<1	<1	<2	<1	-	-	**50**	**50**	<50	<50	<100	<100	<50
RMW01	**30 May 2024**	**352732-A / PFF0035**	<1	<1	<1	<1	<2	<1	-	-	<10	<10	<50	<50	<100	<100	<50
RMW02	**30 May 2024**	**352732-A**	<1	<1	**46**	<1	<2	<1	-	-	**93**	**47**	<50	<50	<100	<100	<50
RMW03	**30 May 2024**	**352732-A**	<1	<1	<1	<1	<2	<1	-	-	<10	<10	<50	<50	<100	<100	<50
RMW04	**30 May 2024**	**352732-A / PFF0035**	<1	<1	<1	<1	<2	<1	-	-	<10	<10	<50	<50	<100	<100	<50
RMW05	**31 May 2024**	**352854-A**	<1	<1	<1	<1	<2	<1	-	-	<10	<10	<50	<50	<100	<100	<50
DUP1 (MW1-B)	**31 May 2024**	**352854-A**	<1	<1	<1	<1	<2	<1	-	-	<10	<10	<50	<50	<100	<100	<50
DUP2 (EW1)	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP1 (MW1-B)	**31 May 2024**	**ES2418204**	<5	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100
TRIP2 (EW1)	**31 May 2024**	**ES2418204**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

^ Chromium (III+VI) concentrations have been compared to Chromium (VI) ANZG criteria

Table 3
Groundwater Analytical Results Summary

			PAH																			
			Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benz(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	PAHs (Sum of total)	PAHs (Sum of positives)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.2	0.1	0.1	0.1	0.1	0.1	1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.1
ANZG Marine Water Toxicant DGVs LOSP 95% (July 2023)						0.4		0.2						1.4			70	2				
ANZG 2023 Dioxins in Freshwater Technical Brief 95% Species Protection																						
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand >=2m, <4m																	NL | NL | NL NL					
PFAS NEMP 2020 Recreational Water																						
PFAS NEMP 2020 Interim Marine 95%																						
PFAS NEMP 2020 Interim Marine 99%																						
Field ID	**Date**	**Lab Report Number**																				
EW1	**31 May 2024**	**352854-A**	<0.2	<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	<0.5	-	<0.1
MW1-B	**31 May 2024**	**352854-A**	<0.2	<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	<0.5	-	<0.1
MW2-B	**31 May 2024**	**352854-A**	<0.2	<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	<0.5	-	<0.1
MW3-B	**30 May 2024**	**352732-A / PFF0035**	<0.2	<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	<0.5	-	<0.1
MW4-B	**31 May 2024**	**352854-A**	<0.2	<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	<0.5	-	<0.1
RMW01	**30 May 2024**	**352732-A / PFF0035**	<0.2	<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	<0.5	-	<0.1
RMW02	**30 May 2024**	**352732-A**	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.5	-	**0.22**
RMW03	**30 May 2024**	**352732-A**	<0.2	<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	<0.5	-	<0.1
RMW04	**30 May 2024**	**352732-A / PFF0035**	<0.2	<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	<0.5	-	<0.1
RMW05	**31 May 2024**	**352854-A**	<0.2	<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	<0.5	-	<0.1
DUP1 (MW1-B)	**31 May 2024**	**352854-A**	<0.2	<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	<0.5	-	<0.1
DUP2 (EW1)	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP1 (MW1-B)	**31 May 2024**	**ES2418204**	-	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<0.5	-
TRIP2 (EW1)	**31 May 2024**	**ES2418204**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

^ Chromium (III+VI) concentrations have been compared to Chromium (VI) ANZG criteria

Table 3
Groundwater Analytical Results Summary

			Inorganics																		
			Hardness (filtered)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Ammonia as N (filtered)	Chloride	Ionic Balance	Kjeldahl Nitrogen Total	Nitrate (as N) (filtered)	Nitrite (as N) (filtered)	Organic Nitrogen as N	Nitrogen (Total Oxidised)	Nitrogen (Total)	Total Phosphorus (Organic Phosphate)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Sodium (filtered)	Sulphate	Total Dissolved Solids (Lab)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	%	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			3,000	5,000	5,000	5,000	5,000	5	1,000		100	5	5	200	5	100	50	5	500	1,000	5,000
ANZG Marine Water Toxicant DGVs LOSP 95% (July 2023)								910													
ANZG 2023 Dioxins in Freshwater Technical Brief 95% Species Protection																					
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand >=2m, <4m																					
PFAS NEMP 2020 Recreational Water																					
PFAS NEMP 2020 Interim Marine 95%																					
PFAS NEMP 2020 Interim Marine 99%																					
Field ID	**Date**	**Lab Report Number**																			
EW1	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW1-B	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW2-B	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW3-B	**30 May 2024**	**352732-A / PFF0035**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW4-B	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RMW01	**30 May 2024**	**352732-A / PFF0035**	**2,500,000**	<5,000	<5,000	<5,000	<5,000	**210**	**6,500,000**	**-3.0**	**1,100**	<5	<5	**900**	<5	**1,100**	<50	<5	**3,200,000**	**980,000**	**11,000,000**
RMW02	**30 May 2024**	**352732-A**	**1,500,000**	<5,000	<5,000	<5,000	<5,000	**130**	**6,300,000**	**0**	**300**	**10**	<5	<200	**10**	**300**	<50	<5	**4,000,000**	**1,400,000**	**12,000,000**
RMW03	**30 May 2024**	**352732-A**	**2,000,000**	<5,000	<5,000	<5,000	<5,000	**150**	**8,000,000**	**0**	**300**	**20**	**7**	<200	**30**	**400**	<50	<5	**5,000,000**	**1,600,000**	**16,000,000**
RMW04	**30 May 2024**	**352732-A / PFF0035**	**750,000**	**140,000**	<5,000	<5,000	**140,000**	**260**	**5,000,000**	**-6.0**	**300**	<5	<5	<200	**8**	**300**	<50	<5	**3,100,000**	**1,200,000**	**9,400,000**
RMW05	**31 May 2024**	**352854-A**	**520,000**	**75,000**	<5,000	<5,000	**75,000**	**16**	**1,500,000**	**-3.0**	**200**	**310**	**21**	<200	**300**	**500**	<50	<5	**850,000**	**310,000**	**3,100,000**
DUP1 (MW1-B)	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP2 (EW1)	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP1 (MW1-B)	**31 May 2024**	**ES2418204**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP2 (EW1)	**31 May 2024**	**ES2418204**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

^ Chromium (III+VI) concentrations have been compared to Chromium (VI) ANZG criteria

Table 3

Groundwater Analytical Results Summary

			Metals																			
			Aluminium (filtered)	Antimony (filtered)	Arsenic (filtered)	Barium (filtered)	Beryllium (filtered)	Boron (filtered)	Cadmium (filtered)	Calcium (filtered)	Chromium (III+VI) (filtered)	Cobalt (filtered)	Copper (filtered)	Iron (filtered)	Lead (filtered)	Lithium (filtered)	Magnesium (filtered)	Manganese (filtered)	Mercury (filtered)	Molybdenum (filtered)	Nickel (filtered)	Potassium (filtered)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			10	1	1	1	0.5	20	0.1	500	1	1	1	10	1	1	500	5	0.05	1	1	500
ANZG Marine Water Toxicant DGVs LOSP 95% (July 2023)									5.5		4.4^	1	1.3		4.4				0.4		70	
ANZG 2023 Dioxins in Freshwater Technical Brief 95% Species Protection																						
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand >=2m, <4m																						
PFAS NEMP 2020 Recreational Water																						
PFAS NEMP 2020 Interim Marine 95%																						
PFAS NEMP 2020 Interim Marine 99%																						
Field ID	**Date**	**Lab Report Number**																				
EW1	**31 May 2024**	**352854-A**	-	-	<1	-	-	-	<0.1	-	<1	-	<1	-	<1	-	-	-	<0.05	-	**120**	-
MW1-B	**31 May 2024**	**352854-A**	-	-	**2**	-	-	-	<0.1	-	<1	-	<1	-	<1	-	-	-	<0.05	-	**2**	-
MW2-B	**31 May 2024**	**352854-A**	-	-	**2**	-	-	-	<0.1	-	<1	-	<1	-	<1	-	-	-	<0.05	-	**25**	-
MW3-B	**30 May 2024**	**352732-A / PFF0035**	-	-	<1	-	-	-	**0.1**	-	<1	-	**1**	-	<1	-	-	-	<0.05	-	<1	-
MW4-B	**31 May 2024**	**352854-A**	-	-	<1	-	-	-	<0.1	-	<1	-	**2**	-	<1	-	-	-	<0.05	-	<1	-
RMW01	**30 May 2024**	**352732-A / PFF0035**	**9,200**	<1	**4**	**60**	**1**	**1,000**	**0.5**	**290,000**	**3**	**25**	<1	**120,000**	**3**	**4**	**430,000**	**480**	<0.05	<1	**30**	**96,000**
RMW02	**30 May 2024**	**352732-A**	**5,600**	<1	**4**	**25**	**5**	**1,600**	**0.9**	**91,000**	**1**	**73**	**12**	**66,000**	**44**	**21**	**310,000**	**2,500**	<0.05	<1	**61**	**120,000**
RMW03	**30 May 2024**	**352732-A**	**16,000**	<1	**9**	**96**	**6**	**1,400**	**1.1**	**130,000**	**3**	**92**	**120**	**50,000**	**19**	**24**	**400,000**	**2,600**	<0.05	<1	**130**	**120,000**
RMW04	**30 May 2024**	**352732-A / PFF0035**	**100**	<1	**3**	**46**	<0.5	**2,000**	<0.1	**71,000**	<1	**51**	<1	**31,000**	<1	**2**	**140,000**	**1,900**	<0.05	<1	**9**	**96,000**
RMW05	**31 May 2024**	**352854-A**	**60**	<1	<1	**50**	**3**	**60**	<0.1	**10,000**	<1	**91**	<1	**48,000**	<1	**36**	**120,000**	**4,300**	<0.05	<1	**94**	**7,800**
DUP1 (MW1-B)	**31 May 2024**	**352854-A**	-	-	**2**	-	-	-	<0.1	-	<1	-	<1	-	<1	-	-	-	<0.05	-	**2**	-
DUP2 (EW1)	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP1 (MW1-B)	**31 May 2024**	**ES2418204**	-	-	<1	-	-	-	<0.1	-	<1	-	<1	-	<1	-	-	-	<0.1	-	**2**	-
TRIP2 (EW1)	**31 May 2024**	**ES2418204**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

^ Chromium (III+VI) concentrations have been compared to Chromium (VI) ANZG criteria

Table 3
Groundwater Analytical Results Summary

										Dioxins & Furans												
			Selenium (filtered)	Silicon	Silver (filtered)	Strontium (filtered)	Uranium (filtered)	Vanadium (filtered)	Zinc (filtered)	2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
EQL			1	200	1	1	0.5	1	1	5	20	20	20	20	20	50	5	20	20	20	20	20
ANZG Marine Water Toxicant DGVs LOSP 95% (July 2023)					1.4			100	8													
ANZG 2023 Dioxins in Freshwater Technical Brief 95% Species Protection																						
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand >=2m, <4m																						
PFAS NEMP 2020 Recreational Water																						
PFAS NEMP 2020 Interim Marine 95%																						
PFAS NEMP 2020 Interim Marine 99%																						
Field ID	**Date**	**Lab Report Number**																				
EW1	**31 May 2024**	**352854-A**	-	-	-	-	-	-	**68**	-	-	-	-	-	-	-	-	-	-	-	-	-
MW1-B	**31 May 2024**	**352854-A**	-	-	-	-	-	-	**9**	-	-	-	-	-	-	-	-	-	-	-	-	-
MW2-B	**31 May 2024**	**352854-A**	-	-	-	-	-	-	**4**	-	-	-	-	-	-	-	-	-	-	-	-	-
MW3-B	**30 May 2024**	**352732-A / PFF0035**	-	-	-	-	-	-	**32**	<5	<20	<20	<20	<20	<20	**57**	<5	<20	<20	<20	<20	<20
MW4-B	**31 May 2024**	**352854-A**	-	-	-	-	-	-	**7**	-	-	-	-	-	-	-	-	-	-	-	-	-
RMW01	**30 May 2024**	**352732-A / PFF0035**	<1	**15,000**	<1	**5,200**	<0.5	**5**	**490**	<5	<20	<20	<20	<20	<20	**120**	<5	<20	<20	<20	<20	<20
RMW02	**30 May 2024**	**352732-A**	<1	**12,000**	<1	**1,800**	**2.0**	<1	**420**	-	-	-	-	-	-	-	-	-	-	-	-	-
RMW03	**30 May 2024**	**352732-A**	<1	**12,000**	<1	**2,700**	**1.3**	**4**	**620**	-	-	-	-	-	-	-	-	-	-	-	-	-
RMW04	**30 May 2024**	**352732-A / PFF0035**	<1	**3,700**	<1	**1,000**	<0.5	<1	**32**	<5	<20	<20	<20	<20	<20	<50	<5	<20	<20	<20	<20	<20
RMW05	**31 May 2024**	**352854-A**	<1	**11,000**	<1	**88**	<0.5	<1	**400**	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP1 (MW1-B)	**31 May 2024**	**352854-A**	-	-	-	-	-	-	**6**	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP2 (EW1)	**31 May 2024**	**352854-A**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP1 (MW1-B)	**31 May 2024**	**ES2418204**	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP2 (EW1)	**31 May 2024**	**ES2418204**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

^ Chromium (III+VI) concentrations have been compared to Chromium (VI) ANZG criteria

Table 3
Groundwater Analytical Results Summary

								PFAS															
			2,3,4,6,7,8-HxCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Dioxins and Furans TEQ (Detects)	Perfluorobutane sulfonic acid (PFBS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS	Sum of PFAS (PFOS + PFOA)
			pg/L	pg/L	pg/L	pg/L	pg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			20	20	20	50	-	0.02	0.0002	0.0002	0.1	0.02	0.02	0.02	0.0002	0.05	0.0004	0.0004	0.05	0.0002	0.0002	0.0002
ANZG Marine Water Toxicant DGVs LOSP 95% (July 2023)																						
ANZG 2023 Dioxins in Freshwater Technical Brief 95% Species Protection							5															
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand >=2m, <4m																						
PFAS NEMP 2020 Recreational Water									2	2					10					2		
PFAS NEMP 2020 Interim Marine 95%										0.13					220							
PFAS NEMP 2020 Interim Marine 99%										0.00023					19							
Field ID	**Date**	**Lab Report Number**																				
EW1	31 May 2024	352854-A	-	-	-	-	-	-	<0.0002	<0.0002	-	-	-	-	<0.0002	-	<0.0004	<0.0004	-	<0.0002	<0.0002	<0.0002
MW1-B	31 May 2024	352854-A	-	-	-	-	-	-	0.0081	0.001	-	-	-	-	0.0023	-	0.0007	<0.0004	-	0.0094	0.012	0.0035
MW2-B	31 May 2024	352854-A	-	-	-	-	-	-	0.001	0.002	-	-	-	-	0.0020	-	0.0007	<0.0004	-	0.0032	0.0060	0.0038
MW3-B	30 May 2024	352732-A / PFF0035	<20	<20	<20	<50	0.017	-	0.002	0.010	-	-	-	-	0.002	-	<0.0004	<0.0004	-	0.012	0.014	0.012
MW4-B	31 May 2024	352854-A	-	-	-	-	-	-	0.0039	0.013	-	-	-	-	0.018	-	<0.0004	<0.0004	-	0.017	0.035	0.031
RMW01	30 May 2024	352732-A / PFF0035	<20	<20	<20	<50	0.036	-	0.068	0.0031	-	-	-	-	0.0029	-	<0.0004	<0.0004	-	0.071	0.074	0.0060
RMW02	30 May 2024	352732-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RMW03	30 May 2024	352732-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RMW04	30 May 2024	352732-A / PFF0035	<20	<20	<20	<50	-	-	<0.0002	0.0003	-	-	-	-	0.0002	-	<0.0004	<0.0004	-	0.0003	0.0006	0.0006
RMW05	31 May 2024	352854-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUP1 (MW1-B)	31 May 2024	352854-A	-	-	-	-	-	-	0.0074	0.001	-	-	-	-	0.0021	-	0.0005	<0.0004	-	0.0085	0.011	0.0031
DUP2 (EW1)	31 May 2024	352854-A	-	-	-	-	-	-	<0.0002	0.0002	-	-	-	-	<0.0002	-	<0.0004	<0.0004	-	0.0002	0.0002	0.0002
TRIP1 (MW1-B)	31 May 2024	ES2418204	-	-	-	-	-	0.03	<0.01	<0.01	<0.1	<0.02	0.04	<0.02	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
TRIP2 (EW1)	31 May 2024	ES2418204	-	-	-	-	-	<0.02	<0.01	<0.01	<0.1	<0.02	<0.02	<0.02	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	-	-

^ Chromium (III+VI) concentrations have been compared to Chromium (VI) ANZG criteria

Table 4

QA/QC Analytical Results Summary
Soil RPD

					BTEX							TRH												
					Naphthalene (BTEX)	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)	Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	10	10	50	50	100	100	50	0.2	0.1	0.1	0.1	0.1	0.05
Field ID	**Depth**	**Date**	**Lab Report**	**Matrix**																				
BH102	**2**	**21 May 2024**	**352254**	**Soil**	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05
DUP02	**2**	**21 May 2024**	**352254**	**Soil**	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH102	**2**	**21 May 2024**	**352254**	**Soil**	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05
TRIP02		**21 May 2024**	**ES2417505**	**Soil**	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<10	<50	<50	<100	<100	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0
BH107	**3**	**21 May 2024**	**352254**	**Soil**	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05
DUP03	**3**	**21 May 2024**	**352254**	**Soil**	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH107	**3**	**21 May 2024**	**352254**	**Soil**	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05
TRIP03		**21 May 2024**	**ES2417505**	**Soil**	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<10	<50	<50	<100	<100	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5
RPD					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 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 4
QA/QC Analytical Results Summary
Soil RPD

					PAH												Metals								
					Benzo(g,h,i)perylene	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 positives)	Arsenic	Cadmium	Chromium (III+VI)	Copper	Iron	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
EQL					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	1	1	10	1	0.1	1	1
Field ID	**Depth**	**Date**	**Lab Report**	**Matrix**																					
BH102	**2**	**21 May 2024**	**352254**	**Soil**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.05	**6**	<0.4	**12**	**5**	**27,000**	**13**	<0.1	<1	**3**
DUP02	**2**	**21 May 2024**	**352254**	**Soil**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.05	**5**	<0.4	**10**	**3**	-	**11**	<0.1	<1	**3**
RPD					0	0	0	0	0	0	0	0	0	0	0	0	18	0	18	50	-	17	0	0	0
BH102	**2**	**21 May 2024**	**352254**	**Soil**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.05	**6**	<0.4	**12**	**5**	**27,000**	**13**	<0.1	<1	**3**
TRIP02		**21 May 2024**	**ES2417505**	**Soil**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	**1.2**	-	<5	<1	**8**	<5	-	**18**	<0.1	<2	<5
RPD					0	0	0	0	0	0	0	0	0	18	82	-	18	0	40	0	-	32	0	0	0
BH107	**3**	**21 May 2024**	**352254**	**Soil**	<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**	**11**	-	**24**	<0.1	**3**	**45**
DUP03	**3**	**21 May 2024**	**352254**	**Soil**	<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**	**13**	-	**25**	<0.1	**3**	**42**
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	-	4	0	0	7
BH107	**3**	**21 May 2024**	**352254**	**Soil**	<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**	**11**	-	**24**	<0.1	**3**	**45**
TRIP03		**21 May 2024**	**ES2417505**	**Soil**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	**1.2**	-	<5	<1	**8**	**17**	-	**46**	<0.1	**6**	**58**
RPD					0	0	0	0	0	0	0	0	0	18	82	-	0	0	13	43	-	63	0	67	25

***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 5
QA/QC Analytical Results Summary
Groundwater RPD

				BTEX						TRH							Perfluoroalkane Carboxylic Acids	(n:2) Fluorotelomer Sulfonic Acids	
				Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	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)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)
				mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.001	1	1	1	2	1	10	10	50	50	100	100	50	0.0002	0.0004	0.0004
Field ID	**Date**	**Lab Report**	**Matrix Type**																
EW1	**31 May 2024**	**352854-A**	**Water**	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	<0.0002	<0.0004	<0.0004
DUP2	**31 May 2024**	**352854-A**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0004	<0.0004
RPD				-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
EW1	**31 May 2024**	**352854-A**	**Water**	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	<0.0002	<0.0004	<0.0004
TRIP2	**31 May 2024**	**ES2418204**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.05	<0.05
RPD				-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
MW1-B	**31 May 2024**	**352854-A**	**Water**	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	**0.0023**	**0.0007**	<0.0004
DUP1	**31 May 2024**	**352854-A**	**Water**	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	**0.0021**	**0.0005**	<0.0004
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	9	33	0
MW1-B	**31 May 2024**	**352854-A**	**Water**	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	**0.0023**	**0.0007**	<0.0004
TRIP1	**31 May 2024**	**ES2418204**	**Water**	<0.005	<1	<2	<2	<2	<2	<20	<20	<100	<100	<100	<100	<100	<0.01	<0.05	<0.05
RPD				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 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 5
QA/QC Analytical Results Summary
Groundwater RPD

				Perfluoroalkane Sulfonic Acids		PFAS			Metals												
				Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	Sum of PFAS	Sum of PFAS (PFOS + PFOA)	Arsenic (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene
				µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.0002	0.0002	0.0002	0.0002	0.0002	0.001	0.0001	0.001	0.001	0.001	0.00005	0.001	0.001	0.0002	0.1	0.1	0.1	0.1
Field ID	**Date**	**Lab Report**	**Matrix Type**																		
EW1	**31 May 2024**	**352854-A**	**Water**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.00005	**0.12**	**0.068**	<0.0002	<0.1	<0.1	<0.1	<0.1
DUP2	**31 May 2024**	**352854-A**	**Water**	<0.0002	**0.0002**	**0.0002**	**0.0002**	**0.0002**	-	-	-	-	-	-	-	-	-	-	-	-	-
RPD				0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
EW1	**31 May 2024**	**352854-A**	**Water**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.00005	**0.12**	**0.068**	<0.0002	<0.1	<0.1	<0.1	<0.1
TRIP2	**31 May 2024**	**ES2418204**	**Water**	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPD				0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW1-B	**31 May 2024**	**352854-A**	**Water**	**0.0081**	**0.001**	**0.0094**	**0.012**	**0.0035**	**0.002**	<0.0001	<0.001	<0.001	<0.001	<0.00005	**0.002**	**0.009**	<0.0002	<0.1	<0.1	<0.1	<0.1
DUP1	**31 May 2024**	**352854-A**	**Water**	**0.0074**	**0.001**	**0.0085**	**0.011**	**0.0031**	**0.002**	<0.0001	<0.001	<0.001	<0.001	<0.00005	**0.002**	**0.006**	<0.0002	<0.1	<0.1	<0.1	<0.1
RPD				9	0	10	9	12	0	0	0	0	0	0	0	40	0	0	0	0	0
MW1-B	**31 May 2024**	**352854-A**	**Water**	**0.0081**	**0.001**	**0.0094**	**0.012**	**0.0035**	**0.002**	<0.0001	<0.001	<0.001	<0.001	<0.00005	**0.002**	**0.009**	<0.0002	<0.1	<0.1	<0.1	<0.1
TRIP1	**31 May 2024**	**ES2418204**	**Water**	<0.01	<0.01	<0.01	-	-	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	**0.002**	<0.005	-	<1.0	<1.0	<1.0	<1.0
RPD				0	0	0	-	-	67	0	0	0	0	0	0	57	-	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 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 5

QA/QC Analytical Results Summary
Groundwater RPD

				PAH												TPH				
				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	Benzo(a)pyrene TEQ	PAHs (Sum of positives)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0005	0.0001	10	50	100	50	50
Field ID	**Date**	**Lab Report**	**Matrix Type**																	
EW1	**31 May 2024**	**352854-A**	**Water**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001	<10	<50	<100	<100	<50
DUP2	**31 May 2024**	**352854-A**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPD				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EW1	**31 May 2024**	**352854-A**	**Water**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001	<10	<50	<100	<100	<50
TRIP2	**31 May 2024**	**ES2418204**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPD				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW1-B	**31 May 2024**	**352854-A**	**Water**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001	<10	<50	<100	<100	<50
DUP1	**31 May 2024**	**352854-A**	**Water**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001	<10	<50	<100	<100	<50
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MW1-B	**31 May 2024**	**352854-A**	**Water**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001	<10	<50	<100	<100	<50
TRIP1	**31 May 2024**	**ES2418204**	**Water**	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	<20	<50	<100	<50	<50
RPD				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 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 6

QA/QC Analytical Results Summary
Trip Blank - Soil

				BTEX							TRH	
				Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)
				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	1	25	25
Field ID	**Date**	**Lab Report Number**	**Matrix Type**									
Trip Blank	**23 May 2024**	**352254**	**Soil**	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25

Table 7

QA/QC Analytical Results Summary
Trip Blank - Water

				BTEX							TRH	
				Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)
				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	1	25	25
Field ID	**Date**	**Lab Report Number**	**Matrix Type**									
Trip Blank	**23 May 2024**	**352254**	**Soil**	<1	<0.2	<0.5	<1	<2	<1	<1	<25	<25

Table 8
QA/QC Results Summary Tables

REDITUS

Trip Spikes

Lab Report Number	Matrix Type	Analysis Batch	Field ID	Sampled Date/Time	Chem Name	Spike Recovery %	Method Name	Lab Sample ID
352254	Soil	2024-05-29	Trip Spike	23/05/2024	Ethylbenzene	88	Org-023 - BTEX and C6-C10 alkanes in soil & water	352254-41
352254	Soil	2024-05-29	Trip Spike	23/05/2024	Xylene (m & p)	80	Org-023 - BTEX and C6-C10 alkanes in soil & water	352254-41
352254	Soil	2024-05-29	Trip Spike	23/05/2024	Toluene	87	Org-023 - BTEX and C6-C10 alkanes in soil & water	352254-41
352254	Soil	2024-05-29	Trip Spike	23/05/2024	Benzene	84	Org-023 - BTEX and C6-C10 alkanes in soil & water	352254-41
352254	Soil	2024-05-29	Trip Spike	23/05/2024	Xylene (o)	88	Org-023 - BTEX and C6-C10 alkanes in soil & water	352254-41

Trip Spike Recoveries. Where no lab LCL and UCL is available, user defined limits between 70% and 130% have been adopted for non-compliance.

		Inorganics	Metals								BTEX								TRH						
		Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Naphthalene (VOC)	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)
		%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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		0.1	4	0.3	1	1	1	0.1	1	1	1	0.2	0.5	1	2	1	1	2	25	25	50	50	100	100	50
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand												3 | 3 | 3 | 3					230			260 | 370 | 630					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand											3	0.5 | 0.5 | 0.5 | 0.5	160 | 220 | 310 | 540	55			40 | 60 | 95 | 170			45 | 70 | 110 | 200		110 | 240 | 440			
NEPM 2013 Table 1A(1) HILs Res B Soil			500	150		30,000	1,200	120	1,200	60,000															
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			3,000	900		240,000	1,500	730	6,000	400,000															
ASSMAC 1998 >1000t disturbed, medium texture																									
Field ID	**Date**																								
DS1.BH1-1.0-2.0	**06 Sep 2022**	8.9	<4	<0.4	24	6	10	<0.1	4	20	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DS1.BH4-1.0-2.0	**06 Sep 2022**	18	<4	<0.4	14	4	14	<0.1	2	6	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DS1.BH4-5.0-6.0	**06 Sep 2022**	19	8	<0.4	11	4	10	<0.1	2	16	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DS1.BH5-1.0-2.0	**06 Sep 2022**	29	6	<0.4	17	110	1,000	<0.1	4	190	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DS1.BH5-6.0-7.0	**06 Sep 2022**	15	<4	<0.4	16	2	12	<0.1	2	6	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DS1.BH6-0-0.1	**06 Sep 2022**	25	4	<0.4	21	9	17	<0.1	5	9	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DS1.BH6-1.0-2.0	**06 Sep 2022**	11	<4	<0.4	8	4	10	<0.1	<1	3	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DS1.BH7-0.0-0.1	**06 Sep 2022**	15	7	<0.4	23	67	82	<0.1	19	83	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DS1.BH7-1.0-2.0	**06 Sep 2022**	10	<4	<0.4	23	28	15	<0.1	4	27	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DS1.BR1	**06 Sep 2022**	26	<4	<0.4	25	5	17	<0.1	9	45	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DSI.BH1_0-1	**06 Sep 2022**	12	<4	<0.4	18	5	16	<0.1	8	40	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DSI.BH2_0-0.1	**28 Sep 2022**	15	<4	<0.4	2	8	3	<0.1	<1	2	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	190	<100	190
DSI.BH2_1.9-2.0	**28 Sep 2022**	20	<4	<0.4	8	2	14	<0.1	1	7	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DSI.BR	**28 Sep 2022**	19	5	<0.4	11	12	15	<0.1	4	18	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DSI.SR	**28 Sep 2022**	19.4	<5.0	<0.30	10.2	7.2	<5.0	<0.10	<1.0	7.8		<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50	-	<100	<100	<100
DSI_BH3_0-0.1	**28 Sep 2022**	19	<4	<0.4	11	6	14	<0.1	2	9	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50
DSI_BH3_1.9-2.0	**28 Sep 2022**	17	<4	<0.4	10	3	10	<0.1	1	15	<1	<0.2	<0.5	<1	<2	<1	<1	-	<25	<25	<50	<50	<100	<100	<50

Environmental Standards

2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

		TPH					PAH																	
ADECONSULTINGGROUP SOLUTIONS THROUGH INNOVATION		C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(b)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	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	mg/kg	mg/kg
EQL		25	50	100	100	50	0.2	0.1	0.1	0.1	0.1	0.05	0.3	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																								
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																					3			
NEPM 2013 Table 1A(1) HILs Res B Soil																								
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																								
ASSMAC 1998 >1000t disturbed, medium texture																								
Field ID	**Date**																							
DS1.BH1-1.0-2.0	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DS1.BH4-1.0-2.0	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DS1.BH4-5.0-6.0	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DS1.BH5-1.0-2.0	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DS1.BH5-6.0-7.0	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DS1.BH6-0-0.1	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DS1.BH6-1.0-2.0	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DS1.BH7-0.0-0.1	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DS1.BH7-1.0-2.0	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DS1.BR1	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DSI.BH1_0-1	**06 Sep 2022**	<25	<50	<100	<100	<50	<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
DSI.BH2_0-0.1	**28 Sep 2022**	<25	<50	100	<100	100	<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
DSI.BH2_1.9-2.0	**28 Sep 2022**	<25	<50	<100	<100	<50	<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
DSI.BR	**28 Sep 2022**	<25	<50	<100	<100	<50	<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
DSI.SR	**28 Sep 2022**	<25	<50	<100	<100	<100	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
DSI_BH3_0-0.1	**28 Sep 2022**	<25	<50	<100	<100	<50	<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
DSI_BH3_1.9-2.0	**28 Sep 2022**	<25	<50	<100	<100	<50	<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

Environmental Standards

2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

		Chlorinated Hydrocarbons																											
		1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	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	1	1
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																													
NEPM 2013 Table 1A(1) HILs Res B Soil																													
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																													
ASSMAC 1998 >1000t disturbed, medium texture																													
Field ID	**Date**																												
DS1.BH1-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH4-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH4-5.0-6.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH5-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH5-6.0-7.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH6-0-0.1	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH6-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH7-0.0-0.1	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH7-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BR1	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.BH1_0-1	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.BH2_0-0.1	**28 Sep 2022**	<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	<1	<1	<1
DSI.BH2_1.9-2.0	**28 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.BR	**28 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.SR	**28 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI_BH3_0-0.1	**28 Sep 2022**	<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	<1	<1	<1
DSI_BH3_1.9-2.0	**28 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

				Halogenated Benzenes										Halogenated Hydrocarbons				Perfluoroalkane Carboxylic Acids										
		trans-1,3-dichloropropene	Vinyl chloride	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	1	1	1	1	1	1	1	1	1	1	0.1	1	1	1	1	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																												
NEPM 2013 Table 1A(1) HILs Res B Soil													15															
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil													80															
ASSMAC 1998 >1000t disturbed, medium texture																												
Field ID	**Date**											-																
DS1.BH1-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DS1.BH4-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DS1.BH4-5.0-6.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DS1.BH5-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DS1.BH5-6.0-7.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DS1.BH6-0-0.1	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DS1.BH6-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DS1.BH7-0.0-0.1	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DS1.BH7-1.0-2.0	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DS1.BR1	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.BH1_0-1	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-		<0.1	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DSI.BH2_0-0.1	**28 Sep 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	-	-	-	-	<0.005	-	-	-	-	-	-
DSI.BH2_1.9-2.0	**28 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-
DSI.BR	**28 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.SR	**28 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI_BH3_0-0.1	**28 Sep 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	-	-	-	-	<0.005	-	-	-	-	-	-
DSI_BH3_1.9-2.0	**28 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-

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2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

		(n:2) Fluorotelomer Sulfonic Acids				Perfluoroalkane Sulfonic Acids						Perfluoroalkyl Sulfonamides							PFAS			MAH							
		4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS	Sum of PFAS (PFOS + PFOA)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	1	1	1	1	1	1	1	1
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																													
NEPM 2013 Table 1A(1) HILs Res B Soil																													
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																													
ASSMAC 1998 >1000t disturbed, medium texture																													
Field ID	**Date**																												
DS1.BH1-1.0-2.0	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DS1.BH4-1.0-2.0	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DS1.BH4-5.0-6.0	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DS1.BH5-1.0-2.0	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DS1.BH5-6.0-7.0	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DS1.BH6-0-0.1	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DS1.BH6-1.0-2.0	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DS1.BH7-0.0-0.1	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DS1.BH7-1.0-2.0	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DS1.BR1	**06 Sep 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.BH1_0-1	**06 Sep 2022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DSI.BH2_0-0.1	**28 Sep 2022**	-	<0.005	<0.005	-	-	-	<0.005	-	<0.005	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<1	<1	<1	<1	<1	<1	<1	<1
DSI.BH2_1.9-2.0	**28 Sep 2022**	-	<0.005	<0.005	-	-	-	<0.005	-	<0.005	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-
DSI.BR	**28 Sep 2022**	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.SR	**28 Sep 2022**	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
DSI_BH3_0-0.1	**28 Sep 2022**	-	<0.005	<0.005	-	-	-	<0.005	-	<0.005	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<1	<1	<1	<1	<1	<1	<1	<1
DSI_BH3_1.9-2.0	**28 Sep 2022**	-	<0.005	<0.005	-	-	-	<0.005	-	<0.005	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-

Environmental Standards

2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

			Organochlorine Pesticides																			
		tert-butylbenzene	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	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
EQL		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	0.1
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																							
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																							
NEPM 2013 Table 1A(1) HILs Res B Soil												600					20				10		500
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil												3,600					100				50		2,500
ASSMAC 1998 >1000t disturbed, medium texture																							
Field ID	**Date**																						
DS1.BH1-1.0-2.0	**06 Sep 2022**	-	<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
DS1.BH4-1.0-2.0	**06 Sep 2022**	-	<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
DS1.BH4-5.0-6.0	**06 Sep 2022**	-	<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
DS1.BH5-1.0-2.0	**06 Sep 2022**	-	<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
DS1.BH5-6.0-7.0	**06 Sep 2022**	-	<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
DS1.BH6-0-0.1	**06 Sep 2022**	-	<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
DS1.BH6-1.0-2.0	**06 Sep 2022**	-	<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
DS1.BH7-0.0-0.1	**06 Sep 2022**	-	<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
DS1.BH7-1.0-2.0	**06 Sep 2022**	-	<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
DS1.BR1	**06 Sep 2022**	-	<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
DSI.BH1_0-1	**06 Sep 2022**	-	<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
DSI.BH2_0-0.1	**28 Sep 2022**	<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
DSI.BH2_1.9-2.0	**28 Sep 2022**	-	<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
DSI.BR	**28 Sep 2022**	-	<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
DSI.SR	**28 Sep 2022**	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
DSI_BH3_0-0.1	**28 Sep 2022**	<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
DSI_BH3_1.9-2.0	**28 Sep 2022**	-	<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

Environmental Standards

2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

		Organophosphorous Pesticides													PCBs							
		Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Ethoprop	Fenitrothion	Malathion	Methyl parathion	Ronnel	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	mg/kg	mg/kg	mg/kg	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	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
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																						
NEPM 2013 Table 1A(1) HILs Res B Soil				340																		1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				2,000																		7
ASSMAC 1998 >1000t disturbed, medium texture																						
Field ID	**Date**																					
DS1.BH1-1.0-2.0	**06 Sep 2022**	<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
DS1.BH4-1.0-2.0	**06 Sep 2022**	<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
DS1.BH4-5.0-6.0	**06 Sep 2022**	<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
DS1.BH5-1.0-2.0	**06 Sep 2022**	<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
DS1.BH5-6.0-7.0	**06 Sep 2022**	<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
DS1.BH6-0-0.1	**06 Sep 2022**	<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
DS1.BH6-1.0-2.0	**06 Sep 2022**	<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
DS1.BH7-0.0-0.1	**06 Sep 2022**	<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
DS1.BH7-1.0-2.0	**06 Sep 2022**	<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
DS1.BR1	**06 Sep 2022**	<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
DSI.BH1_0-1	**06 Sep 2022**	<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
DSI.BH2_0-0.1	**28 Sep 2022**	<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
DSI.BH2_1.9-2.0	**28 Sep 2022**	<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
DSI.BR	**28 Sep 2022**	<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
DSI.SR	**28 Sep 2022**	-	-	<0.10	<0.10	<0.10	-	-	-	<0.10	-	-	<0.10	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-
DSI_BH3_0-0.1	**28 Sep 2022**	<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
DSI_BH3_1.9-2.0	**28 Sep 2022**	<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

Environmental Standards

2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

		Pesticides		Solvents	Acid Sulphate Soils - Acid Base Accounting			Acid Sulphate Soils - Acidity Trail		Acid Sulphate Soils - Liming Rate		Acid Sulphate Soils - pH	Acid Sulphate Soils - Potential Acidity		Acid Sulphate Soils - Retained Acidity		Acid Sulphate Soils -	Acid Sulphate Soils
		DEF	Parathion	Cyclohexane	a-Net Acidity without ANCE	Net Acidity (acidity units)	Net Acidity (sulfur units)	Titratable Actual Acidity (sulfur units)	Titratable Actual Acidity	Liming Rate	Liming Rate excluding ANC	pHKCl	Chromium Reducible Sulphur (acidity units)	Chromium Reducible Sulfur	HCl Extractable Sulfur	Net Acid Soluble Sulfur	KCl Extractable Sulfur	s-Net Acidity without ANCE
		mg/kg	mg/kg	mg/kg	moles H+/t	mole H+/t	%S	%S	mole H+/t	kg CaCO3/t	kg CaCO3/t	-	mole H+/t	%w/w	%S	%S	%	% S
EQL		0.1	0.1	1	5	5	0.005	0.01	5	0.75	0.75		3		0.005	0.005	0.005	0.005
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																		
NEPM 2013 Table 1A(1) HILs Res B Soil																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
ASSMAC 1998 >1000t disturbed, medium texture						18	0.03							0.03				
Field ID	**Date**																	
DS1.BH1-1.0-2.0	**06 Sep 2022**	-	<0.1	-	28	28	0.046	<0.01	<5	2	2.1	5.1	24	0.04	-	-	-	0.046
DS1.BH4-1.0-2.0	**06 Sep 2022**	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH4-5.0-6.0	**06 Sep 2022**	-	<0.1	-	11	11	0.017	0.01	8	0.8	0.80	5.7	<3	0.005	-	-	-	0.017
DS1.BH5-1.0-2.0	**06 Sep 2022**	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH5-6.0-7.0	**06 Sep 2022**	-	<0.1	-	13	13	0.021	<0.01	<5	1	0.97	6.2	11	0.02	-	-	-	0.021
DS1.BH6-0-0.1	**06 Sep 2022**	-	<0.1	-	120	120	0.19	0.18	110	9.0	9.0	4.3	6	0.009	0.015	<0.005	0.018	0.19
DS1.BH6-1.0-2.0	**06 Sep 2022**	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH7-0.0-0.1	**06 Sep 2022**	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS1.BH7-1.0-2.0	**06 Sep 2022**	-	<0.1	-	28	28	0.044	0.04	23	2	2.1	4.8	5	0.008	-	-	-	0.044
DS1.BR1	**06 Sep 2022**	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.BH1_0-1	**06 Sep 2022**	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.BH2_0-0.1	**28 Sep 2022**	-	<0.1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.BH2_1.9-2.0	**28 Sep 2022**	-	<0.1	-	64	64	0.10	0.07	42	5	4.8	4.5	22	0.04	-	-	-	0.10
DSI.BR	**28 Sep 2022**	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI.SR	**28 Sep 2022**	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI_BH3_0-0.1	**28 Sep 2022**	-	<0.1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DSI_BH3_1.9-2.0	**28 Sep 2022**	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Environmental Standards

2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

		Metals								Herbicides	Perfluoroalkane Carboxylic Acids	(n:2) Fluorotelomer Sulfonic Acids		Perfluoroalkane Sulfonic Acids		PFAS			Dioxins and Furans
		Arsenic (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	Dinoseb	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	Sum of PFAS	Sum of PFAS (PFOS + PFOA)	2,3,7,8-Tetrachlorooxanthrene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pg/L
EQL		0.001	0.0001	0.001	0.001	0.001	0.00005	0.001	0.001	10	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)			0.0002		0.0014	0.0034	0.0006	0.011	0.008										
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)			0.0055		0.0013	0.0044	0.0004	0.07	0.015										
PFAS NEMP 2020 Freshwater 99%											19				0.00023				
PFAS NEMP 2020 Interim Marine 99%											19				0.00023				
PFAS NEMP 2020 Recreational Water											10			2	2	2			
NEPM 2013 Table 1C GILs, Fresh Waters			0.0002		0.0014	0.0034	0.00006	0.011	0.008										
NEPM 2013 Table 1C GILs, Marine Waters			0.0007		0.0013	0.0044	0.0001	0.007	0.015										
Field ID	**Date**																		
Dup01	**12 Oct 2022**	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.00005	0.004	0.025	<10	<0.01	<0.01	<0.02	<0.01	0.02	0.02	0.02	0.02	0
Dup01A	**12 Oct 2022**	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.00005	0.004	0.028	<10	<0.01	<0.01	<0.02	<0.01	0.02	0.02	0.02	0.02	0
MW1	**12 Oct 2022**	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.00005	0.008	0.044	<10	<0.01	<0.01	<0.02	0.02	<0.01	0.02	0.02	<0.01	0
MW2	**12 Oct 2022**	0.003	<0.0001	<0.001	0.001	<0.001	<0.00005	0.024	0.034	<10	<0.01	0.04	<0.02	<0.01	<0.01	<0.01	0.04	<0.01	0
MW3	**12 Oct 2022**	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.00005	0.004	0.026	<10	<0.01	<0.01	<0.02	<0.01	0.02	0.02	0.02	0.02	0
MW4	**12 Oct 2022**	0.001	<0.0001	<0.001	0.004	<0.001	<0.00005	<0.001	0.019	<10	<0.01	0.01	<0.02	<0.01	<0.01	<0.01	0.01	<0.01	0
Rinsate	**12 Oct 2022**	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.00005	<0.001	<0.001	<10	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																			

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 99%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 99%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

		BTEX											TRH							
		Naphthalene (VOC)	Benzene		Toluene		Ethylbenzene		Xylene (m & p)		Xylene (o)	Xylene (o)	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)	3&4-Methylphenol (m&p-cresol)
		mg/L	µg/L	%	µg/L	%	µg/L	%	µg/L	%	µg/L	%	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.001	1	1	1	1	1	1	2	2	1	1	10	10	50	50	100	100	50	4
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)		0.016	950		180		80				350									
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)		0.07	700		180		80													
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters		0.016	950								350									
NEPM 2013 Table 1C GILs, Marine Waters		0.05	500																	
Field ID	Date																			
Dup01	**12 Oct 2022**	<0.001	<1	-	<1	-	<1	-	<2	-	<1	-	40	40	93	93	550	220	860	<4
Dup01A	**12 Oct 2022**	<0.001	<1	-	<1	-	<1	-	<2	-	<1	-	37	37	74	74	530	240	840	<4
MW1	**12 Oct 2022**	<0.001	<1	-	<1	-	<1	-	<2	-	<1	-	<10	<10	85	85	<100	<100	80	<4
MW2	**12 Oct 2022**	<0.001	<1	-	<1	-	<1	-	<2	-	3	-	50	47	250	250	110	<100	360	<4
MW3	**12 Oct 2022**	<0.001	<1	-	<1	-	<1	-	<2	-	<1	-	35	35	72	72	600	250	930	<4
MW4	**12 Oct 2022**	<0.001	<1	-	<1	-	<1	-	<2	-	<1	-	27	27	<50	<50	<100	<100	<50	<4
Rinsate	**12 Oct 2022**	<0.001	<1	-	<1	-	<1	-	<2	-	<1	-	<10	<10	<50	<50	<100	<100	<50	<4
TB	**12 Oct 2022**	<0.001	<1	-	<1	-	<1	-	<2	-	<1	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	118	-	114	-	113	-	111	-	110	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 202
HEPA, January 2020, PFAS NEMP 2020 Freshwater 99%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 99%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

		Phenols															Amino Aliphatics		Amino Aromati	
		2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-Nitrophenol	Pentachlorophenol	Phenol	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	1-naphthylamine	2-naphthylamine
		µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		2	2	2	2	2	0.02	2	2	2	2	20	10	20	10	2	5	5	5	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)		20		20	160		0.045		490						10	320				
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)															22	400				
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters		10		3	120		0.045		340						3.6	320				
NEPM 2013 Table 1C GILs, Marine Waters															11	400				
Field ID	**Date**																			
Dup01	**12 Oct 2022**	<2	<2	<2	<2	<2	<0.02	<2	<2	<2	<2	<20	<10	<20	<10	<2	<5	<5	<5	<5
Dup01A	**12 Oct 2022**	<2	<2	<2	<2	<2	<0.02	<2	<2	<2	<2	<20	<10	<20	<10	<2	<5	<5	<5	<5
MW1	**12 Oct 2022**	<2	<2	<2	<2	<2	<0.02	<2	<2	<2	<2	<20	<10	<20	<10	<2	<5	<5	<5	<5
MW2	**12 Oct 2022**	<2	<2	<2	<2	<2	<0.02	<2	<2	<2	<2	<20	<10	<20	<10	<2	<5	<5	<5	<5
MW3	**12 Oct 2022**	<2	<2	<2	<2	<2	<0.02	<2	<2	<2	<2	<20	<10	<20	<10	<2	<5	<5	<5	<5
MW4	**12 Oct 2022**	<2	<2	<2	<2	<2	<0.02	<2	<2	<2	<2	<20	<10	<20	<10	<2	<5	<5	<5	<5
Rinsate	**12 Oct 2022**	<2	<2	<2	<2	<2	<0.02	<2	<2	<2	<2	<20	<10	<20	<10	<2	<5	<5	<5	<5
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 202
HEPA, January 2020, PFAS NEMP 2020 Freshwater 99%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 99%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

		cs	Anilines																	
		Diphenylamine	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline	Aniline	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		5	5	5	5	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								250		270	400	6,500		700				1,900	900	1,100
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)										270	400	1,900		700				1,900	900	1,100
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters								8				6,500								
NEPM 2013 Table 1C GILs, Marine Waters												1,900								
Field ID	**Date**																			
Dup01	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dup01A	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW1	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW2	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW3	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW4	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1
Rinsate	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 202
HEPA, January 2020, PFAS NEMP 2020 Freshwater 99%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 99%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

		Chlorinated Hydrocarbons																		
		2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		1	1	1	1	1	1	10	1	10	1	1	1	1	5	2	1	1	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)						240			770							360	330	70		
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)						240			770								330	70		
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters																290				
NEPM 2013 Table 1C GILs, Marine Waters																				
Field ID	**Date**																			
Dup01	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<10	24	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1
Dup01A	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<10	27	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1
MW1	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<10	2	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1
MW2	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<10	3	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1
MW3	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<10	21	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1
MW4	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<10	3	<10	<1	<1	<1	<1	<5	<2	9	<1	<1	<1
Rinsate	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 202
HEPA, January 2020, PFAS NEMP 2020 Freshwater 99%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 99%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

			Explosives			Halogenated Benzenes												Halogenated Hydrocarbons		
		Vinyl chloride	**1,3-Dinitrobenzene**	**2,6-dinitrotoluene**	**Nitrobenzene**	**1,2,3-trichlorobenzene**	**1,2,4,5-tetrachlorobenzene**	**1,2,4-trichlorobenzene**	**1,2-dichlorobenzene**	**1,3-dichlorobenzene**	**1,4-dichlorobenzene**	**2-chlorotoluene**	**4-chlorotoluene**	**Bromobenzene**	**Chlorobenzene**	**Hexachlorobenzene**	**Pentachlorobenzene**	**1,2-dibromoethane**	**Bromomethane**	**Dichlorodifluoromethane**
		µg/L	**mg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
EQL		10	0.005	5	5	1	2	1	1	1	1	1	1	1	1	2	2	1	10	10
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)		100			550	10	7	170	160	260	60				55	0.1	2			
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)		100					5	80							55	0.1	2			
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters						3		85	160	260	60									
NEPM 2013 Table 1C GILs, Marine Waters								20												
Field ID	**Date**																			
Dup01	**12 Oct 2022**	<10	<0.005	<5	<5	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<1	<10	<10
Dup01A	**12 Oct 2022**	<10	<0.005	<5	<5	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<1	<10	<10
MW1	**12 Oct 2022**	<10	<0.005	<5	<5	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<1	<10	<10
MW2	**12 Oct 2022**	<10	<0.005	<5	<5	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<1	<10	<10
MW3	**12 Oct 2022**	<10	<0.005	<5	<5	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<1	<10	<10
MW4	**12 Oct 2022**	<10	<0.005	<5	<5	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<1	<10	<10
Rinsate	**12 Oct 2022**	<10	<0.005	<5	<5	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<1	<10	<10
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 202
HEPA, January 2020, PFAS NEMP 2020 Freshwater 99%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 99%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

			MAH									Nitroaromatics								
		Trichlorofluoromethane	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Pentachloronitrobenzene	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		10	1	1	1	1	1	1	1	1	1	5	2	2	2	2	2	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)					30															
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)					30															
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
NEPM 2013 Table 1C GILs, Marine Waters																				
Field ID	**Date**																			
Dup01	**12 Oct 2022**	<10	1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2
Dup01A	**12 Oct 2022**	<10	1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2
MW1	**12 Oct 2022**	<10	8	4	<1	<1	<1	<1	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2
MW2	**12 Oct 2022**	<10	18	10	1	<1	1	<1	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2
MW3	**12 Oct 2022**	<10	1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2
MW4	**12 Oct 2022**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2
Rinsate	**12 Oct 2022**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 202
HEPA, January 2020, PFAS NEMP 2020 Freshwater 99%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 99%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

		Organochlorine Pesticides																		
		DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
EQL		2	2	2	2	2	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)		0.01					0.02			0.2	0.09			0.02				0.01		0.15
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)							0.008													
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters		0.006					0.01			0.2	0.01							0.01		0.15
NEPM 2013 Table 1C GILs, Marine Waters							0.004													
Field ID	**Date**																			
Dup01	**12 Oct 2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2
Dup01A	**12 Oct 2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2
MW1	**12 Oct 2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2
MW2	**12 Oct 2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2
MW3	**12 Oct 2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2
MW4	**12 Oct 2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2
Rinsate	**12 Oct 2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 202
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HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

		Organophosphorous Pesticides												Other						
		Disulfoton	Ethion	Ethyl methanesulfonate	Fenitrothion	Fenthion	Malathion	Methidathion	Methyl parathion	Mevinphos (Phosdrin)	Phorate	Ronnel	Safrole	Acetophenone	Phosalone	Benzo(b+j+k)fluoranthene	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L
EQL		2	2	5	2	2	2	2	2	2	2	2	5	5	0.002	0.002	2	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)					0.2		0.05													
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters					0.2		0.05													
NEPM 2013 Table 1C GILs, Marine Waters																				
Field ID	**Date**																			
Dup01	**12 Oct 2022**	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	<0.002	<0.002	<2	<2	<2	<2
Dup01A	**12 Oct 2022**	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	<0.002	<0.002	<2	<2	<2	<2
MW1	**12 Oct 2022**	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	<0.002	<0.002	<2	<2	<2	<2
MW2	**12 Oct 2022**	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	<0.002	<0.002	<2	<2	<2	<2
MW3	**12 Oct 2022**	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	<0.002	<0.002	<2	<2	<2	<2
MW4	**12 Oct 2022**	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	<0.002	<0.002	<2	<2	<2	<2
Rinsate	**12 Oct 2022**	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	<0.002	<0.002	<2	<2	<2	<2
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 202
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HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

		PAH																		
		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	Benzo(a)pyrene TEQ	PAHs (Sum of positives)	Arochlor 1016	Arochlor 1221	Arochlor 1232
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L
EQL		1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.005	0.001	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)				0.4		0.2				1.4			16	2						
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)				0.4		0.2				1.4			70	2						
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters													16							
NEPM 2013 Table 1C GILs, Marine Waters													50							
Field ID	**Date**																			
Dup01	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0	<2	<2	<2
Dup01A	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0	<2	<2	<2
MW1	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0	<2	<2	<2
MW2	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0	<2	<2	<2
MW3	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0	<2	<2	<2
MW4	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0	<2	<2	<2
Rinsate	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0	<2	<2	<2
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 202
HEPA, January 2020, PFAS NEMP 2020 Freshwater 99%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 99%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

		PCBs				Pesticides			Phthalates						Solvents					
		Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Carbazole	Fenamiphos	Parathion	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Cyclohexane	Isophorone	2-(acetylamino) fluorene	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		2	2	2	2	5	2	2	50	10	10	10	10	10	0.001	5	2	5	5	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)		0.6		0.03				0.004			1,000	3,700	26							
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 99%																				
PFAS NEMP 2020 Interim Marine 99%																				
PFAS NEMP 2020 Recreational Water																				
NEPM 2013 Table 1C GILs, Fresh Waters		0.3		0.01				0.004			1,000	3,700	10							
NEPM 2013 Table 1C GILs, Marine Waters																				
Field ID	**Date**																			
Dup01	**12 Oct 2022**	<2	<2	<2	<2	<5	<2	<2	<50	<10	<10	<10	<10	<10	<0.001	<5	<2	<5	<5	<5
Dup01A	**12 Oct 2022**	<2	<2	<2	<2	<5	<2	<2	<50	<10	<10	<10	<10	<10	<0.001	<5	<2	<5	<5	<5
MW1	**12 Oct 2022**	<2	<2	<2	<2	<5	<2	<2	<50	<10	<10	<10	<10	<10	<0.001	<5	<2	<5	<5	<5
MW2	**12 Oct 2022**	<2	<2	<2	<2	<5	<2	<2	<50	<10	<10	<10	<10	<10	<0.001	<5	<2	<5	<5	<5
MW3	**12 Oct 2022**	<2	<2	<2	<2	<5	<2	<2	<50	<10	<10	<10	<10	<10	<0.001	<5	<2	<5	<5	<5
MW4	**12 Oct 2022**	<2	<2	<2	<2	<5	<2	<2	<50	<10	<10	<10	<10	<10	<0.001	<5	<2	<5	<5	<5
Rinsate	**12 Oct 2022**	<2	<2	<2	<2	<5	<2	<2	<50	<10	<10	<10	<10	<10	<0.001	<5	<2	<5	<5	<5
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																				

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Environmental Standards

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HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

		SVOCs												TPH					VOCs
		Azobenzene	Benzyl alcohol	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Dibenzofuran	Hexachloropropene	Isosafrole	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	Phenacetin	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	Pentachloroethane
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		5	5	5	5	5	5	2	5	10	5	5	5	10	50	100	100	50	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																			80
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																			80
PFAS NEMP 2020 Freshwater 99%																			
PFAS NEMP 2020 Interim Marine 99%																			
PFAS NEMP 2020 Recreational Water																			
NEPM 2013 Table 1C GILs, Fresh Waters																			
NEPM 2013 Table 1C GILs, Marine Waters																			
Field ID	Date																		
Dup01	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	<5	22	100	240	450	790	<2
Dup01A	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	<5	18	81	230	400	710	<2
MW1	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	<5	<10	95	<100	<100	100	<2
MW2	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	<5	23	340	140	<100	480	<2
MW3	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	<5	16	79	260	460	810	<2
MW4	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	<5	17	<50	<100	<100	<50	<2
Rinsate	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	<5	<10	<50	<100	<100	<50	<2
TB	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	**12 Oct 2022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note to table on PFAS LOR																			

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HEPA, January 2020, PFAS NEMP 2020 Recreational Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

T1 - Summary of PFAS TC (Soil)

Sites: Rhodes East Site 1 – Leeds Foreshore, NSW		Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids											Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				diPAP	PFAS Sums		
		Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	8:2 Fluorotelomer phosphate diester (8:2 diPAP)	Sum of PFAS	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)
PFAS NEMP (Industrial)	mg/kg			20.0		20.0						50.0																				20.0	
PFAS NEMP (Res No Access)	mg/kg			2.0		2.0						20.0																				2.0	
PFAS NEMP (Open Space)	mg/kg			1.0		1.0						10.0																				1.0	
PFAS NEMP (Garden)	mg/kg			0.009		0.009						0.100																				0.009	
PFAS Detections	mg/kg	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR		>LOR	>LOR	>LOR
SLS	mg/kg	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.001	0.005	0.005															
ALS	mg/kg	0.0002	0.001	0.0002	0.001	0.0002	0.001	0.001	0.0002	0.0002	0.0002	0.0002	0.001	0.001	0.002	0.002	0.002	0.002	0.0020	0.0020	0.0020	0.0050	0.0050	0.0020	0.0020	0.0005	0.0010	0.0010	0.0020	0.0020			
Lab Report	***Sample ID***																																
STC-2110-18546 (960-973)	AWM01-0.1	<0.005	<0.005	<0.005	<0.005	97.0	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	97.000	97.000	*NT*
STC-2110-18546 (960-973)	AWM01-1.0	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	AWM01-4.0	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	ABH02-0.1	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	ABH02-0.3	<0.005	<0.005	<0.005	<0.005	5.0	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	5.000	5.000	*NT*
STC-2110-18546 (960-973)	ABH02-6.0	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	BH14-0.3	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	BH14-3.4	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	BH01-0.1	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	BH01-1.0	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	BH02-0.1	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	BH02-5.9	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
Quality Assurance/Quality Control Samples																																	
STC-2110-18546 (960-973)	BR1	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (960-973)	BR3	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
ES2036474	SR1	<0.0002	*NT*	<0.0002	*NT*	<0.0002	*NT*	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	<0.0005	<0.0005	<0.0005	<0.0005	*NT*	0.000	0.000	<0.0002
ES2036474	SR3	<0.0002	*NT*	<0.0002	*NT*	0.0006	*NT*	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	<0.0005	<0.0005	<0.0005	<0.0005	*NT*	0.0006	0.0006	0.0006

▨	PFAS Detections. PFHxS, PFOS, PFOA, and sum of PFHxS and PFOS are have regulatory guidelines for TC
NT	Not Tested

T2 - Summary of PFAS TC Water

Sites: Rhodes East Site 1 – Leeds Foreshore, NSW		Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids											Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				diPAP	PFAS Sums		
		Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	8:2 Fluorotelomer phosphate diester (8:2 diPAP)	Sum of PFAS	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)
PFAS NEMP Water ECO 80%	µg/L					31						1824																					
PFAS NEMP Water ECO 90%	µg/L					2						632																					
PFAS NEMP Recreational Water	µg/L			0.7		0.7																										0.7	
PFAS NEMP Water ECO 95%	µg/L					0.13						220																					
PFAS NEMP Drinking Water	µg/L			0.07		0.07																										0.07	
PFAS NEMP Water ECO 99%	µg/L					0.00023						19																					
PFAS NEMP Recreational Water	µg/L											5.6																					
PFAS NEMP Drinking Water	µg/L											0.56																					
PFAS Detections	µg/L	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR		>LOR
ALS	µg/L	0.02	0.01	0.01	0.01	0.01		0.10	0.10	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01								<0.05	<0.05	<0.05	<0.05				
SLS	µg/L	0.02	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.05	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.02			
Lab Report	***Sample ID***																																
STC-2110-18546 (952-959)	SW1	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (952-959)	SW2	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (952-959)	MW03	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (952-959)	MW01	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (952-959)	MW14	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	0.024	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.024	0.000	*NT*
Quality Assurance/Quality Control Samples																																	
STC-2110-18546 (952-959)	BR2	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
ES2036474	SR2	<0.02	*NT*	0.03	*NT*	0.01	*NT*	<0.1	<0.02	<0.02	<0.02	<0.01	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	<0.05	<0.05	<0.05	<0.05	*NT*	0.040	0.040	0.0400
STC-2110-18546 (952-959)	Rinsate 1	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (952-959)	Rinsate 2	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*

▨	PFAS Detections. PFHxS, PFOS, PFOA, and sum of PFHxS and PFOS are have regulatory guidelines for ASLP
NT	Not Tested

Refer to PFAS NEMP 2.0 for further information

STC-2110-18546

T3 - Summary of PFAS ASLP (Soil)

Sites: Rhodes East Site 1 – Leeds Foreshore, NSW		Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids											Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				diPAP	PFAS Sums		
		Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	8:2 Fluorotelomer phosphate diester (8:2 diPAP)	Sum of PFAS	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)
PFAS NEMP Water ECO 80%	µg/L					31						1824																					
PFAS NEMP Water ECO 90%	µg/L					2						632																					
PFAS NEMP Recreational Water	µg/L			0.7		0.7																										0.7	
PFAS NEMP Water ECO 95%	µg/L					0.13						220																					
PFAS NEMP Drinking Water	µg/L			0.07		0.07																										0.07	
PFAS NEMP Water ECO 99%	µg/L					0.00023						19																					
PFAS NEMP Recreational Water	µg/L											5.6																					
PFAS NEMP Drinking Water	µg/L											0.56																					
PFAS Detections	µg/L	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR	>LOR		>LOR
ALS	µg/L	0.02	0.01	0.01	0.01	0.01		0.10	0.10	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01								<0.05	<0.05	<0.05	<0.05				
SLS	µg/L	0.02	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.05	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.02			
Lab Report	***Sample ID***																																
STC-2110-18546 (974-987) ASLP	AWM01-0.1	<0.02	<0.02	<0.02	<0.02	0.19	*NT*	<0.02	<0.02	<0.02	<0.02	0.049	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.239	0.190	*NT*
STC-2110-18546 (974-987) ASLP	AWM01-1.0	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	AWM01-4.0	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	ABH02-0.1	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	ABH02-0.3	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	ABH02-6.0	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	BH14-0.3	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	BH14-3.4	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	BH01-0.1	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	BH01-1.0	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	BH02-0.1	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	BH02-5.9	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.000	0.000	*NT*
STC-2110-18546 (974-987) ASLP	BH02-1.0	<0.02	<0.02	<0.02	<0.02	0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.020	0.020	*NT*
STC-2110-18546 (974-987) ASLP	BR1	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.0000	0.0000	*NT*
STC-2110-18546 (974-987) ASLP	BR3	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	0.0000	0.0000	*NT*
ES2036474	SR1	<0.02	*NT*	<0.02	*NT*	<0.01	*NT*	<0.1	<0.02	<0.02	<0.02	<0.01	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	<0.05	<0.05	<0.05	<0.05	*NT*	0.0000	0.0000	<0.01
ES2036475	SR3	<0.02	*NT*	<0.02	*NT*	0.02	*NT*	<0.1	<0.02	<0.02	<0.02	<0.01	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	*NT*	<0.05	<0.05	<0.05	<0.05	*NT*	0.0200	0.0200	0.0200

▨	PFAS Detections. PFHxS, PFOS, PFOA, and sum of PFHxS and PFOS are have regulatory guidelines for ASLP
NT	Not Tested

Refer to PFAS NEMP 2.0 for further information

									Field_ID	BH01_1.7-1.9	BH01_3.6-3.8	BH02_0.6-0.8	BH02_1.8-2.0	BH03_0.3-0.5	BH03_2.7-2.9	BH04_1.1-1.3	BH04_4.5-4.7	BH04_6.2-6.4	BH04_6.9-7.1	BH05_2.9-3.0	BH05_5.2-5.4	BH06_0.4-0.6	BH06_3.0-3.2	BH07_0.0-0.1	BH07_1.5-1.6	BH07_3.6-3.8
									LocCode	BH01	BH01	BH02	BH02	BH03	BH03	BH04	BH04	BH04	BH04	BH05	BH05_5.2-5.4	BH06	BH06	BH07	BH07	BH07
									Sample_Depth_Range	1.7-1.9	3.6-3.8	0.6-0.8	1.8-2	0.3-0.5	2.7-2.9	1.1-1.3	4.5-4.7	6.2-6.4	6.9-7.1	2.9-3	5.2-5.4	0.4-0.6	3.0-3.2	0-0.1	1.5-1.6	3.6-3.8
									Sampled_Date-Time	18/08/2016	18/08/2016	18/08/2016	18/08/2016	18/08/2016	18/08/2016	17/08/2016	17/08/2016	17/08/2016	17/08/2016	17/08/2016	17/08/2016	17/08/2016	17/08/2016	17/08/2016	17/08/2016	17/08/2016
									Matrix_Description	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Method_Type	ChemName	Units	EQL	NEPM 2013 HIL A Soil	NEPM 2013 HSL A & B - Soil Vapour Intrusion, 0-1m	CRC Care HSL A - Direct Contact	NEPM 2013 ESLs - Urban residential and public open space	NEPM 2013 Management Limits - Residential, parkland & open space (Coarse)	NEPM 2013 EILs - Urban residential and public open space																	
Soil properties	Moisture Content (dried @ 103°C)	%	1							-	24	-	10	-	12	-	20	-	17	15	-	5.6	-	-	-	39
	Cation Exchange Capacity	meq/100g	1							-	-	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-
	% Clay	%	1							-	-	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-
	pH (Lab)	pH_Units	0.1							-	-	-	-	-	-	-	-	-	5.2	-	-	-	-	-	-	-
Dioxins & Furans	WHO (2005)-PCDD/F TEQ (upper-bound)	ng/kg dw	-							-	7.4	-	-	-	-	-	15.2	7.95	-	28.5	9.75	142	142	-	27.8	178
	WHO (2005)-PCB TEQ (upper-bound)	ng/kg dw	-							-	0.181	-	-	-	-	-	0.153	0.142	-	0.174	0.18	0.58	1.08	-	0.39	5.08
	WHO (2005)-Sum of PCDD/F + PCB TEQ (upper-bound) [1]	ng/kg dw	-	120 [2]						-	8	-	-	-	-	-	15	8	-	29	10	143	143	-	28	183
Asbestos	Approximate Sample Mass	g	-							270	-	264	-	232	-	162	-	-	-	202	-	155	-	80	-	-
	Asbestos from ACM in Soil	%w/w	-							0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	-
	Asbestos from FA & AF in Soil	%w/w	-							0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	-
	Mass ACM	g	-							0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	-
	Mass AF	g	-							0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	-
	Mass Asbestos in ACM	g	-							0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	-
	Mass Asbestos in AF	g	-							0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	-
	Mass Asbestos in FA	g	-							0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	-
	Mass Asbestos in FA & AF	g	-							0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	-
	Mass FA	g	-							0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	-
Heavy Metals	Arsenic	mg/kg	2	100					100	-	17	-	4.3	-	2.3	-	14	-	-	3.6	-	5.4	-	-	-	30
	Cadmium	mg/kg	0.4	20					3	-	<0.4	-	<0.4	-	<0.4	-	<0.4	-	-	<0.4	-	<0.4	-	-	-	0.9
	Chromium (III+VI)	mg/kg	5	100					410	-	6.5	-	12	-	5.3	-	7.1	-	-	11	-	36	-	-	-	71
	Copper	mg/kg	5	6000					65	-	5.5	-	<5	-	5.1	-	<5	-	-	7.1	-	32	-	-	-	78
	Lead	mg/kg	5	300					1110	-	13	-	15	-	71	-	6.4	-	-	46	-	63	-	-	-	280
	Mercury	mg/kg	0.05	40					1	-	0.07	-	<0.05	-	0.12	-	<0.05	-	-	0.14	-	0.05	-	-	-	1.2
	Nickel	mg/kg	5	400					35	-	<5	-	<5	-	<5	-	<5	-	-	<5	-	35	-	-	-	12
	Zinc	mg/kg	5	7400					75	-	22	-	26	-	19	-	8	-	-	69	-	140	-	-	-	460
PAHs in soil	Benzo[b+j]fluoranthene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	5.8	-	-	-	1.5
	Acenaphthene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	Acenaphthylene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	Anthracene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	Benz(a)anthracene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	6.4	-	-	-	1.3
	Benzo(a) pyrene	mg/kg	0.5				0.7			-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	8.6	-	-	-	2
	Benzo(a)pyrene TEQ (lower bound) *	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	10	-	-	-	2.6
	Benzo(a)pyrene TEQ (medium bound) *	mg/kg	0.5							-	0.6	-	0.6	-	0.6	-	0.6	-	-	0.6	-	13	-	-	-	2.8
	Benzo(a)pyrene TEQ (upper bound) *	mg/kg	0.5	3						-	1.2	-	1.2	-	1.2	-	1.2	-	-	1.2	-	16	-	-	-	3.1
	Benzo(g,h,i)perylene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	1.4
	Benzo(k)fluoranthene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	6.1	-	-	-	1.9
	Chrysene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	6.8	-	-	-	1.6
	Dibenz(a,h)anthracene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	Fluoranthene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	11	-	-	-	3.1
	Fluorene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	0.9
	Naphthalene	mg/kg	0.5		5	1400			170	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	PAHs (Sum of total)	mg/kg	0.5	300						-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	57.7	-	-	-	18.5
	Phenanthrene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	1.3
	Pyrene	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	13	-	-	-	3.5
SVOC	2,4,5-trichlorophenol	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	2,4-dichlorophenol	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	2,4-dimethylphenol	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	2-chlorophenol	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	2-methylphenol	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	2-nitrophenol	mg/kg	0.5							-	<2	-	<2	-	<2	-	<2	-	-	<2	-	<5	-	-	-	<2
	3-&4-methylphenol	mg/kg	1							-	<1	-	<1	-	<1	-	<1	-	-	<1	-	<10	-	-	-	<1
	4-chloro-3-methylphenol	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
	Pentachlorophenol	mg/kg	1	100						-	<6	-	<6	-	<6	-	<6	-	-	<6	-	<20	-	-	-	<6
	Phenol	mg/kg	0.5	3000						-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<5	-	-	-	<0.5
PCBs in soil	Arochlor 1016	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	-	-	<0.5
	Arochlor 1221	mg/kg	0.1							-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	-	<0.1	-	-	-	<0.1
	Arochlor 1232	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	-	-	<0.5
	Arochlor 1242	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	-	-	<0.5
	Arochlor 1248	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	-	-	<0.5
	Arochlor 1254	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	-	-	<0.5
	Arochlor 1260	mg/kg	0.5							-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	-	-	<0.5
	PCBs (Sum of total)	mg/kg	0.5	1						-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	-	-	<0.5
TRH in soil NEPM 2013	C6-C10	mg/kg	20			4400				-	<20	-	<20	-	<20	-	<20	-	-	<20	-	<20	-	-	-	<20
	C6-C10 less BTEX (F1)	mg/kg	20		50		180	*800*		-	<20	-	<20	-	<20	-	<20	-	-	<20	-	<20	-	-	-	<20
	C10-C16	mg/kg	50			3300				-	<50	-	<50	-	<50	-	<50	-	-	<50	-	81	-	-	-	94
	C10-C16 less Naphthalene (F2)	mg/kg	50		280		120	*1000*		-	<50	-	<50	-	<50	-	<50	-	-	<50	-	80	-	-	-	94
	C16-C34	mg/kg	100			4500	300	*3500*		-	120	-	<100	-	<100	-	<100	-	-	<100	-	1100	-	-	-	990
	C34-C40	mg/kg	100			6300	2800	*10,000*		-	<100	-	<100	-	<100	-	<100	-	-	<100	-	460	-	-	-	220
BTEXN in Soil NEPM	Benzene	mg/kg	0.1		0.7	100	50			-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	-	<0.1	-	-	-	<0.1
	Toluene	mg/kg	0.1		480	14,000	85			-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	-	<0.1	-	-	-	<0.1
	Ethylbenzene	mg/kg	0.1		NL	4500	70			-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	-	<0.1	-	-	-	<0.1
	Xylene (m & p)	mg/kg	0.2							-	<0.2	-	<0.2	-	<0.2	-	<0.2	-	-	<0.2	-	<0.2	-	-	-	<0.2
	Xylene (o)	mg/kg	0.1							-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	-	<0.1	-	-	-	<0.1
	Xylene Total	mg/kg	0.3		110	12,000	45			-	<0.3	-	<0.3	-	<0.3	-	<0.3	-	-	<0.3	-	<0.3	-	-	-	<0.3
	Naphthalene	mg/kg	0.5		5	1400			170	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	1.1	-	-	-	<0.5

Notes:

1 - Sum of PCCD/F + PCB TEQ results to the nearest integer

2 - Site specific HIL derived by Jacobs

									Field_ID	BH08_0.1-0.3	BH08_0.9-1.1	BH08_2.0	BH09_0.3-0.5	BH09_3.3-3.5	BH10_0.1-0.2	BH11_0.9-1.0	BH12_1.1-1.3	BH12_5.3-5.5	BH13_0.55-0.75	BH13_2.5-2.7	BH14_1.3-1.5	BH14_1.95-2.15	BH15_0.8-1.1	BH16_0.3-0.5
									LocCode	BH08	BH08	BH08	BH09	BH09	BH10	BH11	BH12	BH12	BH13	BH13	BH14	BH14	BH15	BH16
									Sample_Depth_Range	0.1-0.3	0.9-1.1	2	0.3-0.5	3.3-3.5	0.1-0.2	0.9-1	1.1-1.3	5.3-5.5	0.55-0.75	2.5-2.7	1.3-1.5	1.95-2.15	0.8-1.1	0.3-0.5
									Sampled_Date-Time	18/08/2016	18/08/2016	17/08/2016	16/08/2016	16/08/2016	16/08/2016	16/08/2016	18/08/2016	16/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
									Matrix_Description	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Method_Type	ChemName	Units	EQL	NEPM 2013 HIL A Soil	NEPM 2013 HSL A & B - Soil Vapour Intrusion, 0-1m	CRC Care HSL A - Direct Contact	NEPM 2013 ESLs - Urban residential and public open space	NEPM 2013 Management Limits - Residential, parkland & open space (Coarse)	NEPM 2013 EILs - Urban residential and public open space															
Soil properties	Moisture Content (dried @ 103°C)	%	1							-	-	6.2	-	30	8.2	29	-	34	-	30	-	27	15	11
	Cation Exchange Capacity	meq/100g	1							-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	-
	% Clay	%	1							-	-	-	-	-	-	-	-	-	-	-	-	-	46	-
	pH (Lab)	pH_Units	0.1							-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	-
Dioxins & Furans	WHO (2005)-PCDD/F TEQ (upper-bound)	ng/kg dw	-							-	65.3	29.9	-	6.05	-	-	-	8.61	-	-	-	-	-	-
	WHO (2005)-PCB TEQ (upper-bound)	ng/kg dw	-							-	0.366	0.215	-	0.18	-	-	-	0.637	-	-	-	-	-	-
	WHO (2005)-Sum of PCDD/F + PCB TEQ (upper-bound) ^{1}	ng/kg dw	-	120 ^{2}						-	66	30	-	6	-	-	-	9	-	-	-	-	-	-
Asbestos	Approximate Sample Mass	g	-							185	-	-	238	-	203	112	154	-	176	-	254	-	109	178
	Asbestos from ACM in Soil	%w/w	-							0	-	-	0	-	0	0	0	-	0	-	0	-	0	0
	Asbestos from FA & AF in Soil	%w/w	-							0	-	-	0	-	0	0	0	-	0	-	0	-	0	0
	Mass ACM	g	-							0	-	-	0	-	0	0	0	-	0	-	0	-	0	0
	Mass AF	g	-							0	-	-	0	-	0	0	0	-	0	-	0	-	0	0
	Mass Asbestos in ACM	g	-							0	-	-	0	-	0	0	0	-	0	-	0	-	0	0
	Mass Asbestos in AF	g	-							0	-	-	0	-	0	0	0	-	0	-	0	-	0	0
	Mass Asbestos in FA	g	-							0	-	-	0	-	0	0	0	-	0	-	0	-	0	0
	Mass Asbestos in FA & AF	g	-							0	-	-	0	-	0	0	0	-	0	-	0	-	0	0
	Mass FA	g	-							0	-	-	0	-	0	0	0	-	0	-	0	-	0	0
Heavy Metals	Arsenic	mg/kg	2	100					100	-	-	3.6	-	10	5.7	9.5	-	13	-	21	-	5.2	10	5.9
	Cadmium	mg/kg	0.4	20					3	-	-	<0.4	-	<0.4	<0.4	<0.4	-	<0.4	-	<0.4	-	<0.4	<0.4	<0.4
	Chromium (III+VI)	mg/kg	5	100					410	-	-	10	-	<5	13	17	-	9.5	-	7.1	-	9.4	15	9.4
	Copper	mg/kg	5	6000					65	-	-	<5	-	<5	<5	11	-	<5	-	<5	-	<5	<5	19
	Lead	mg/kg	5	300					1110	-	-	7.5	-	5.5	10	64	-	5.6	-	<5	-	11	10	35
	Mercury	mg/kg	0.05	40					1	-	-	<0.05	-	<0.05	0.08	0.07	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05
	Nickel	mg/kg	5	400					35	-	-	<5	-	<5	<5	10	-	<5	-	<5	-	<5	<5	8.8
	Zinc	mg/kg	5	7400					75	-	-	17	-	10	13	88	-	5.9	-	<5	-	7.1	<5	49
PAHs in soil	Benzo[b+j]fluoranthene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Acenaphthene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Anthracene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Benz(a)anthracene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Benzo(a) pyrene	mg/kg	0.5				0.7			-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound) *	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (medium bound) *	mg/kg	0.5							-	-	0.6	-	0.6	0.6	0.6	-	0.6	-	0.6	-	0.6	0.6	0.6
	Benzo(a)pyrene TEQ (upper bound) *	mg/kg	0.5	3						-	-	1.2	-	1.2	1.2	1.2	-	1.2	-	1.2	-	1.2	1.2	1.2
	Benzo(g,h,i)perylene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Chrysene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Fluoranthene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Fluorene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Naphthalene	mg/kg	0.5		5	1400			170	-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	PAHs (Sum of total)	mg/kg	0.5	300						-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Phenanthrene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Pyrene	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
SVOC	2,4,5-trichlorophenol	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	2,4-dichlorophenol	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	2,4-dimethylphenol	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	2-chlorophenol	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	2-methylphenol	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	2-nitrophenol	mg/kg	0.5							-	-	<2	-	<2	<2	<2	-	<2	-	<2	-	<2	<2	<2
	3-&4-methylphenol	mg/kg	1							-	-	<1	-	<1	<1	<1	-	<1	-	<1	-	<1	<1	<1
	4-chloro-3-methylphenol	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Pentachlorophenol	mg/kg	1	100						-	-	<6	-	<6	<6	<6	-	<6	-	<6	-	<6	<6	<6
	Phenol	mg/kg	0.5	3000						-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
PCBs in soil	Arochlor 1016	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Arochlor 1221	mg/kg	0.1							-	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1
	Arochlor 1232	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Arochlor 1242	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Arochlor 1248	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Arochlor 1254	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	Arochlor 1260	mg/kg	0.5							-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
	PCBs (Sum of total)	mg/kg	0.5	1						-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5
TRH in soil NEPM 2013	C6-C10	mg/kg	20			4400				-	-	<20	-	<20	<20	<20	-	<20	-	<20	-	<20	<20	<20
	C6-C10 less BTEX (F1)	mg/kg	20		50		180	*800*		-	-	<20	-	<20	<20	<20	-	<20	-	<20	-	<20	<20	<20
	C10-C16	mg/kg	50			3300				-	-	<50	-	<50	<50	<50	-	<50	-	<50	-	<50	<50	<50
	C10-C16 less Naphthalene (F2)	mg/kg	50		280		120	*1000*		-	-	<50	-	<50	<50	<50	-	<50	-	<50	-	<50	<50	<50
	C16-C34	mg/kg	100			4500	300	*3500*		-	-	<100	-	<100	<100	<100	-	<100	-	<100	-	<100	<100	<100
	C34-C40	mg/kg	100			6300	2800	*10,000*		-	-	<100	-	<100	<100	<100	-	<100	-	<100	-	<100	<100	<100
BTEXN in Soil NEPM	Benzene	mg/kg	0.1		0.7	100	50			-	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1		480	14,000	85			-	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1		NL	4500	70			-	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1
	Xylene (m & p)	mg/kg	0.2							-	-	<0.2	-	<0.2	<0.2	<0.2	-	<0.2	-	<0.2	-	<0.2	<0.2	<0.2
	Xylene (o)	mg/kg	0.1							-	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1
	Xylene Total	mg/kg	0.3		110	12,000	45			-	-	<0.3	-	<0.3	<0.3	<0.3	-	<0.3	-	<0.3	-	<0.3	<0.3	<0.3
	Naphthalene	mg/kg	0.5		5	1400			170	-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5

Notes:
1 - Sum of PCCD/F + PCB TEQ results to the nearest integer
2 - Site specific HIL derived by Jacobs

					Field_ID	MW01	MW03	MW04	MW07	MW09	MW12	MW13	MW14
					LocCode	BH01/MW01	BH03/MW03	MW04/MW04	BH09/MW07	BH09/MW09	BH12/MW12	BH13/MW13	BH14/MW14
					WellCode	MW01	MW03	MW04	MW07	MW09	MW12	MW13	MW14
					Sampled_Date-Time	24/08/2016	24/08/2016	24/08/2016	25/08/2016	25/08/2016	25/08/2016	25/08/2016	25/08/2016
				NEPM 2013 HSL A & B, Clay, 2-4m	NEPM 2013 GILs - Marine Waters								
Method_Type	ChemName	Units	EQL										
Heavy Metals	Arsenic (Filtered)	µg/L	1			2	1	1	3	<1	<1	3	<1
	Cadmium (Filtered)	µg/L	0.2		0.7	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chromium (III+VI) (Filtered)	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Copper (Filtered)	µg/L	1		1.3	100	2	4	<1	<1	16	2	<1
	Lead (Filtered)	µg/L	1		4.4	9	5	<1	2	<1	2	<1	<1
	Mercury (Filtered)	µg/L	0.1		0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel (Filtered)	µg/L	1		7	66	10	10	11	6	74	4	55
	Zinc (Filtered)	µg/L	1		15	280	14	11	41	7	73	110	24
SVOC	2,4,5-trichlorophenol	µg/L	10			<10	<10	<10	<10	<10	<10	<10	<10
	2,4,6-trichlorophenol	µg/L	10			<10	<10	<10	<10	<10	<10	<10	<10
	2,4-dichlorophenol	µg/L	3			<3	<3	<3	<3	<3	<3	<3	<3
	2,4-dimethylphenol	µg/L	3			<3	<3	<3	<3	<3	<3	<3	<3
	2,4-dinitrophenol	µg/L	30			<30	<30	<30	<30	<30	<30	<30	<30
	2,6-dichlorophenol	µg/L	3			<3	<3	<3	<3	<3	<3	<3	<3
	2-chlorophenol	µg/L	3			<3	<3	<3	<3	<3	<3	<3	<3
	2-methylphenol	µg/L	3			<3	<3	<3	<3	<3	<3	<3	<3
	2-nitrophenol	µg/L	10			<10	<10	<10	<10	<10	<10	<10	<10
	3-&4-methylphenol	µg/L	6			<6	<6	<6	<6	<6	<6	<6	<6
	4,6-Dinitro-2-methylphenol	µg/L	30			<30	<30	<30	<30	<30	<30	<30	<30
	4,6-Dinitro-o-cyclohexyl phenol	µg/L	100			<100	<100	<100	<100	<100	<100	<100	<100
	4-chloro-3-methylphenol	µg/L	10			<10	<10	<10	<10	<10	<10	<10	<10
	4-nitrophenol	µg/L	30			<30	<30	<30	<30	<30	<30	<30	<30
	Dinoseb	µg/L	100			<100	<100	<100	<100	<100	<100	<100	<100
	Pentachlorophenol	µg/L	10		11	<10	<10	<10	<10	<10	<10	<10	<10
	Phenol	µg/L	3		400	<3	<3	<3	<3	<3	<3	<3	<3
	tetrachlorophenols	µg/L	30			<30	<30	<30	<30	<30	<30	<30	<30
	Phenols (Total Halogenated)	µg/L	10			<10	<10	<10	<10	<10	<10	<10	<10
	Phenols (Total Non Halogenated)	µg/L	100			<100	<100	<100	<100	<100	<100	<100	<100
TRH in water NEPM 2013	C6-C10	µg/L	20			<20	<20	<20	<20	<20	<20	<20	<20
	C6-C10 less BTEX (F1)	µg/L	20	NL		<20	<20	<20	<20	<20	<20	<20	<20
	C10-C16	µg/L	50			<50	<50	<50	<50	<50	<50	<50	<50
	C10-C16 less Naphthalene (F2)	µg/L	50	NL		<50	<50	<50	<50	<50	<50	<50	<50
	C16-C34	µg/L	100			<100	<100	<100	<100	<100	<100	<100	<100
	C34-C40	µg/L	100			<100	<100	<100	<100	<100	<100	<100	<100
TRH in water NEPM 1999	C6 - C9	µg/L	20			<20	<20	<20	<20	<20	<20	<20	<20
	C10 - C14	µg/L	50			<50	<50	<50	<50	<50	<50	<50	<50
	C15 - C28	µg/L	100			<100	<100	<100	<100	<100	<100	100	<100
	C29-C36	µg/L	100			<100	<100	<100	<100	<100	<100	<100	<100
	+C10 - C36 (Sum of total)	µg/L	100			<100	<100	<100	<100	<100	<100	100	<100
BTEXN in water NEPM 2013	Benzene	µg/L	1	5000	500	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	1	NL		<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	µg/L	1	NL		<1	<1	<1	<1	<1	<1	<1	<1
	Xylene (m & p)	µg/L	2			<2	<2	<2	<2	<2	<2	<2	<2
	Xylene (o)	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Xylene Total	µg/L	3	NL		<3	<3	<3	<3	<3	<3	<3	<3
	Naphthalene	µg/L	10	NL	50	<10	<10	<10	<10	<10	<10	<10	<10

					Field_ID	MW01	MW03	MW04	MW07	MW09	MW12	MW13	MW14
					LocCode	BH01/MW01	BH03/MW03	MW04/MW04	BH09/MW07	BH09/MW09	BH12/MW12	BH13/MW13	BH14/MW14
					WellCode	MW01	MW03	MW04	MW07	MW09	MW12	MW13	MW14
					Sampled_Date-Time	24/08/2016	24/08/2016	24/08/2016	25/08/2016	25/08/2016	25/08/2016	25/08/2016	25/08/2016
				NEPM 2013 HSL A & B, Clay, 2-4m	NEPM 2013 GILs - Marine Waters								
Method_Type	ChemName	Units	EQL										
VOC	1,1,1,2-tetrachloroethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,1,1-trichloroethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,1,2,2-tetrachloroethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,1,2-trichloroethane	µg/L	1		1900	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-dichloroethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,1-dichloroethene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,2,3-trichloropropane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,2,4-trimethylbenzene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,2-dibromoethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,2-dichlorobenzene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,2-dichloroethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,2-dichloropropane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,3,5-trimethylbenzene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,3-dichlorobenzene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,3-dichloropropane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	1,4-dichlorobenzene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Methyl Ethyl Ketone	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	4-chlorotoluene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	4-Methyl-2-pentanone	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Acetone	µg/L	1			6	5	<1	<1	<1	11	47	5
	Allyl chloride	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Bromobenzene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Bromochloromethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Bromodichloromethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Bromoform	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Bromomethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Carbon disulfide	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Carbon tetrachloride	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Chlorobenzene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Chlorodibromomethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Chloroethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Chloroform	µg/L	5			<5	<5	<5	<5	<5	<5	<5	<5
	Chloromethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	cis-1,2-dichloroethene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	cis-1,3-dichloropropene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Dibromomethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Dichlorodifluoromethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Dichloromethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Iodomethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Isopropylbenzene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Styrene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Trichloroethene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Tetrachloroethene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	trans-1,2-dichloroethene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	trans-1,3-dichloropropene	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Trichlorofluoromethane	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1
	Vinyl chloride	µg/L	1			<1	<1	<1	<1	<1	<1	<1	<1

D

Borehole Logs

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Boring No.: BH105

Easting	: 0.00	**Drill Supplier**	: Stratacore Drilling Pty Ltd	**Job Number**	: 22148	**Sheet**	: 1 OF 1
Northing	: 0.00	**Driller Company**	: Stratacore Drilling Pty Ltd	**Client**	: Billbergia Pty Ltd		
Elevation	: Not Surveyed	**Logged By**	: Renee Ashton	**Project**	: Detailed Site Investigation		
Total Depth	: 6.3 m	**Date**	: 21/05/2024	**Location**	: 25-27 Leeds Street, Rhodes NSW		

Drilling Method	Depth (m)	Samples Discrete	PID (ppm) PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
				Non-Soil			Concrete		
		0.3	1.3	Fill		SLM	Fill. Gravelly SAND SP: loose, dark brown, coarse grained, coarse sized gravel, slightly moist, anthropogenic material including brick and concrete present..	Anthropogenic material including brick and concrete present.	
		0.5	0.3				Fill. Silty SAND SM: loose, brown, medium grained, with medium sized gravel, slightly moist, anthropogenic material including brick and concrete present..	Anthropogenic material including brick and concrete present.	
	1	1.0	2.8				As above, but brown red, trace low plasticity clay.	Anthropogenic material including brick and concrete present.	
	2	2.0	0.3	Natural			Natural. SAND SP: medium dense, orange brown, fine grained, slightly moist.	Weathered sandstone inclusions, crushed sandstone possibly used as fill?	
	3	3.0	0.2			M	Natural. Sandy CLAY CL-CI: soft, low to medium plasticity, brown orange, fine to medium grained sand, inorganic, moist, minor sandstone inclusions.	Minor sandstone inclusions	
	4	4.0	0.2			W	Natural. Sandy CLAY CH: soft, high plasticity, grey, fine grained sand, organic, wet.		▽
	5	5.0	0.2			M	Natural. Sandy CLAY CI: soft, medium plasticity, pale grey, fine grained sand, inorganic, moist.		
	6	6.0	0.2	Rock		SLM	Rock. SANDSTONE: highly weathered, low strength, pale grey, fine grained, indistinct, slightly moist.		
							BH105 refusal at 6.3m (Refusal on rock at 6.3 m)		

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Boring No.: BH106

Easting	: 0.00	Drill Supplier	: Stratacore Drilling Pty Ltd	Job Number	: 22148
Northing	: 0.00	Driller Company	: Stratacore Drilling Pty Ltd	Client	: Billbergia Pty Ltd
Elevation	: Not Surveyed	Logged By	: Renee Ashton	Project	: Detailed Site Investigation
Total Depth	: 7 m	Date	: 22/05/2024	Location	: 25-27 Leeds Street, Rhodes NSW

Sheet : 1 OF 1

Drilling Method	Depth (m)	Samples			PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
		Discrete	Trip	Dup	PID (ppm)						
						Non-Soil			Concrete		
		0.3			0.2	Fill		SLM	Fill. Silty to gravelly SAND SM: loose, dark brown black, coarse grained, coarse sized gravel, slightly moist.		
	1	0.5			1.9				Fill. Silty SAND SM: loose, brown, medium to coarse grained, with medium sized gravel, slightly moist, slight decrease in gravel and increase in sand at 0.9 m.	Slight decrease in gravel and increase in sand at 0.9 m	
	2	2.0			1.9	Natural		M	Natural. Sandy CLAY CI: firm, medium plasticity, pale grey brown mottled, fine grained sand, inorganic, moist.		
	3	3.0			0.2			W	Natural. Sandy CLAY CH: soft, high plasticity, dark grey, fine grained sand, organic, wet, carbonate materials (shells) present..	Carbonate materials (shells) present.	▽
	4	4.0	TRIP05	DUP05	0.2	Fill		M	Fill. Sandy CLAY CH: high plasticity, stiff to very stiff, dark brown orange, fine grained sand, inorganic, moist.		
	5	5.0			0.4	Natural			Natural. Clayey SAND SC: dense, medium plasticity clay, brown red, medium grained, moist.	Trace sandstone inclusions	
	6	6.0			0.2				Natural. Sandy CLAY CL: firm, low plasticity, red grey mottled, medium grained sand, inorganic, moist.		
						Rock			Rock. SANDSTONE: highly weathered, low strength, red grey orange, medium grained, indistinct, moist. **BH106 refusal at 7m (Refusal on rock at 7.0 m)**		

Page 1 of 1

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Boring No.: BH107

Easting : 0.00
Northing : 0.00
Elevation : Not Surveyed
Total Depth : 5.5 m
Drill Supplier : Stratacore Drilling Pty Ltd
Driller Company : Stratacore Drilling Pty Ltd
Logged By : Renee Ashton
Date : 21/05/2024
Job Number : 22148
Client : Billbergia Pty Ltd
Project : Detailed Site Investigation
Location : 25-27 Leeds Street, Rhodes NSW
Sheet : 1 OF 1

Drilling Method	Depth (m)	Samples			PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
		Discrete	Trip	Dup	PID (ppm)						
						Non-Soil	▨		Concrete		
		0.3			3.1	Fill	▨	SLM	Fill. Gravelly SAND SP: loose, dark brown, medium grained, medium sized gravel, slightly moist.		
		0.5			3.8		▨		Fill. Silty SAND SM: loose, brown, medium grained, trace medium sized gravel, slightly moist.		
	1	1.0			0.6	Natural	▨	M	Natural. Clayey SAND SC: medium dense, low plasticity clay, grey, fine to medium grained, moist.	Appears to be a mix of fill and natural origin	
	2	2.0			2.4						
	3	3.0	TRIP03	DUP03	0.3		▨	W	Natural. Sandy CLAY CI-CH: soft, medium to high plasticity, grey, medium grained sand, organic, wet.		
							▨		As above, but black dark grey, carbonate materials (shells) present..	Carbonate materials (shells) present.	▽
	4	4.0			0.3						
	5	5.0			0.3		▨	M	Natural. Sandy CLAY CH: firm, high plasticity, red brown pale grey, medium grained sand, inorganic, moist.		
						Rock	░		Rock. SANDSTONE: highly weathered, low strength, pale yellow white, fine grained, flow banding fabric, distinct, moist, trace of iron staining.	Trace of iron staining	
		5.7			1.0				**BH107 refusal at 5.5m (Refusal on rock at 5.5 m - drilled to 5.7 m)**		
	6										

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Boring No.: BH108

Easting : 0.00
Northing : 0.00
Elevation : Not Surveyed
Total Depth : 0.4 m
Drill Supplier : Stratacore Drilling Pty Ltd
Driller Company : Stratacore Drilling Pty Ltd
Logged By : Renee Ashton
Date : 23/05/2024
Job Number : 22148
Client : Billbergia Pty Ltd
Project : Detailed Site Investigation
Location : 25-27 Leeds Street, Rhodes NSW
Sheet : 1 OF 1

Drilling Method	Depth (m)	Samples	PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
		Discrete	PID (ppm)						
				Non-Soil			Concrete		
		0.3	0.2	Fill	▨	SLM	Fill. Gravelly SAND SP: loose, brown, medium grained, medium sized gravel, slightly moist, tree roots and anthropogenic inclusions.	Tree roots and anthropogenic inclusions	
	1 2 3 4 5 6						**BH108 refusal at 0.4m (Refusal on concrete at 0.4m. Did not proceed due to potential service.)**		

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Boring No.: BH109

Easting : 0.00
Northing : 0.00
Elevation : Not Surveyed
Total Depth : 3 m
Drill Supplier : Stratacore Drilling Pty Ltd
Driller Company : Stratacore Drilling Pty Ltd
Logged By : Renee Ashton
Date : 20/05/2024
Job Number : 22148
Client : Billbergia Pty Ltd
Project : Detailed Site Investigation
Location : 25-27 Leeds Street, Rhodes NSW
Sheet : 1 OF 1

Drilling Method	Depth (m)	Samples Discrete	PID (ppm) PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
				Non-Soil			Concrete		
		0.3	0.081	Fill		SLM	Fill. Gravelly SAND SP: loose, dark brown, coarse grained, coarse sized gravel, slightly moist.		
		0.5	0.121				Fill. SAND SW: medium dense, dark brown orange mottled, medium to coarse grained, slightly moist, fill mixed with natural.	Fill mixed with natural	
	1	1.0	0.204	Rock			Rock. SANDSTONE: highly weathered, very low strength, pale yellow, fine grained, indistinct, slightly moist.		
	2	2.0	0.341	Natural			Natural. Sandy CLAY CI: firm, medium plasticity, pale brown yellow grey, medium to coarse grained sand, inorganic, slightly moist, weathered sandstone inclusions.	weathered sandstone inclusions	
	3	3.0	0.844	Rock		D	Rock. SANDSTONE: highly weathered, very low strength, pale brown orange, fine grained, indistinct, dry.		
	4						**BH109 refusal at 3m (Refusal at 3.0 m on rock)**		
	5								
	6								

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Boring No.: BH110

Easting	: 0.00	**Drill Supplier**	: Stratacore Drilling Pty Ltd	**Job Number**	: 22148	**Sheet**	: 1 OF 1
Northing	: 0.00	**Driller Company**	: Stratacore Drilling Pty Ltd	**Client**	: Billbergia Pty Ltd		
Elevation	: Not Surveyed	**Logged By**	: Renee Ashton	**Project**	: Detailed Site Investigation		
Total Depth	: 1 m	**Date**	: 20/05/2024	**Location**	: 25-27 Leeds Street, Rhodes NSW		

Drilling Method	Depth (m)	Samples Discrete	PID (ppm) PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
				Non-Soil			Concrete		
		0.25	0.737	Fill		SLM	Fill. Gravelly SAND SP: loose, dark brown, coarse grained, coarse sized gravel, slightly moist.		
		0.5	0.534				Fill. Sandy CLAY CI-CH: medium to high plasticity, soft, pale grey brown, medium grained sand, with medium sized gravel, inorganic, slightly moist.		
		1.0	1.19	Rock			Rock. SANDSTONE: highly weathered, very low to low strength, orange brown, fine to medium grained, indistinct, slightly moist, trace clay content, low plasticity.	Trace clay content, low plasticity	
	1						**BH110 refusal at 1m (Refusal o rock at 1.0 m. Hard at 0.9 m)**		
	2								
	3								
	4								
	5								
	6								

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Boring No.: BH111

Easting	: 0.00	**Drill Supplier**	: Stratacore Drilling Pty Ltd	**Job Number**	: 22148	**Sheet**	: 1 OF 1
Northing	: 0.00	**Driller Company**	: Stratacore Drilling Pty Ltd	**Client**	: Billbergia Pty Ltd		
Elevation	: Not Surveyed	**Logged By**	: Renee Ashton	**Project**	: Detailed Site Investigation		
Total Depth	: 4 m	**Date**	: 23/05/2024	**Location**	: 25-27 Leeds Street, Rhodes NSW		

Drilling Method	Depth (m)	Samples	PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
		Discrete	PID (ppm)						
				Non-Soil			Concrete		
		0.3 0.5	0.7 3.7	Fill		SLM	Fill. Silty SAND SM: loose, dark brown, medium grained, with medium sized gravel, slightly moist, hydrocarbon odour at 0.5 m.	Hydrocarbon odour at 0.5 m	
	1	1.0	4.1				Fill. Clayey SAND SC: low plasticity clay, medium dense, dark brown brown, medium to coarse grained, slightly moist, increase in clay content from 0.8-1.5 m. hydrocarbon odour at 1.0 m.	Increase in clay content from 0.8-1.5 m. Hydrocarbon odour at 1.0 m	
	2	2.0	1.4	Rock			Rock. SANDSTONE: moderately weathered, low strength, red brown, fine grained, indistinct, slightly moist, trace clay inclusions.	Trace clay inclusions	
	3	3.0	0.8				Rock. SANDSTONE: highly weathered, low strength, orange brown grey, medium grained, flow banding fabric, indistinct, slightly moist, residual clay inclusions. trace iron staining.	Residual clay inclusions. Trace iron staining	
		4.0	0.6			D	Extremely weathered, rock. SAND SST: very loose, yellow brown, fine grained, dry.		
	4						**BH111 refusal at 4m (Refusal at 4.0 m)**		
	5								
	6								

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Boring No.: BH112

Easting	: 0.00	**Drill Supplier**	: Stratacore Drilling Pty Ltd	**Job Number**	: 22148	**Sheet**	: 1 OF 1
Northing	: 0.00	**Driller Company**	: Stratacore Drilling Pty Ltd	**Client**	: Billbergia Pty Ltd		
Elevation	: Not Surveyed	**Logged By**	: Renee Ashton	**Project**	: Detailed Site Investigation		
Total Depth	: 1 m	**Date**	: 20/05/2024	**Location**	: 25-27 Leeds Street, Rhodes NSW		

Drilling Method	Depth (m)	Samples			PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
		Discrete	Trip	Dup	PID (ppm)						
						Non-Soil			Concrete		
		0.3			0.18	Fill		W	Fill. Gravelly SAND SP: loose, dark brown, coarse grained, coarse sized gravel, wet, wet due to coring.	Wet due to coring	
		1.0	TRIP01	DUP01	0.077	Rock		D	Rock. SANDSTONE: highly weathered, low strength, yellow brown, fine grained, indistinct, dry, sandstone rock inclusions up to 2 cm in size.	Sandstone rock inclusions up to 2 cm in size	
	1								**BH112 refusal at 1m (Refusal at 1.0 m)**		
	2										
	3										
	4										
	5										
	6										

REDITUS

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Boring No.: BH113

Easting	**: 0.00**	**Drill Supplier**	**: Stratacore Drilling Pty Ltd**	**Job Number**	**: 22148**	**Sheet**	**: 1 OF 1**
Northing	**: 0.00**	**Driller Company**	**: Stratacore Drilling Pty Ltd**	**Client**	**: Billbergia Pty Ltd**		
Elevation	**: Not Surveyed**	**Logged By**	**: Renee Ashton**	**Project**	**: Detailed Site Investigation**		
Total Depth	**: 2 m**	**Date**	**: 20/05/2024**	**Location**	**: 25-27 Leeds Street, Rhodes NSW**		

Drilling Method	Depth (m)	Samples Discrete	PID (ppm) PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
			PID not working	Non-Soil	■		Bitumen		
		0.2		Fill	▨	SLM	Fill. Sandy GRAVEL GP: loose, dark brown, coarse sized, coarse grained sand, slightly moist.		
		0.5			▨		Fill. Clayey SAND SC: low plasticity clay, loose, dark brown, medium to coarse grained, trace medium sized gravel, slightly moist.		
	1	1.0			▨		Fill. Clayey SAND SC: low plasticity clay, medium dense, dark brown orange, medium to coarse grained, slightly moist, fill mixed with rework natural.	Fill mixed with rework natural	
		2.0		Rock	⁘		Rock. SANDSTONE: highly weathered, low strength, reddish brown, medium grained, indistinct, slightly moist.		
	2						**BH113 refusal at 2m (Refusal on rock at 2.0 m)**		
	3								
	4								
	5								
	6								

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Boring No.: BH114

Easting	: 0.00	**Drill Supplier**	: Stratacore Drilling Pty Ltd	**Job Number**	: 22148
Northing	: 0.00	**Driller Company**	: Stratacore Drilling Pty Ltd	**Client**	: Billbergia Pty Ltd
Elevation	: Not Surveyed	**Logged By**	: Renee Ashton	**Project**	: Detailed Site Investigation
Total Depth	: 1.6 m	**Date**	: 20/05/2024	**Location**	: 25-27 Leeds Street, Rhodes NSW

Sheet : 1 OF 1

Drilling Method	Depth (m)	Samples Discrete	PID (ppm) PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Water
				Non-Soil			Bitumen	Roadbase inclusions	
		0.2	0.027	Fill		SLM	Fill. Sandy GRAVEL GP: loose, dark grey, coarse sized, coarse grained sand, slightly moist, roadbase inclusions.		
		0.5	0.017	Reworked Natural			Reworked natural. Clayey SAND SC: loose, low plasticity clay, red orange brown, medium grained, trace medium sized gravel, slightly moist.	Overlying fill mixed with residual clay	
	1	1.0	0.18	Natural			Natural. CLAY ML: very soft to soft, non-plastic, red brown, with coarse grained sand, inorganic, slightly moist.		
		1.6	0.08	Rock			Rock. SANDSTONE: moderately weathered, low strength, orangey brown, fine grained, indistinct, slightly moist.		
							BH114 refusal at 1.6m (Refusal on rock at 1.6 m)		
	2								
	3								
	4								
	5								
	6								

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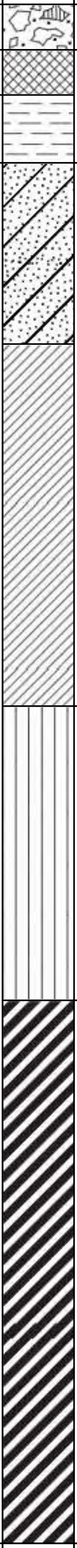
Boring No.: BH101/RMW01

Easting : 0.00
Northing : 0.00
Elevation : Not Surveyed
Total Depth : 6.8 m

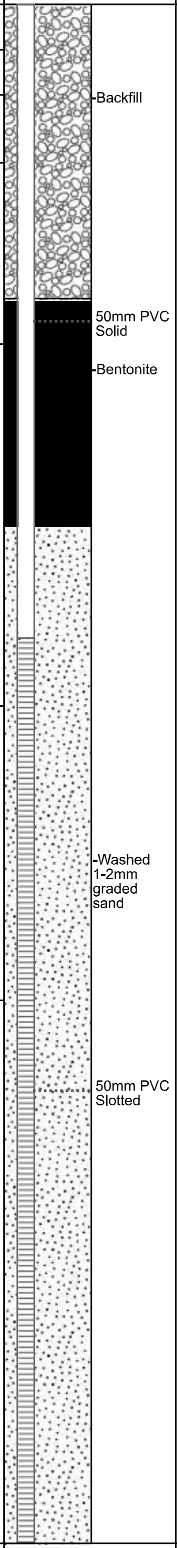
Drill Supplier : Stratacore Drilling Pty Ltd
Driller Company : Stratacore Drilling Pty Ltd
Logged By : Renee Ashton
Date : 21/05/2024

Job Number : 22148
Client : Billbergia Pty Ltd
Project : Detailed Site Investigation
Location : 25-27 Leeds Street, Rhodes NSW

Sheet : 1 OF 1



Drilling Method	Depth (m)	Samples	PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Well Diagram	Water
				Non-Soil			Concrete			
				Fill		SL M	Fill. Gravelly SAND SP: very loose, dark brown, fine grained, fine sized gravel, slightly moist.			
				Reworked Natural			Reworked natural. Silty SAND SM: loose, pale yellow white, fine grained, slightly moist.			
	1			Natural		M	Natural. Clayey SAND SC: medium dense, low plasticity clay, pale brown, fine to medium grained, moist.			
	2						Natural. Sandy CLAY CI: soft, medium plasticity, pale brown grey yellow, fine to medium grained sand, inorganic, moist.			
	3 4					W	Natural. Sandy CLAY ML: soft, non-plastic, grey, fine to medium grained sand, organic, wet, carbonate materials (shells) present..	Carbonate materials (shells) present.		▽
	5 6					M	Natural. Sandy CLAY CI-CH: firm, medium to high plasticity, orangey red, fine grained sand, organic, moist.			
							BH101/RMW01 Terminated at 6.8m (Target Depth)			



Reditus Consulting Pty Ltd

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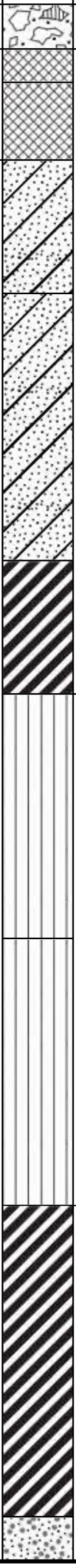
Phone: (02) 9521 6567

Boring No.: BH102/RMW02

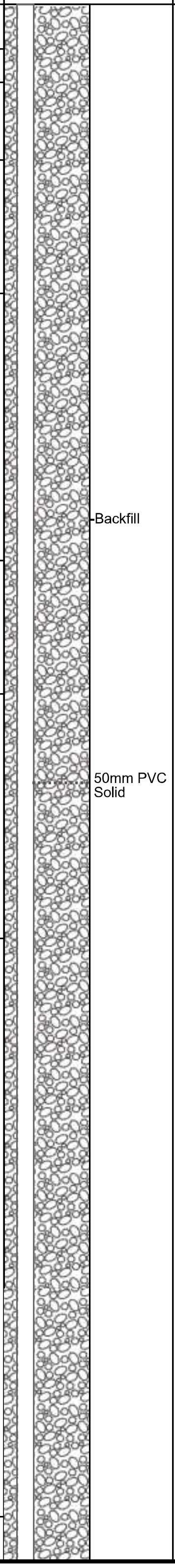
Easting	: 0.00	**Drill Supplier**	: Stratacore Drilling Pty Ltd	**Job Number**	: 22148	**Sheet**	: 1 OF 2
Northing	: 0.00	**Driller Company**	: Stratacore Drilling Pty Ltd	**Client**	: Billbergia Pty Ltd		
Elevation	: Not Surveyed	**Logged By**	: Renee Ashton	**Project**	: Detailed Site Investigation		
Total Depth	: 10.2 m	**Date**	: 21/05/2024	**Location**	: 25-27 Leeds Street, Rhodes NSW		

Drilling Method	Depth (m)	Samples Discrete	PID (ppm)	Soil Origin	Moisture	Material Description	Comments	Water
				Non-Soil		Concrete		
		0.3	0.3	Fill	M	Fill. Gravelly SAND SW: loose, dark brown, medium to coarse grained, medium to coarse sized gravel, moist.		
		0.5	0.3			Fill. Silty SAND SM: loose, pale brown, medium grained, with fine sized gravel, moist.		
	1	1.0	0.6	Natural		Natural. Clayey SAND SC: medium dense, low plasticity clay, reddish brown, medium grained, moist.		
	2	2.0	0.7			Natural. Clayey SAND SC: medium dense, low plasticity clay, brown pale brown, medium grained, moist.		
	3	3.0	0.7			Natural. Sandy CLAY CI-CH: soft, medium to high plasticity, mottled brown grey orange, medium grained sand, inorganic, moist.		
	4	4.0	0.3		W	Natural. Sandy CLAY ML: soft, non-plastic, grey, fine to medium grained sand, organic, wet, carbonate materials (shells) present..	Carbonate materials (shells) present.	▽
	5	5.0	0.3			Natural. Sandy CLAY ML: soft, non-plastic, orangey red, fine grained sand, organic, wet, carbonate materials (shells) present..	Carbonate materials (shells) present.	
	6	6.0	0.2		M	As above, but CI-CH: firm, medium to high plasticity, inorganic, moist.		
						Natural. SAND SP: loose, grey pale yellow, medium grained, moist.		

Graphic Log



Well Diagram



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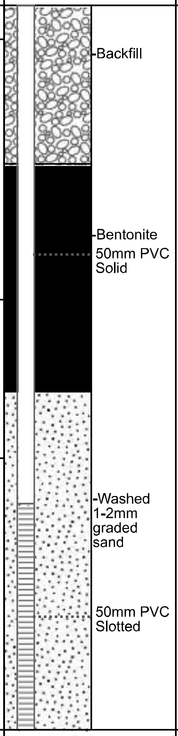
Phone: (02) 9521 6567

Boring No.: BH102/RMW02

Easting	: 0.00	**Drill Supplier**	: Stratacore Drilling Pty Ltd	**Job Number**	: 22148	**Sheet**	: 2 OF 2
Northing	: 0.00	**Driller Company**	: Stratacore Drilling Pty Ltd	**Client**	: Billbergia Pty Ltd		
Elevation	: Not Surveyed	**Logged By**	: Renee Ashton	**Project**	: Detailed Site Investigation		
Total Depth	: 10.2 m	**Date**	: 21/05/2024	**Location**	: 25-27 Leeds Street, Rhodes NSW		

Drilling Method	Depth (m)	Samples Discrete	PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Well Diagram	Water
							Natural. SAND SP: loose, grey pale yellow, medium grained, moist.			
	8	7.2 7.3	0.4	Rock		W	Rock. SANDSTONE: slightly weathered, very low strength, pale grey, fine grained, distinct, wet.			
							Rock. SANDSTONE: slightly weathered, very low strength, yellow brown, fine grained, bedding fabric, distinct, wet.			
	9 10					M	Rock. SANDSTONE: slightly weathered, medium strength, pale grey and orange, fine grained, distinct, moist.			
	11 12 13						**BH102/RMW02 Terminated at 10.2m (Target Depth)**			



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Phone: (02) 9521 6567

Boring No.: BH103/RMW03

Easting : 0.00
Northing : 0.00
Elevation : Not Surveyed
Total Depth : 10 m
Drill Supplier : Stratacore Drilling Pty Ltd
Driller Company : Stratacore Drilling Pty Ltd
Logged By : Renee Ashton
Date : 22/05/2024
Job Number : 22148
Client : Billbergia Pty Ltd
Project : Detailed Site Investigation
Location : 25-27 Leeds Street, Rhodes NSW
Sheet : 1 OF 2

Drilling Method	Depth (m)	Samples Discrete	PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Well Diagram	Water
				Non-Soil			Concrete			
		0.2 0.5	1.4 1.3	Fill		SL M	Fill. Silty SAND SM: loose, dark brown, medium to coarse grained, trace fine sized gravel, slightly moist.			
	1 2	1.0 2.0	0.1 1.4				Fill. Silty SAND SM: medium dense, brown, medium grained, with fine sized gravel, trace low plasticity clay, slightly moist.		Backfill	
	3	3.0	1.0				Fill. Silty SAND SM: medium dense, reddish brown, medium grained, with low plasticity clay, slightly moist.			
	4	4.0	0.1			W	Fill. Sandy CLAY CH: high plasticity, firm, dark grey, medium grained sand, organic, wet, carbonate materials (shells) present..	Carbonate materials (shells) present.	50mm PVC Solid	⊻
	5	5.0	0.1			M	Fill. Sandy CLAY CH: high plasticity, firm, reddish brown, fine grained sand, organic, moist.			
	6	6.0	0.1	Natural			Natural. Sandy CLAY CH: firm to stiff, high plasticity, mottled red pale grey, fine grained sand, inorganic, moist.			
				Rock		SL M	Rock. SANDSTONE: highly weathered, very low strength, pale grey, medium to coarse grained, indistinct, slightly moist.			

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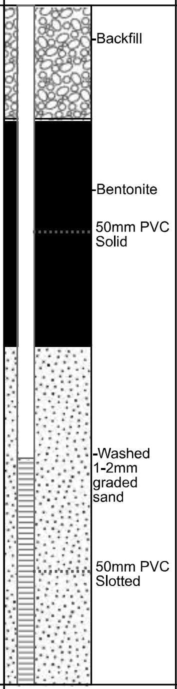
Boring No.: BH103/RMW03

Easting	**: 0.00**	**Drill Supplier**	**: Stratacore Drilling Pty Ltd**	**Job Number**	**: 22148**	**Sheet**	**: 2 OF 2**
Northing	**: 0.00**	**Driller Company**	**: Stratacore Drilling Pty Ltd**	**Client**	**: Billbergia Pty Ltd**		
Elevation	**: Not Surveyed**	**Logged By**	**: Renee Ashton**	**Project**	**: Detailed Site Investigation**		
Total Depth	**: 10 m**	**Date**	**: 22/05/2024**	**Location**	**: 25-27 Leeds Street, Rhodes NSW**		

Drilling Method	Depth (m)	Samples Discrete	PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Well Diagram	Water
	8 9	7.0	0.2	Rock		SL M	Rock. SANDSTONE: highly weathered, very low strength, pale grey, medium to coarse grained, indistinct, slightly moist.			
	10 11 12 13						**BH103/RMW03 Terminated at 10m (Target Depth)**			

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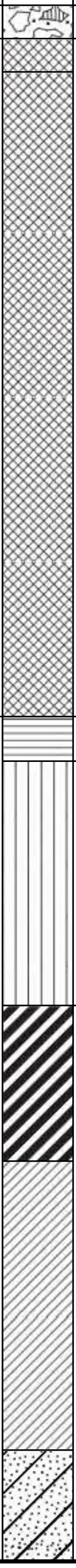
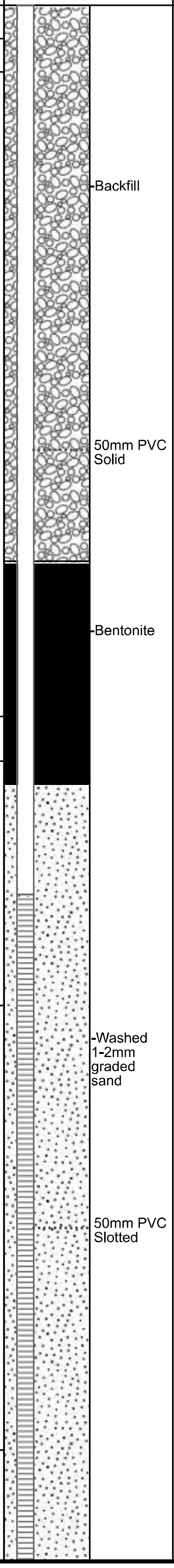
Phone: (02) 9521 6567

Boring No.: BH104/RMW04

Easting : 0.00
Northing : 0.00
Elevation : Not Surveyed
Total Depth : 7 m
Drill Supplier : Stratacore Drilling Pty Ltd
Driller Company : Stratacore Drilling Pty Ltd
Logged By : Renee Ashton
Date : 22/05/2024
Job Number : 22148
Client : Billbergia Pty Ltd
Project : Detailed Site Investigation
Location : 25-27 Leeds Street, Rhodes NSW
Sheet : 1 OF 1

Drilling Method	Depth (m)	Samples	PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Well Diagram	Water
				Non-Soil			Concrete			
				Fill		SL M	Fill. Silty SAND SM: loose, dark brown, coarse grained, trace coarse sized gravel, slightly moist.			
	1 2 3						Fill. Silty SAND SM: loose, brown, medium to coarse grained, with medium to coarse sized gravel, trace low plasticity clay, slightly moist.			
				Natural		M	Natural. Sandy CLAY CL: firm, low plasticity, red pale grey, medium grained sand, inorganic, moist.			
	4					W	Natural. Sandy CLAY ML: soft, non-plastic, dark grey, medium grained sand, organic, wet, carbonate materials (shells) present..	Carbonate materials (shells) present.		▽
	5					M	Natural. Sandy CLAY CI-CH: firm to stiff, medium to high plasticity, red grey mottled, fine grained sand, organic, moist, carbonate materials (shells) present..	Carbonate materials (shells) present.		
	6						As above, but CL-CI: stiff to very stiff, low to medium plasticity.			
							Natural. Clayey SAND SC: medium dense, low plasticity clay, red white pale grey mottled, medium grained, moist. **BH104/RMW04 refusal at 7m (Refusal on rock at 7.0m)**			





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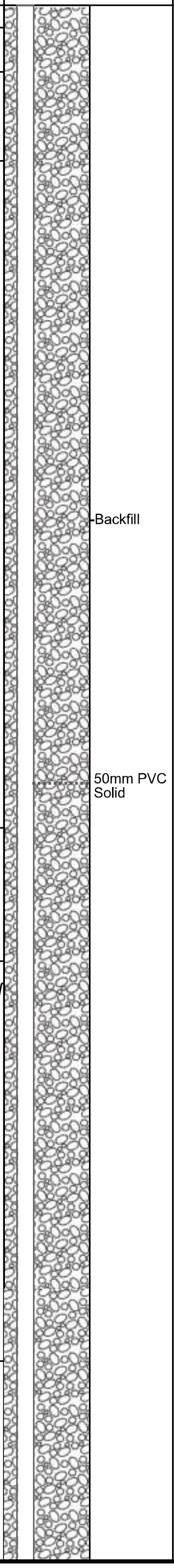
Phone: (02) 9521 6567

Boring No.: BH115/RMW05

Easting	: 0.00	**Drill Supplier**	: Stratacore Drilling Pty Ltd	**Job Number**	: 22148	**Sheet**	: 1 OF 2
Northing	: 0.00	**Driller Company**	: Stratacore Drilling Pty Ltd	**Client**	: Billbergia Pty Ltd		
Elevation	: Not Surveyed	**Logged By**	: Renee Ashton	**Project**	: Detailed Site Investigation		
Total Depth	: 12.1 m	**Date**	: 23/05/2024	**Location**	: 25-27 Leeds Street, Rhodes NSW		

Samples Discrete	PID (ppm)
0.2	0.5
0.5	0.3
1.0	0.6
2.0	0.6
3.0	0.8
4.0	0.3
5.1	

Soil Origin	Moisture	Material Description	Comments
Non-Soil		Concrete	
Fill	SL M	Fill. Silty SAND SM: loose, dark brown, medium to coarse grained, with medium to coarse sized gravel, slightly moist.	
		Fill. Silty SAND SM: loose, red brown, medium grained, slightly moist, potentially reworked natural.	Potentially Reworked Natural
Rock		Rock. SANDSTONE: moderately weathered, low strength, red brown, fine grained, indistinct.	
		As above, but medium grained, pale brown grain inclusions.	Pale brown grain inclusions
		As above, but highly weathered, red pale grey mottled.	
		Rock. SANDSTONE: highly weathered, low strength, grey light brown, fine grained, indistinct.	
		Rock. SANDSTONE: moderately weathered, medium strength, red orange brown, fine grained, bedding fabric, distinct, sub-vertical fracture, cross-bedded, iron staining.	sub-vertical fracture, cross-bedded, iron staining
		Rock. SANDSTONE: slightly weathered, high strength, orange brown pale grey, fine grained, bedding fabric, distinct, cross-bedded, iron staining. evidence of clay bands. some sub-horizontal fractures, but mostly competent rock. heavy iron staining and clay bands at 4.9 m, followed by pale grey orange fine grained sandstone, cross-bedded with some sub-horizontal fractures. competent rock except for fractures and clay layers at 5.7 m & 5.9 m..	Cross-bedded, iron staining. Evidence of clay bands. Some sub-horizontal fractures, but mostly competent rock. Heavy iron staining and clay bands at 4.9 m, followed by pale grey orange fine grained sandstone, cross-bedded with some sub-horizontal fractures. competent rock except for fractures and clay layers at 5.7 m & 5.9 m.
		Rock. SANDSTONE: fresh weathered, high strength, grey, fine grained, bedding fabric, distinct, competent, minor sub-horizontal fractures.	Competent, minor sub-horizontal fractures



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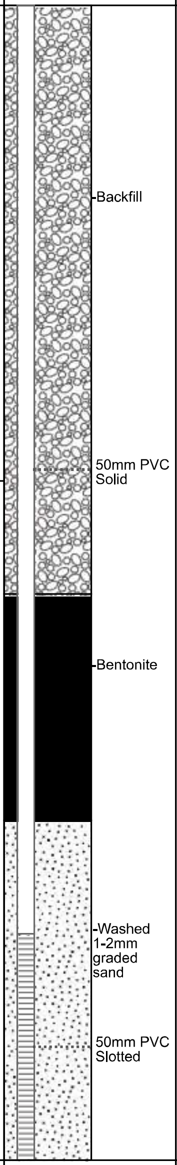
Phone: (02) 9521 6567

Boring No.: BH115/RMW05

Easting	: 0.00	**Drill Supplier**	: Stratacore Drilling Pty Ltd	**Job Number**	: 22148	**Sheet**	: 2 OF 2
Northing	: 0.00	**Driller Company**	: Stratacore Drilling Pty Ltd	**Client**	: Billbergia Pty Ltd		
Elevation	: Not Surveyed	**Logged By**	: Renee Ashton	**Project**	: Detailed Site Investigation		
Total Depth	: 12.1 m	**Date**	: 23/05/2024	**Location**	: 25-27 Leeds Street, Rhodes NSW		

Drilling Method	Depth (m)	Samples Discrete	PID (ppm)	Soil Origin	Graphic Log	Moisture	Material Description	Comments	Well Diagram	Water
	8 9						Rock. SANDSTONE: fresh weathered, high strength, grey, fine grained, bedding fabric, distinct, competent, minor sub-horizontal fractures.	Competent, minor sub-horizontal fractures		
	10 11 12	10.7					Rock. SANDSTONE: fresh weathered, high strength, pale grey grey, fine grained, bedding fabric, distinct, coaly tracing, minor sub-horizontal fractures, mostly competent rock, some clay layers at depths of 10.3, 10.4, 10.7 & 11.6 m.	Coaly tracing, minor sub-horizontal fractures, mostly competent rock, some clay layers at depths of 10.3, 10.4, 10.7 & 11.6 m		
	13						**BH115/RMW05 Terminated at 12.1m (BH terminated at 12.1 m)**			



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Field Sheets

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date: 30/5/24	Time: arrive 9:00 depart
Project Name: Groundwater Monitoring Event	Project Number: 22148
Site Location: 25-27 Leeds St, Rhodes NSW	Operator: KS
Well ID: RMW01	Weather: Sunny, still.

Equipment

Water quality equipment description: ~~HANNA~~ YSI Pro

Interface probe number: Heron H.Oil

Purging equipment: (please cirlce)
Bailer type: Plastic Teflon
Pump type: [✓ Peristaltic] Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = P r x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
6.80 m (-) 2.245 m (=) 4.56 m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
4.56 m (x) 1.96 (=) 8.93 L

Water Quality Parameters

Beginning purge time: 10:26

Ending purge time:

Litres	Time	pH	Temp C°	Cond mS/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
1	10:30	6.23	20.9	18.27	2.61	-174.8	2.30	turbid orange, clearing up
3	10:44	5.88	20.8	18.14	3.37	-18.9	2.31	clear, organic odour.
5	10:55	4.99	21.1	17.77	3.78	16.6	2.34	"
6	11:00	4.92	21.0	17.70	3.75	8.2	2.34	"
8	11:10	4.79	21.1	17.59	3.73	-46.2	2.36	"
10	11:20	4.76	21.1	17.57	3.75	-149.4	2.37	"
11	11:25	4.74	21.1	17.57	3.71	-128.3	2.38	"
12	11:30	4.73	21.1	17.58	3.78	-123.5	2.38	"
								sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

* redox

Did field parameters stabilise? [✓ Y] N NA

Was the well dry purged? Y [✓ N] NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	[✓ Y]	N	NA
Was pre-cleaning sampling equipment properly protected from contamination?	[✓ Y]	N	NA
Was documentation of equipment conducted?	[✓ Y]	N	NA
Were air bubbles present in vials at time of collection?	Y	[✓ N]	NA
Was sample for metals field filtered prior to preservations?	[✓ Y]	N	NA
Duplicate sample collected?	Y	[✓ N]	

Sample containers:

Duplicate sample ID

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date: 30/5/24	Time: arrive 9:00 depart
Project Name: Groundwater Monitoring Event	Project Number: 22148
Site Location: 25-27 Leeds St, Rhodes NSW	Operator: KS
Well ID: RMW02	Weather: Sunny / still

Equipment

Water quality equipment description: ~~HANNA~~ YSI Pro

Interface probe number: Heron H.Oil

Purging equipment: (please cirlce)

Bailer type: Plastic Teflon

Pump type: [✓ Peristaltic] Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
10.00 m (-) 2.38 m (=) 7.62 m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
7.62 m (x) 1.96 (=) 14.94 L

Water Quality Parameters

Beginning purge time: 9:03

Ending purge time:

Litres	Time	pH	Temp C°	Cond ms/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
1	9:06	4.18	20.0	17,236	0.57	69.1	2.80	Clear, purge speed slowed.
3	9:20	4.32	20.0	17,368	3.81	112.1	3.03	clear, no odour, no sheen
5	9:30	4.28	20.0	17.48	4.29	118.1	3.14	"
~~6~~ 7	9:40	4.22	19.8	17.55	4.36	126.7	3.18	"
8	9:45	4.20	19.9	17.60	4.37	129.3	3.22	"
9	9:50	4.19	19.9	17.65	4.35	131.8	3.24	"
10	9:55	4.18	19.9	17.70	4.33	132.1	3.30	"
								sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

12 **Total Well Volume** Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? [✓ Y] N NA

Was the well dry purged? Y [✓ N] NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	[✓ Y]	N	NA
Was pre-cleaning sampling equipment properly protected from contamination?	[✓ Y]	N	NA
Was documentation of equipment conducted?	[✓ Y]	N	NA
Were air bubbles present in vials at time of collection?	Y	[✓ N]	NA
Was sample for metals field filtered prior to preservations?	[✓ Y]	N	NA
Duplicate sample collected?	Y	[✓ N]	

Sample containers:

Duplicate sample ID

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date:	30/5/24	Time:	arrive 9:00 depart
Project Name:	Groundwater Monitoring Event	Project Number:	22148
Site Location:	25-27 Leeds St, Rhodes NSW	Operator:	KS
Well ID:	RMW03	Weather:	P.Cloudy

Equipment

Water quality equipment description: ~~HANNA~~ YSI Pro

Interface probe number: Heron H.Oil

Purging equipment: (please cirlce)

Bailer type: **Plastic** **Teflon**

Pump type: [✓ **Peristaltic**] **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
4.85 m (-) 2.73 m (=) ____ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
____ m (x) ____ (=) ____ L

Water Quality Parameters

Beginning purge time: 2:17

Ending purge time:

Litres	Time	pH	Temp C°	Cond mS/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
1	2:21	4.28	21.7	23.88	4.08	152.1	3.21	clear, purge slowed.
4	2:36	4.37	21.7	22.23	6.09	205.7	4.04	purge slowed further.
5	2:41	4.36	21.7	21.92	5.83	209.3	4.31	clear
7	2:51	4.36	21.6	21.82	5.68	211.7	4.67	"
8	2:56	4.35	21.6	21.82	5.73	212.1	4.69	"
								Sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? [✓ Y] N NA

Was the well dry purged? Y [✓ N] NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	[✓ Y]	N	NA
Was pre-cleaning sampling equipment properly protected from contamination?	[✓ Y]	N	NA
Was documentation of equipment conducted?	[✓ Y]	N	NA
Were air bubbles present in vials at time of collection?	Y	[✓ N]	NA
Was sample for metals field filtered prior to preservations?	[✓ Y]	N	NA
Duplicate sample collected?	Y	[✓ N]	

Sample containers:

Duplicate sample ID

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date: 30/5/24	Time: arrive depart
Project Name: Groundwater Monitoring Event	Project Number: 22148
Site Location: 25-27 Leeds St, Rhodes NSW	Operator: KS
Well ID: RMW04	Weather: Sunny, still

Equipment

Water quality equipment description: ~~HANNA~~ YSI Pro

Interface probe number: Heron H.Oil

Purging equipment: (please cirlce)
Bailer type: Plastic Teflon
Pump type: [✓ Peristaltic] Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = P r x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
6.78 m (-) 3.34 m (=) ______ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
______ m (x) ______ (=) ______ L

Water Quality Parameters

Beginning purge time: 12:26
Ending purge time:

Litres	Time	pH	Temp C°	Cond mS/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
1	12:36	5.36	21.8	13.20	3.85	-0.6	3.80	clear
2	12:42	5.33	21.8	13.06	4.22	14.0	4.00	clear, organic odour
3	12:46	5.34	21.9	12.84	6.56	23.2	4.15	"
6	12:58	5.70	22.0	12.47	1.60	35.2	4.50	pump slowed
8	105	5.68	22.0	12.51	7.85	39.2	4.70	Air bubbles in line impacting DO, sufficient
10	1:14	5.67	21.3	12.52	5.04	42.8	4.90	column available for peristalic pump.
11	1:19	5.63	21.7	12.44	4.98	45.0	5.00	Likely due to subsurface conditions.
12	1:24	5.61	21.9	12.44	4.94	47.0	5.10	clear, organic odour.
13	129	5.58	22.1	12.53	5.02	48.3	5.15	"
								sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

15 **Total Well Volume**
Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? [✓ Y] N NA
Was the well dry purged? Y [✓ N] NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	[✓ Y]	N	NA
Was pre-cleaning sampling equipment properly protected from contamination?	[✓ Y]	N	NA
Was documentation of equipment conducted?	[✓ Y]	N	NA
Were air bubbles present in vials at time of collection?	Y	[✓ N]	NA
Was sample for metals field filtered prior to preservations?	[✓ Y]	N	NA
Duplicate sample collected?	Y	[✓ N]	

Sample containers:

Duplicate sample ID

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date: 31/5/24	Time: arrive 7:30 depart
Project Name: Groundwater Monitoring Event	Project Number: 22148
Site Location: 25-27 Leeds St, Rhodes NSW	Operator: KS
Well ID: RMW05	Weather: Cloudy, gusts of wind.

Equipment

Water quality equipment description: ~~HANNA~~ YSI Pro

Interface probe number: Heron H.Oil

Purging equipment: (please cirlce)

Bailer type: Plastic Teflon

Pump type: [✓ Peristaltic] Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = P r x r x h

V = volume in litres

P = 3.14159

r = radius in cm

h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column

12.00 m (-) 4.92 m (=) ______ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume

______ m (x) ______ (=) ______ L

Water Quality Parameters

Beginning purge time: 3:02

Ending purge time:

Litres	Time	pH	Temp C°	Cond mS/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
1	3:07	5.76	21.4	3.956	2.03	7.14	5.03	clear.
2	3:17	5.72	21.4	4.251	2.62	45.9	5.10	" "
3	3:27	5.70	21.4	4.510	347	49.3	5.13	"
4	3.37	5.68	21.3	4.689	4.05	51.1	5.13	"
5	3.47	5.67	21.3	4.739	4.36	52.3	5.14	"
7	3.57	5.66	21.2	4.783	4.07	53.5	5.14	"
8	4:02	5.64	21.2	4.794	4.85	54.3	5.14	"
9	4:07	5.63	21.1	4.807	4.38	54.9	5.14	"
10	4:12	5.62	21.2	4.816	4.55	55.9	5.14	"
								Sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? [✓ Y] N NA

Was the well dry purged? Y [✓ N] NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	[✓ Y]	N	NA
Was pre-cleaning sampling equipment properly protected from contamination?	[✓ Y]	N	NA
Was documentation of equipment conducted?	[✓ Y]	N	NA
Were air bubbles present in vials at time of collection?	Y	[✓ N]	NA
Was sample for metals field filtered prior to preservations?	[✓ Y]	N	NA
Duplicate sample collected?	Y	[✓ N]	

Sample containers:

Duplicate sample ID

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date: 31/5/24	Time: arrive 7:30 depart
Project Name: Groundwater Monitoring Event	Project Number: 22148
Site Location: 25-27 Leeds St, Rhodes NSW	Operator: KS
Well ID: EW1	Weather: Cloudy

Equipment

Water quality equipment description: HANNA

Interface probe number: Heron H.Oil

Purging equipment: (please cirlce)

Bailer type: Plastic Teflon

Pump type: [✓ Peristaltic] Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = P r x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
8.50 m (-) 3.73 m (=) 4.77 m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
4.77 m (x) 1.96 (=) 9.35 L

Water Quality Parameters

Beginning purge time: 1:13

Ending purge time:

Litres	Time	pH	Temp C°	Cond mS/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
1	1:18	5.68	21.4	7.68	0.55	50.2	3.95	* cloudy, mild organic odour
3	1:28	5.66	21.6	7.64	3.74	50.1	4.26	"
5	1:38	5.66	21.5	7.60	4.11	39.1	4.60	" Purge slowed, low recharge.
~~9~~7	1:58	5.66	21.5	7.65	4.24	31.1	4.90	
[illegible]	[illegible]	-	-	-	-	-	-	-
[illegible]	[illegible]	-	-	-	-	-	-	
7.5	2:03	5.66	21.5	7.65	4.26	26.5	5.00	spot sheen
8	2:08	5.66	21.4	7.64	4.27	25.2	5:05	
8.5	2:13	566	21.4	7.65	4.31	23.3	5.10	sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

*pH, temp. cond readings not necessary if well is purged dry

* redox - sampled due to drawdown.

Did field parameters stabilise? [✓ Y] N NA

Was the well dry purged? Y [✓ N] NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	[✓ Y]	N	NA
Was pre-cleaning sampling equipment properly protected from contamination?	[✓ Y]	N	NA
Was documentation of equipment conducted?	[✓ Y]	N	NA
Were air bubbles present in vials at time of collection?	Y	[✓ N]	NA
Was sample for metals field filtered prior to preservations?	[✓ Y]	N	NA
Duplicate sample collected?	[✓ Y]	N	

Sample containers:

Duplicate sample ID DUP2/TRIP2 PFAS ONLY

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date: 31/5/24
Time: arrive depart
Project Name: Groundwater Monitoring Event
Project Number: 22148
Site Location: 25-27 Leeds St, Rhodes NSW
Operator: KS
Well ID: MW1-B
Weather: Cloudy

Equipment

Water quality equipment description: ~~HANNA~~ YSI Pro
Interface probe number: Heron H.Oil
Purging equipment: (please cirlce)
Bailer type: Plastic Teflon
Pump type: [✓ Peristaltic] Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = P r x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
6.15 m (-) 1.84 m (=) 4.31 m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
4.31 m (x) 1.96 (=) 8.45 L

Water Quality Parameters

Beginning purge time: 9:54
Ending purge time:

Litres	Time	pH	Temp C°	Cond mS/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
1	9:59	6.16	21.8	7.35	0.68	-13.0	1.85	yellow, organic odour
3	10:09	6.20	22.2	7.51	2.12	16.3	1.95	"
5	10:19	6.23	22.3	7.62	2.95	-35.9	2.14	"
7	10:29	6.25	22.2	7.70	3.19	-131.6	2.40	purged slowed
8	10:34	6.26	22.2	7.71	3.26	-130.9	2.65	yellow, organic odour
9	10:39	6.26	22.2	7.71	3.29	-125.6	2.70	"
10	10:44	6.26	22.2	7.73	3.30	-1184	2.90	"
								sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

11 **Total Well Volume** Actual amount of water prior to sampling

**pH, temp, cond readings not necessary if well is purged dry*

Did field parameters stabilise? [✓ Y] N NA
Was the well dry purged? Y [✓ N] NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	[✓ Y]	N	NA
Was pre-cleaning sampling equipment properly protected from contamination?	[✓ Y]	N	NA
Was documentation of equipment conducted?	[✓ Y]	N	NA
Were air bubbles present in vials at time of collection?	Y	[✓ N]	NA
Was sample for metals field filtered prior to preservations?	[✓ Y]	N	NA
Duplicate sample collected?	[✓ Y]	N	

Sample containers:

Duplicate sample ID DUP1 / TRIP1

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date: 31/5/24	Time: arrive depart
Project Name: Groundwater Monitoring Event	Project Number: 22148
Site Location: 25-27 Leeds St, Rhodes NSW	Operator: KS
Well ID: MW2 - 13	Weather: Cloudy

Equipment

Water quality equipment description: ~~HANNA~~ YSI Pro

Interface probe number: Heron H.Oil

Purging equipment: (please cirlce)
Bailer type: **Plastic** **Teflon**
Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = P r x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
11.00 m (-) 1.955 m (=) 9.045 m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
9.045 m (x) 1.96 (=) 17.73 L

Water Quality Parameters

Beginning purge time: 11:36

Ending purge time:

Litres	Time	pH	Temp C°	Cond mS/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
2	11:46	5.93	20.7	12.11	0.00	-123.7	2.60	Well inspected w/ endoscope, screen
3	11:51	5.94	20.7	12.07	0.00	-126.0	2.84	from 2m bgl. H_2S odour
5	12:01	5.97	20.8	11.97	4.37	-139.4	3.05	on dipper, opaque, grey precipitate.
6	12:06	6.00	20.8	11.98	4.13	-142.7	3.26	Cleaning w/ purge.
7	12:11	6.02	20.8	11.82	4.13	-144.2	3.37	"
8	12:21	6.06	20.8	11.69	4.03	-1482	3.48	"
9	12:26	6.16	20.8	11.34	3.92	-1502	3.60	"
10	12:31	6.22	20.8	11.05	3.80	-147.2	3.62	Spot sheen, strong organic/H_2S odour.
11	12:36	6.24	20.8	10.94	3.72	-145.9	3.70	"
12	12:41	6.25	20.8	10.78	3.65	-147.6	3.70	"
13	12:46	6.25	20.8	10.76	3.64	-147.6	3.70	" Sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

pH, temp. cond readings not necessary if well is purged dry

Total Well Volume
Actual amount of water prior to sampling

Did field parameters stabilise? [✓ Y] N NA

Was the well dry purged? Y [✓ N] NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	[✓ Y] N NA
Was pre-cleaning sampling equipment properly protected from contamination?	[✓ Y] N NA
Was documentation of equipment conducted?	[✓ Y] N NA
Were air bubbles present in vials at time of collection?	Y [✓ N] NA
Was sample for metals field filtered prior to preservations?	[✓ Y] N NA
Duplicate sample collected?	Y [✓ N]

Sample containers:

Duplicate sample ID

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date: 30/5/24	Time: arrive 9:00 depart
Project Name: Groundwater Monitoring Event	Project Number: 22148
Site Location: 25-27 Leeds St, Rhodes NSW	Operator: KS
Well ID: MW3-B	Weather: P. Cloudy

Equipment

Water quality equipment description: ~~HANNA~~ YSi Pro

Interface probe number: Heron H.Oil

Purging equipment: (please cirlce)

Bailer type: Plastic Teflon

Pump type: [✓ Peristaltic] Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V
= Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
5.93 m (-) 2.255 m (=) ______ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
______ m (x) ______ (=) ______ L

Water Quality Parameters

Beginning purge time: 3:36

Ending purge time:

Litres	Time	pH	Temp C°	Cond mS/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
2	3:46	6.80	21.4	38.72	3.04	-28.3	2.21	clear, organic odour
3	3:51	6.83	21.6	38.84	2.67	50.1	2.30	"
5	4:03	6.73	21.4	38.25	3.28	68.1	2.30	"
6	4:08	6.73	21.3	38.17	3.27	77.6	2.36	"
8	4:18	6.73	21.3	38.14	3.58	84.2	2.33	"
9	4:23	6.73	21.3	38.14	3.42	87.7	2.34	"
10	4:33	6.74	21.3	38.10	3.91	91.6	2.34	sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA

Was the well dry purged? Y N NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	NA
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	NA
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	

Sample containers:

Duplicate sample ID

REDITUS Groundwater Monitoring Field Sheet

Job Information

Date: 3/5/24	Time: arrive 7:30 depart
Project Name: Groundwater Monitoring Event	Project Number: 22148
Site Location: 25-27 Leeds St, Rhodes NSW	Operator: KS
Well ID: MW4-13	Weather: Cloudy

Equipment

Water quality equipment description: HANNA

Interface probe number: Heron H.Oil

Purging equipment: (please cirlce)

Bailer type: **Plastic** **Teflon**

Pump type: [✓ **Peristaltic**] **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
5.70 m (-) 3.785 m (=) 1.92 m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
1.92 m (x) 1.96 (=) 3.76 L

Water Quality Parameters

Beginning purge time: 8:12

Ending purge time:

Litres	Time	pH	Temp C°	Cond mS/cm	DO ppm	Redox mV	Depth to water mbtoc	Comments
1	8:17	4.87	21.2	0.725	4.09	9.2	3.91	yellow hue, & no turbidity
2	8:22	4.31	21.3	0.587	4.27	8.14	4.01	Becoming clearer
8	8:52	4.72	21.4	0.570	4.93	95.7	4.27	yellow tint, metallic opaque.
9	8:57	4.68	21.4	0.579	4.79	93.5	4.35	"
10	9:02	4.67	21.4	0.586	2.60	93.0	4.39	"
11	9:07	4.66	21.4	0.593	2.89	92.8	4.39	"
12	9:12	4.63	21.4	0.597	3.13	92.7	4.39	"
13	9:17	4.63	21.4	0.603	3.14	91.7	4.39	Sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%		**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

14 **Total Well Volume** Actual amount of water prior to sampling

**pH, temp, cond readings not necessary if well is purged dry*

Did field parameters stabilise? [✓ Y] N NA

Was the well dry purged? Y [✓ N] NA

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	[✓ Y]	N	NA
Was pre-cleaning sampling equipment properly protected from contamination?	[✓ Y]	N	NA
Was documentation of equipment conducted?	[✓ Y]	N	NA
Were air bubbles present in vials at time of collection?	Y	[✓ N]	NA
Was sample for metals field filtered prior to preservations?	[✓ Y]	N	NA
Duplicate sample collected?	Y	[✓ N]	

Sample containers:

Duplicate sample ID

Laser level Survey 22148

Known Height

Known Height

S1 ⟶ Laser Level back to ↑ S1 83.25 cm ⟶ RMW05 ↕ 153.0

7.622 mAHD

↘ MW4-B ↓ 260.5

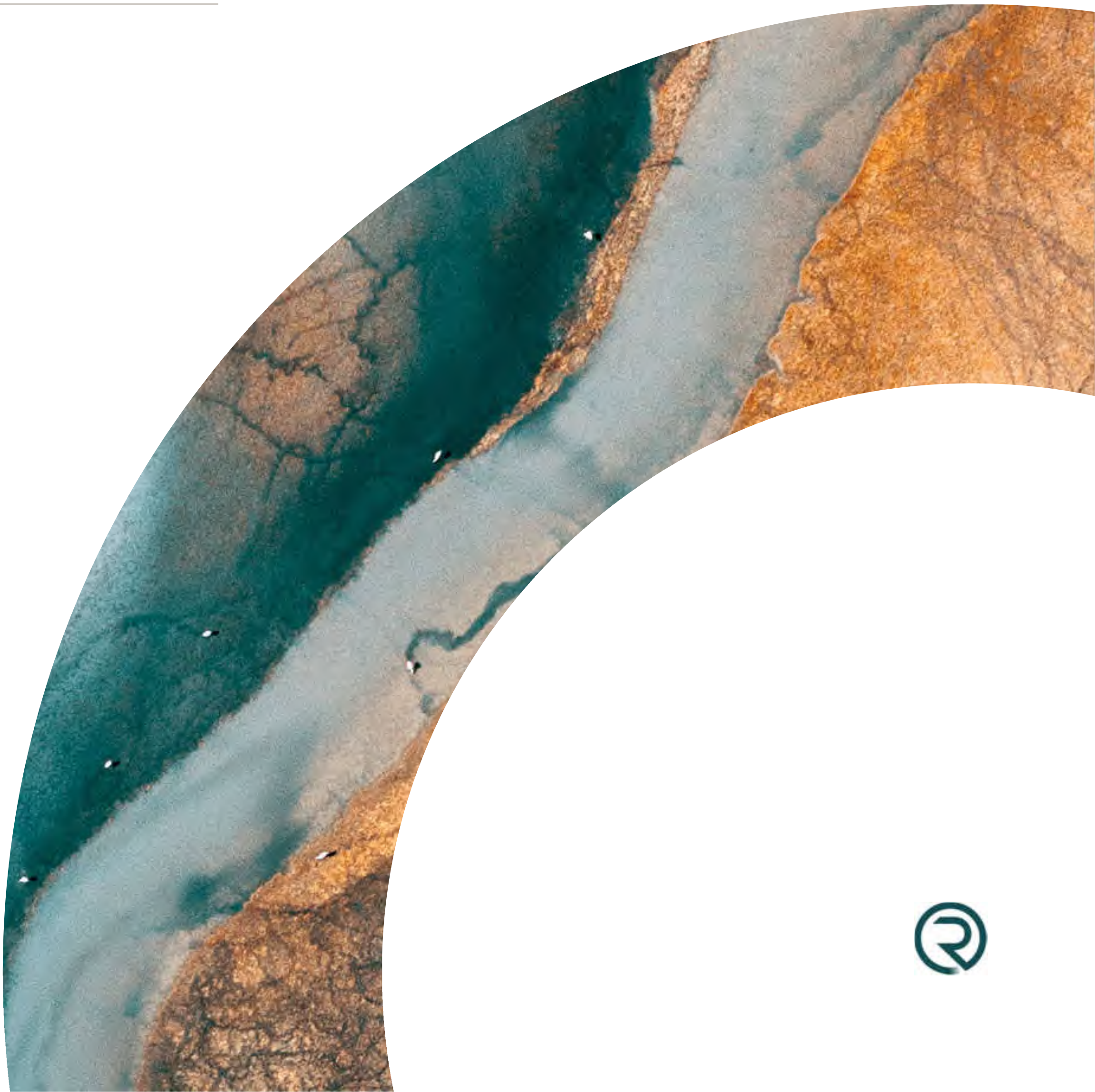
Additional wells still to survey during slug testing

Diver Deploy Log

		SWL Time	SWL
RMW01	30/5	5:08 pm	2.245
RMW02		5:06 pm	2.32
RMW03		5:04pm	3.84
RMW04		5:02pm	4.65
RMW05	31/5	4:37pm	5.04 -> after sampling and develop on same day.

F

Laboratory Reports



CHAIN OF CUSTODY FORM - Client

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Client Project Name/Number/Site etc (ie report title):
Detailed Site Investigation: 25-27 Leeds St, Rhodes NSW
PO No.: 22148
Envirolab Quote No. :
Date results required:
Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Additional report format: esdat / equis /
Lab Comments:

Sample information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 6a	Dioxins & Furins	PFAS	Asbesots (%w/w)	Combo 3	TRH, BTEX, PAH, Metals	TRH, BTEX	NEPM EILs	Chromium Reducible Sulfur (CrS)	Hold						Provide as much information about the sample as you can
1	BH102	0.5	21/05/2024	S	X	X	X	X												
2	BH102	2	21/05/2024	S					X			X								
3	BH102	4	21/05/2024	S									X							
4	BH102	6	21/05/2024	S									X							
5	BH103	1	22/05/2024	S	X	X	X	X												
6	BH103	3	22/05/2024	S					X											
7	BH103	4	22/05/2024	S					X				X							
8	BH103	6	22/05/2024	S									X							
9	BH103	7	22/05/2024	S										X						
10	BH105	0.5	21/05/2024	S	X	X	X	X												
11	BH105	3	21/05/2024	S					X											
12	BH105	4	21/05/2024	S									X							
13	BH106	0.5	22/05/2024	S	X	X	X	X												
14	BH106	2	22/05/2024	S					X			X								
15	BH106	3	22/05/2024	S									X							
16	BH106	6	22/05/2024	S									X							
17	BH107	0.5	21/05/2024	S	X	X	X	X												
18	BH107	3	21/05/2024	S					X											
19	BH107	4	21/05/2024	S									X							
20	BH108	0.3	23/05/2024	S	X			X												
21	BH109	0.3	20/05/2024	S	X	X	X	X												
22	BH109	1	20/05/2024	S					X											
23	BH109	2	20/05/2024	S									X							
24	BH110	0.25	20/05/2024	S	X		X	X												
25	BH110	1	20/05/2024	S					X											
26	BH111	0.5	23/05/2024	S	X		X	X												
27	BH111	2	23/05/2024	S					X											
28	BH112	0.3	20/05/2024	S	X		X	X												
29	BH112	1	20/05/2024	S					X											
30	BH113	0.5	20/05/2024	S	X			X												
31	BH113	2	20/05/2024	S					X											
32	BH114	0.5	20/05/2024	S	X		X	X												
33	BH114	1	20/05/2024	S					X				X							
34	BH116	0.2	23/05/2024	S	X			X												
35	BH115	1	23/05/2024	S					X											
36	BH115	5.1	23/05/2024	S									X							
37	BH115	10.7	23/05/2024	S									X							
38	DUP02	2	21/05/2024	S					X											
S/0	TRIP02	2	21/05/2024	S						X										Pls fwd to ALS
39	DUP03	3	21/05/2024	S					X											
S/0	TRIP03	3	21/05/2024	S						X										Pls fwd to ALS
40	Trip Blank			S							X									
41	Trip Spike			S							X									

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Reditus	**Received by (Company):** ELS SYD	**Lab Use Only**
Print Name: Renee Ashton	**Print Name:** Shann Tak	**Job number:** 352254 — **Cooling:** Ice / [✓ Ice pack] / None
Date & Time: 24/05/2024	**Date & Time:** 24/5/24 1620	**Temperature:** 10 — **Security seal:** [✓ Intact] / Broken / None
Signature:	**Signature:**	**TAT Req** - SAME day / 1 / 2 / 3 / 4 / STD

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CERTIFICATE OF ANALYSIS 352254

Client Details

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

Sample Details

Your Reference	**Detailed Site Investigation:25-27 Leeds St, Rhodes**
Number of Samples	41 Soil
Date samples received	24/05/2024
Date completed instructions received	28/05/2024

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	13/06/2024
Date of Issue	13/06/2024

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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Sneha Shakya
Authorised by Asbestos Approved Signatory: Stuart Chen

Results Approved By
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Jenny He, Senior Chemist
Liam Timmins, Organics Supervisor
Lucy Zhu, Asbestos Supervisor
Sean McAlary, Chemist (FAS)
Stuart Chen, Asbestos Approved Identifier/Report coordinator
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		352254-1	352254-2	352254-5	352254-6	352254-7
Your Reference	UNITS	BH102	BH102	BH103	BH103	BH103
Depth		0.5	2	1	3	4
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	22/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH 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	85	85	103	83

vTRH(C6-C10)/BTEXN in Soil

Our Reference		352254-10	352254-11	352254-13	352254-14	352254-17
Your Reference	UNITS	BH105	BH105	BH106	BH106	BH107
Depth		0.5	3	0.5	2	0.5
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH 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	%	75	77	109	81	81

vTRH(C6-C10)/BTEXN in Soil

Our Reference		352254-18	352254-20	352254-21	352254-22	352254-24
Your Reference	UNITS	BH107	BH108	BH109	BH109	BH110
Depth		3	0.3	0.3	1	0.25
Date Sampled		21/05/2024	23/05/2024	20/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH 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	92	74	82	74

vTRH(C6-C10)/BTEXN in Soil

Our Reference		352254-25	352254-26	352254-27	352254-28	352254-29
Your Reference	UNITS	BH110	BH111	BH111	BH112	BH112
Depth		1	0.5	2	0.3	1
Date Sampled		20/05/2024	23/05/2024	23/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH 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	80	79	73	104

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		352254-30	352254-31	352254-32	352254-33	352254-34
Your Reference	UNITS	BH113	BH113	BH114	BH114	BH115
Depth		0.5	2	0.5	1	0.2
Date Sampled		20/05/2024	20/05/2024	20/05/2024	20/05/2024	23/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH 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	%	70	93	71	68	88

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		352254-35	352254-38	352254-39	352254-40	352254-41
Your Reference	UNITS	BH115	DUP02	DUP03	Trip Blank	Trip Spike
Depth		1	2	3	-	-
Date Sampled		23/05/2024	21/05/2024	21/05/2024	23/05/2024	23/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	[NA]
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	[NA]
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	[NA]
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	84%
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	87%
Ethylbenzene	mg/kg	<1	<1	<1	<1	88%
m+p-xylene	mg/kg	<2	<2	<2	<2	80%
o-Xylene	mg/kg	<1	<1	<1	<1	88%
Naphthalene	mg/kg	<1	<1	<1	<1	[NA]
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	[NA]
Surrogate aaa-Trifluorotoluene	%	79	91	76	76	89

svTRH (C10-C40) in Soil						
Our Reference		352254-1	352254-2	352254-5	352254-6	352254-7
Your Reference	UNITS	BH102	BH102	BH103	BH103	BH103
Depth		0.5	2	1	3	4
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	22/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	29/05/2024
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	190
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	190
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	230
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	230
Surrogate o-Terphenyl	%	96	89	90	90	90

svTRH (C10-C40) in Soil						
Our Reference		352254-10	352254-11	352254-13	352254-14	352254-17
Your Reference	UNITS	BH105	BH105	BH106	BH106	BH107
Depth		0.5	3	0.5	2	0.5
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
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	%	89	90	88	89	87

svTRH (C10-C40) in Soil						
Our Reference		352254-18	352254-20	352254-21	352254-22	352254-24
Your Reference	UNITS	BH107	BH108	BH109	BH109	BH110
Depth		3	0.3	0.3	1	0.25
Date Sampled		21/05/2024	23/05/2024	20/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
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	%	89	89	87	91	86

svTRH (C10-C40) in Soil						
Our Reference		352254-25	352254-26	352254-27	352254-28	352254-29
Your Reference	UNITS	BH110	BH111	BH111	BH112	BH112
Depth		1	0.5	2	0.3	1
Date Sampled		20/05/2024	23/05/2024	23/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
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	%	86	87	87	87	86

svTRH (C10-C40) in Soil						
Our Reference		352254-30	352254-31	352254-32	352254-33	352254-34
Your Reference	UNITS	BH113	BH113	BH114	BH114	BH115
Depth		0.5	2	0.5	1	0.2
Date Sampled		20/05/2024	20/05/2024	20/05/2024	20/05/2024	23/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
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	%	83	85	86	85	85

svTRH (C10-C40) in Soil				
Our Reference		352254-35	352254-38	352254-39
Your Reference	UNITS	BH115	DUP02	DUP03
Depth		1	2	3
Date Sampled		23/05/2024	21/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50
Surrogate o-Terphenyl	%	84	84	84

PAHs in Soil						
Our Reference		352254-1	352254-2	352254-5	352254-6	352254-7
Your Reference	UNITS	BH102	BH102	BH103	BH103	BH103
Depth		0.5	2	1	3	4
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	22/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	03/06/2024	28/05/2024	03/06/2024	03/06/2024
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	0.06	<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	0.3	<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	%	112	124	103	125	135

PAHs in Soil						
Our Reference		352254-10	352254-11	352254-13	352254-14	352254-17
Your Reference	UNITS	BH105	BH105	BH106	BH106	BH107
Depth		0.5	3	0.5	2	0.5
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	03/06/2024	28/05/2024	03/06/2024	28/05/2024
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	%	108	125	105	122	107

PAHs in Soil						
Our Reference		352254-18	352254-20	352254-21	352254-22	352254-24
Your Reference	UNITS	BH107	BH108	BH109	BH109	BH110
Depth		3	0.3	0.3	1	0.25
Date Sampled		21/05/2024	23/05/2024	20/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	03/06/2024	28/05/2024	28/05/2024	03/06/2024	28/05/2024
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	0.2	<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	%	122	108	105	123	98

PAHs in Soil						
Our Reference		352254-25	352254-26	352254-27	352254-28	352254-29
Your Reference	UNITS	BH110	BH111	BH111	BH112	BH112
Depth		1	0.5	2	0.3	1
Date Sampled		20/05/2024	23/05/2024	23/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	03/06/2024	28/05/2024	03/06/2024	28/05/2024	03/06/2024
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	0.2	<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	0.07	<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	0.4	<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	%	118	105	122	102	120

PAHs in Soil						
Our Reference		352254-30	352254-31	352254-32	352254-33	352254-34
Your Reference	UNITS	BH113	BH113	BH114	BH114	BH115
Depth		0.5	2	0.5	1	0.2
Date Sampled		20/05/2024	20/05/2024	20/05/2024	20/05/2024	23/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	03/06/2024	28/05/2024	03/06/2024	28/05/2024
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	%	101	121	100	76	104

PAHs in Soil				
Our Reference		352254-35	352254-38	352254-39
Your Reference	UNITS	BH115	DUP02	DUP03
Depth		1	2	3
Date Sampled		23/05/2024	21/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	03/06/2024	03/06/2024	03/06/2024
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	<0.05	<0.05	<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 p-Terphenyl-d14	%	126	122	117

Organochlorine Pesticides in soil						
Our Reference		352254-1	352254-5	352254-10	352254-13	352254-17
Your Reference	UNITS	BH102	BH103	BH105	BH106	BH107
Depth		0.5	1	0.5	0.5	0.5
Date Sampled		21/05/2024	22/05/2024	21/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	94	96	93	93	92

Organochlorine Pesticides in soil						
Our Reference		352254-20	352254-21	352254-24	352254-26	352254-28
Your Reference	UNITS	BH108	BH109	BH110	BH111	BH112
Depth		0.3	0.3	0.25	0.5	0.3
Date Sampled		23/05/2024	20/05/2024	20/05/2024	23/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	92	91	88	89	92

Organochlorine Pesticides in soil				
Our Reference		352254-30	352254-32	352254-34
Your Reference	UNITS	BH113	BH114	BH115
Depth		0.5	0.5	0.2
Date Sampled		20/05/2024	20/05/2024	23/05/2024
Type of sample		Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	89	90	88

Organophosphorus Pesticides in Soil						
Our Reference		352254-1	352254-5	352254-10	352254-13	352254-17
Your Reference	UNITS	BH102	BH103	BH105	BH106	BH107
Depth		0.5	1	0.5	0.5	0.5
Date Sampled		21/05/2024	22/05/2024	21/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	94	96	93	93	92

Organophosphorus Pesticides in Soil						
Our Reference		352254-20	352254-21	352254-24	352254-26	352254-28
Your Reference	UNITS	BH108	BH109	BH110	BH111	BH112
Depth		0.3	0.3	0.25	0.5	0.3
Date Sampled		23/05/2024	20/05/2024	20/05/2024	23/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	92	91	88	89	92

Organophosphorus Pesticides in Soil				
Our Reference		352254-30	352254-32	352254-34
Your Reference	UNITS	BH113	BH114	BH115
Depth		0.5	0.5	0.2
Date Sampled		20/05/2024	20/05/2024	23/05/2024
Type of sample		Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024
Dichlorvos	mg/kg	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	89	90	88

PCBs in Soil						
Our Reference		352254-1	352254-5	352254-10	352254-13	352254-17
Your Reference	UNITS	BH102	BH103	BH105	BH106	BH107
Depth		0.5	1	0.5	0.5	0.5
Date Sampled		21/05/2024	22/05/2024	21/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	105	112	108	109	106

PCBs in Soil						
Our Reference		352254-20	352254-21	352254-24	352254-26	352254-28
Your Reference	UNITS	BH108	BH109	BH110	BH111	BH112
Depth		0.3	0.3	0.25	0.5	0.3
Date Sampled		23/05/2024	20/05/2024	20/05/2024	23/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	108	107	103	104	107

PCBs in Soil				
Our Reference		352254-30	352254-32	352254-34
Your Reference	UNITS	BH113	BH114	BH115
Depth		0.5	0.5	0.2
Date Sampled		20/05/2024	20/05/2024	23/05/2024
Type of sample		Soil	Soil	Soil
Date extracted	-	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	102	104	102

Acid Extractable metals in soil						
Our Reference		352254-1	352254-2	352254-5	352254-6	352254-7
Your Reference	UNITS	BH102	BH102	BH103	BH103	BH103
Depth		0.5	2	1	3	4
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	22/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Date analysed	-	30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Arsenic	mg/kg	<4	6	6	6	21
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	12	6	16	6
Copper	mg/kg	18	5	21	8	3
Lead	mg/kg	32	13	19	17	6
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	<1	2	2	3
Zinc	mg/kg	54	3	23	7	9
Iron	mg/kg	[NA]	27,000	[NA]	[NA]	[NA]

Acid Extractable metals in soil						
Our Reference		352254-10	352254-11	352254-13	352254-14	352254-17
Your Reference	UNITS	BH105	BH105	BH106	BH106	BH107
Depth		0.5	3	0.5	2	0.5
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Date analysed	-	30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Arsenic	mg/kg	5	9	<4	<4	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	18	7	9	9
Copper	mg/kg	12	5	16	3	17
Lead	mg/kg	30	12	15	10	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	1	6	<1	8
Zinc	mg/kg	39	11	30	2	51
Iron	mg/kg	[NA]	[NA]	[NA]	16,000	[NA]

Acid Extractable metals in soil						
Our Reference		352254-18	352254-20	352254-21	352254-22	352254-24
Your Reference	UNITS	BH107	BH108	BH109	BH109	BH110
Depth		3	0.3	0.3	1	0.25
Date Sampled		21/05/2024	23/05/2024	20/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Date analysed	-	30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Arsenic	mg/kg	<4	5	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	8	9	10	8
Copper	mg/kg	11	41	40	1	13
Lead	mg/kg	24	19	18	10	2
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	22	16	2	6
Zinc	mg/kg	45	75	59	13	26
Iron	mg/kg	[NA]	35,000	[NA]	[NA]	[NA]

Acid Extractable metals in soil						
Our Reference		352254-25	352254-26	352254-27	352254-28	352254-29
Your Reference	UNITS	BH110	BH111	BH111	BH112	BH112
Depth		1	0.5	2	0.3	1
Date Sampled		20/05/2024	23/05/2024	23/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Date analysed	-	30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Arsenic	mg/kg	<4	4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	36	16	8	9	16
Copper	mg/kg	8	21	1	13	6
Lead	mg/kg	21	31	3	12	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	15	<1	9	3
Zinc	mg/kg	69	79	<1	51	12

Acid Extractable metals in soil						
Our Reference		352254-30	352254-31	352254-32	352254-33	352254-34
Your Reference	UNITS	BH113	BH113	BH114	BH114	BH115
Depth		0.5	2	0.5	1	0.2
Date Sampled		20/05/2024	20/05/2024	20/05/2024	20/05/2024	23/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Date analysed	-	30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Arsenic	mg/kg	8	9	6	4	12
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	23	18	23	12	29
Copper	mg/kg	470	34	3	4	13
Lead	mg/kg	220	28	16	17	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	12	11	4	<1	4
Zinc	mg/kg	600	91	4	1	25

Acid Extractable metals in soil						
Our Reference		352254-35	352254-38	352254-39	352254-42	352254-43
Your Reference	UNITS	BH115	DUP02	DUP03	BH102 - [TRIPLICATE]	BH107 - [TRIPLICATE]
Depth		1	2	3	0.5	0.5
Date Sampled		23/05/2024	21/05/2024	21/05/2024	21/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Date analysed	-	30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Arsenic	mg/kg	<4	5	<4	5	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	10	7	9	8
Copper	mg/kg	2	3	13	19	19
Lead	mg/kg	14	11	25	44	18
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	<1	3	6	6
Zinc	mg/kg	<1	3	42	51	33

Moisture						
Our Reference		352254-1	352254-2	352254-5	352254-6	352254-7
Your Reference	UNITS	BH102	BH102	BH103	BH103	BH103
Depth		0.5	2	1	3	4
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	22/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Moisture	%	10	10	5.7	10	23

Moisture						
Our Reference		352254-10	352254-11	352254-13	352254-14	352254-17
Your Reference	UNITS	BH105	BH105	BH106	BH106	BH107
Depth		0.5	3	0.5	2	0.5
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Moisture	%	11	15	12	15	8.6

Moisture						
Our Reference		352254-18	352254-20	352254-21	352254-22	352254-24
Your Reference	UNITS	BH107	BH108	BH109	BH109	BH110
Depth		3	0.3	0.3	1	0.25
Date Sampled		21/05/2024	23/05/2024	20/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Moisture	%	16	6.5	17	6.9	12

Moisture						
Our Reference		352254-25	352254-26	352254-27	352254-28	352254-29
Your Reference	UNITS	BH110	BH111	BH111	BH112	BH112
Depth		1	0.5	2	0.3	1
Date Sampled		20/05/2024	23/05/2024	23/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Moisture	%	9.2	11	7.8	15	6.6

Moisture						
Our Reference		352254-30	352254-31	352254-32	352254-33	352254-34
Your Reference	UNITS	BH113	BH113	BH114	BH114	BH115
Depth		0.5	2	0.5	1	0.2
Date Sampled		20/05/2024	20/05/2024	20/05/2024	20/05/2024	23/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Moisture	%	14	6.2	18	15	11

Moisture				
Our Reference		352254-35	352254-38	352254-39
Your Reference	UNITS	BH115	DUP02	DUP03
Depth		1	2	3
Date Sampled		23/05/2024	21/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil
Date prepared	-	28/05/2024	28/05/2024	28/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024
Moisture	%	3.9	12	16

PFAS in Soils Extended						
Our Reference		352254-1	352254-5	352254-10	352254-13	352254-17
Your Reference	UNITS	BH102	BH103	BH105	BH106	BH107
Depth		0.5	1	0.5	0.5	0.5
Date Sampled		21/05/2024	22/05/2024	21/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	95	95	97	99	98
Surrogate $^{13}C_2$ *PFOA*	%	97	101	97	97	101
Extracted ISTD $^{13}C_3$ *PFBS*	%	100	100	88	92	95
Extracted ISTD $^{18}O_2$ *PFHxS*	%	102	102	87	92	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	99	99	85	89	94

PFAS in Soils Extended

Our Reference		352254-1	352254-5	352254-10	352254-13	352254-17
Your Reference	UNITS	BH102	BH103	BH105	BH106	BH107
Depth		0.5	1	0.5	0.5	0.5
Date Sampled		21/05/2024	22/05/2024	21/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	107	105	92	98	101
Extracted ISTD $^{13}C_3$ *PFPeA*	%	103	106	92	97	101
Extracted ISTD $^{13}C_2$ *PFHxA*	%	100	105	89	93	97
Extracted ISTD $^{13}C_4$ *PFHpA*	%	104	107	91	99	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	109	110	92	98	104
Extracted ISTD $^{13}C_5$ *PFNA*	%	103	110	89	94	100
Extracted ISTD $^{13}C_2$ *PFDA*	%	107	119	92	98	107
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	120	125	97	107	125
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	109	119	101	101	110
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	128	133	96	109	123
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	83	84	72	76	79
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	87	104	79	83	89
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	99	129	86	82	94
Extracted ISTD $^{13}C_8$ *FOSA*	%	117	115	98	105	112
Extracted ISTD d_3 *N MeFOSA*	%	98	98	84	93	100
Extracted ISTD d_5 *N EtFOSA*	%	103	102	87	96	102
Extracted ISTD d_7 *N MeFOSE*	%	101	99	89	98	100
Extracted ISTD d_9 *N EtFOSE*	%	101	97	87	96	97
Extracted ISTD d_3 *N MeFOSAA*	%	101	114	87	92	94
Extracted ISTD d_5 *N EtFOSAA*	%	99	111	84	104	96
Total Positive PFHxS & PFOS	µg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	0.2	<0.1	<0.1	<0.1

PFAS in Soils Extended						
Our Reference		352254-21	352254-24	352254-26	352254-28	352254-32
Your Reference	UNITS	BH109	BH110	BH111	BH112	BH114
Depth		0.3	0.25	0.5	0.3	0.5
Date Sampled		20/05/2024	20/05/2024	23/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Date analysed	-	29/05/2024	29/05/2024	29/05/2024	29/05/2024	29/05/2024
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	95	97	96	90	97
Surrogate $^{13}C_2$ *PFOA*	%	93	100	98	100	98
Extracted ISTD $^{13}C_3$ *PFBS*	%	90	89	89	87	88
Extracted ISTD $^{18}O_2$ *PFHxS*	%	92	92	91	86	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	88	91	88	88	89

PFAS in Soils Extended						
Our Reference		352254-21	352254-24	352254-26	352254-28	352254-32
Your Reference	UNITS	BH109	BH110	BH111	BH112	BH114
Depth		0.3	0.25	0.5	0.3	0.5
Date Sampled		20/05/2024	20/05/2024	23/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	95	96	96	92	92
Extracted ISTD $^{13}C_3$ *PFPeA*	%	96	93	95	92	91
Extracted ISTD $^{13}C_2$ *PFHxA*	%	92	92	92	87	89
Extracted ISTD $^{13}C_4$ *PFHpA*	%	96	96	96	91	92
Extracted ISTD $^{13}C_4$ *PFOA*	%	101	100	98	93	93
Extracted ISTD $^{13}C_5$ *PFNA*	%	94	94	95	88	91
Extracted ISTD $^{13}C_2$ *PFDA*	%	103	103	97	93	93
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	110	112	109	108	107
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	106	105	106	101	101
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	113	119	112	111	106
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	73	72	71	71	71
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	75	86	81	76	76
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	88	90	92	90	87
Extracted ISTD $^{13}C_8$ *FOSA*	%	106	108	105	103	105
Extracted ISTD d_3 *N MeFOSA*	%	93	94	92	88	91
Extracted ISTD d_5 *N EtFOSA*	%	95	94	94	89	94
Extracted ISTD d_7 *N MeFOSE*	%	95	94	96	93	93
Extracted ISTD d_9 *N EtFOSE*	%	94	95	94	91	92
Extracted ISTD d_3 *N MeFOSAA*	%	92	96	93	89	71
Extracted ISTD d_5 *N EtFOSAA*	%	93	106	88	88	71
Total Positive PFHxS & PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1

Dioxins and Furans						
Our Reference		352254-1	352254-5	352254-10	352254-13	352254-17
Your Reference	UNITS	BH102	BH103	BH105	BH106	BH107
Depth		0.5	1	0.5	0.5	0.5
Date Sampled		21/05/2024	22/05/2024	21/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Please see attached		#	#	#	#	#

Dioxins and Furans		
Our Reference		352254-21
Your Reference	UNITS	BH109
Depth		0.3
Date Sampled		20/05/2024
Type of sample		Soil
Please see attached		#

Asbestos ID - soils NEPM - ASB-001						
Our Reference		352254-1	352254-5	352254-10	352254-13	352254-17
Your Reference	UNITS	BH102	BH103	BH105	BH106	BH107
Depth		0.5	1	0.5	0.5	0.5
Date Sampled		21/05/2024	22/05/2024	21/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024
Sample mass tested	g	183.77	297	186.82	266.99	149.24
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	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	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	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos comments	-	Nil	Nil	Nil	Nil	Nil

Asbestos ID - soils NEPM - ASB-001						
Our Reference		352254-20	352254-21	352254-24	352254-26	352254-28
Your Reference	UNITS	BH108	BH109	BH110	BH111	BH112
Depth		0.3	0.3	0.25	0.5	0.3
Date Sampled		23/05/2024	20/05/2024	20/05/2024	23/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024
Sample mass tested	g	130.53	211.65	426.62	325.41	311.74
Sample Description	-	Grey fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	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	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	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos comments	-	Nil	Nil	Nil	Nil	Nil

Asbestos ID - soils NEPM - ASB-001			
Our Reference		352254-30	352254-32
Your Reference	UNITS	BH113	BH114
Depth		0.5	0.5
Date Sampled		20/05/2024	20/05/2024
Type of sample		Soil	Soil
Date analysed	-	31/05/2024	31/05/2024
Sample mass tested	g	177.77	70
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	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
Total Asbestos#1	g/kg	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–
FA and AF Estimation*	g	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001
Asbestos comments	-	Nil	Nil

Chromium Suite						
Our Reference		352254-3	352254-4	352254-7	352254-8	352254-12
Your Reference	UNITS	BH102	BH102	BH103	BH103	BH105
Depth		4	6	4	6	4
Date Sampled		21/05/2024	21/05/2024	22/05/2024	22/05/2024	21/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
pH $_{kcl}$	pH units	9.1	7.8	8.9	4.0	5.6
s-TAA pH 6.5	%w/w S	<0.01	<0.01	<0.01	0.03	<0.01
TAA pH 6.5	moles H^+ /t	<5	<5	<5	21	<5
Chromium Reducible Sulfur	%w/w	1.4	0.37	0.68	<0.005	0.54
a-Chromium Reducible Sulfur	moles H^+ /t	870	230	420	<3	340
S_{HCl}	%w/w S	[NT]	[NT]	[NT]	0.044	[NT]
S_{KCl}	%w/w S	[NT]	[NT]	[NT]	0.038	[NT]
S_{NAS}	%w/w S	[NT]	[NT]	[NT]	0.012	[NT]
ANC_{BT}	% $CaCO_3$	2.8	0.60	3.5	[NT]	[NT]
s-ANC_{BT}	%w/w S	0.88	0.19	1.1	[NT]	[NT]
s-Net Acidity	%w/w S	0.80	0.24	<0.005	0.050	0.55
a-Net Acidity	moles H^+ /t	500	150	<5	30	340
Liming rate	kg $CaCO_3$ /t	38	11	<0.75	2	26
a-Net Acidity without ANCE	moles H^+ /t	870	230	420	30	340
Liming rate without ANCE	kg $CaCO_3$ /t	65	17	32	2.2	26
s-Net Acidity without ANCE	%w/w S	1.4	0.37	0.68	0.047	0.55

Chromium Suite						
Our Reference	UNITS	352254-15	352254-16	352254-19	352254-23	352254-33
Your Reference		BH106	BH106	BH107	BH109	BH114
Depth		3	6	4	2	1
Date Sampled		22/05/2024	22/05/2024	21/05/2024	20/05/2024	20/05/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024
Date analysed	-	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024
pH $_{kcl}$	pH units	3.8	5.4	6.3	5.1	3.5
s-TAA pH 6.5	%w/w S	0.12	<0.01	<0.01	<0.01	0.16
TAA pH 6.5	moles H^+/t	74	<5	<5	<5	99
Chromium Reducible Sulfur	%w/w	0.02	0.04	0.38	<0.005	0.02
a-Chromium Reducible Sulfur	moles H^+/t	10	26	240	<3	10
S_{HCl}	%w/w S	0.007	[NT]	[NT]	[NT]	0.018
S_{KCl}	%w/w S	<0.005	[NT]	[NT]	[NT]	0.013
S_{NAS}	%w/w S	0.009	[NT]	[NT]	[NT]	0.010
ANC_{BT}	% $CaCO_3$	[NT]	[NT]	[NT]	[NT]	[NT]
s-ANC_{BT}	%w/w S	[NT]	[NT]	[NT]	[NT]	[NT]
s-Net Acidity	%w/w S	0.14	0.044	0.38	0.0060	0.18
a-Net Acidity	moles H^+/t	87	27	240	<5	110
Liming rate	kg $CaCO_3$/t	7	2	18	<0.75	8.5
a-Net Acidity without ANCE	moles H^+/t	87	27	240	<5	110
Liming rate without ANCE	kg $CaCO_3$/t	6.6	2.0	18	<0.75	8.5
s-Net Acidity without ANCE	%w/w S	0.14	0.044	0.38	0.0060	0.18

Chromium Suite			
Our Reference		352254-36	352254-37
Your Reference	UNITS	BH115	BH115
Depth		5.1	10.7
Date Sampled		23/05/2024	23/05/2024
Type of sample		Soil	Soil
Date prepared	-	24/05/2024	24/05/2024
Date analysed	-	28/05/2024	28/05/2024
pH $_{kcl}$	pH units	4.4	5.6
s-TAA pH 6.5	%w/w S	0.02	<0.01
TAA pH 6.5	moles H^+ /t	11	<5
Chromium Reducible Sulfur	%w/w	<0.005	0.21
a-Chromium Reducible Sulfur	moles H^+ /t	<3	130
S_{HCl}	%w/w S	0.037	[NT]
S_{KCl}	%w/w S	0.028	[NT]
S_{NAS}	%w/w S	0.019	[NT]
ANC_{BT}	% $CaCO_3$	[NT]	[NT]
s-ANC_{BT}	%w/w S	[NT]	[NT]
s-Net Acidity	%w/w S	0.040	0.21
a-Net Acidity	moles H^+ /t	22	130
Liming rate	kg $CaCO_3$ /t	2	9.8
a-Net Acidity without ANCE	moles H^+ /t	22	130
Liming rate without ANCE	kg $CaCO_3$ /t	1.7	9.8
s-Net Acidity without ANCE	%w/w S	0.035	0.21

Misc Inorg - Soil			
Our Reference		352254-2	352254-14
Your Reference	UNITS	BH102	BH106
Depth		2	2
Date Sampled		21/05/2024	22/05/2024
Type of sample		Soil	Soil
Date prepared	-	24/05/2024	24/05/2024
Date analysed	-	30/05/2024	30/05/2024
pH 1:5 soil:water	pH Units	4.4	4.9
Total Organic Carbon in soil/solids	mg/kg	3,100	2,600

CEC			
Our Reference		352254-2	352254-14
Your Reference	UNITS	BH102	BH106
Depth		2	2
Date Sampled		21/05/2024	22/05/2024
Type of sample		Soil	Soil
Date prepared	-	03/06/2024	03/06/2024
Date analysed	-	03/06/2024	03/06/2024
Exchangeable Ca	meq/100g	0.8	1.1
Exchangeable K	meq/100g	0.2	0.2
Exchangeable Mg	meq/100g	1.3	1.2
Exchangeable Na	meq/100g	0.8	0.3
Cation Exchange Capacity	meq/100g	3.1	2.9

Clay 50-120g			
Our Reference		352254-2	352254-14
Your Reference	UNITS	BH102	BH106
Depth		2	2
Date Sampled		21/05/2024	22/05/2024
Type of sample		Soil	Soil
Date prepared	-	30/05/2024	30/05/2024
Date analysed	-	31/05/2024	31/05/2024
Clay in soils <2μm	% (w/w)	20	30

Asbestos ID - soils		
Our Reference		352254-34
Your Reference	UNITS	BH115
Depth		0.2
Date Sampled		23/05/2024
Type of sample		Soil
Date analysed	-	03/06/2024
Sample mass tested	g	Approx. 25g
Sample Description	-	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Asbestos comments	-	Nil
Trace Analysis	-	No asbestos detected

Method ID	Methodology Summary
AS1289.3.6.3	Particle Size Distribution using in house method INORG-107 by way of sieving and/or hydrometer sedimentation testing. Clay fraction at <2µm reported.
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.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. NOTE$^{\#1}$ Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF relative to the sample mass tested) NOTE$^{\#2}$ The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-001	pH - Measured using pH meter and electrode. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.

Method ID	Methodology Summary
Inorg-068	Chromium Reducible Sulfur - Hydrogen Sulfide is quantified by iodometric titration after distillation to determine potential acidity. Net acidity including ANC has a safety factor of 1.5 applied. Neutralising value (NV) of 100% is assumed for liming rate. The recommendation that the SHCL concentration be multiplied by a factor of 2 to ensure retained acidity is not underestimated, has not been applied in the SHCL result. However, it has been applied in the SNAS calculation: SNAS % = (SHCL-SKCL)x2
INORG-137	Total Carbon Nitrogen Sulfur by high temperature catalytic combustion with IR detection.
Metals-020	Determination of various metals by ICP-AES.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
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-021/022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD and/or GC-MS/GC-MSMS. 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.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

Method ID	Methodology Summary
ORG-038	Water samples are extracted with DCM and concentrated. The extract is analysed by GC/MSMS for selected Dioxin and Furans. Soils and Sorbents are solvent extracted, followed by an extract clean-up and GC/MSMS analysis. 1. I -TEQ(zero) and WHO-TEQ(zero) calculated where analyte components that are <PQL are considered to be zero in the TEQ calculation. Where all sample analyte results are <PQL, the calculated sample TEQ = 0, this is due to the calculation being an arithmetic formula and therefore does not reflect the associated PQLs. 2. I -TEQ(0.5) and WHO-TEQ(0.5) calculated where analyte components that are <PQL are considered to be 0.5 * the component PQL in the TEQ calculation. 3. I-TEQ(PQL) and WHO-TEQ(PQL) calculated where analyte components that are <PQL are considered to be equal to the component PQL in the TEQ calculation. 13C Rec is the recovery of Isotopically labelled compound added by the Laboratory for quantification and to measure extraction efficiency. I-TEF - International toxic equivalency factor I-TEQ - International toxic equivalence WHO-TEF - World Health Organisation toxic equivalency factor WHO-TEQ - World Health Organisation toxic equivalence

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	352254-5
Date extracted	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Date analysed	-			29/05/2024	1	29/05/2024	29/05/2024		29/05/2024	29/05/2024
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	93	95
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	93	95
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	94	105
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	116	90
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	81	94
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	86	93
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	90	91
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	88	1	88	84	5	81	90

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	352254-24
Date extracted	-			[NT]	17	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Date analysed	-			[NT]	17	29/05/2024	29/05/2024		29/05/2024	29/05/2024
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	17	<25	<25	0	88	82
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	17	<25	<25	0	88	82
Benzene	mg/kg	0.2	Org-023	[NT]	17	<0.2	<0.2	0	86	79
Toluene	mg/kg	0.5	Org-023	[NT]	17	<0.5	<0.5	0	104	115
Ethylbenzene	mg/kg	1	Org-023	[NT]	17	<1	<1	0	79	70
m+p-xylene	mg/kg	2	Org-023	[NT]	17	<2	<2	0	85	74
o-Xylene	mg/kg	1	Org-023	[NT]	17	<1	<1	0	84	71
Naphthalene	mg/kg	1	Org-023	[NT]	17	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	17	81	69	16	99	70

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]	28	28/05/2024	28/05/2024		[NT]	[NT]
Date analysed	-			[NT]	28	29/05/2024	29/05/2024		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	28	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	28	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	28	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	28	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	28	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	28	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	28	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	28	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	28	73	84	14	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	352254-5
Date extracted	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Date analysed	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	109	116
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	<100	<100	0	98	111
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	<100	<100	0	86	90
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	109	116
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	<100	<100	0	98	111
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	<100	<100	0	86	90
Surrogate o-Terphenyl	%		Org-020	94	1	96	88	9	95	96

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	352254-24
Date extracted	-			[NT]	17	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Date analysed	-			[NT]	17	28/05/2024	28/05/2024		29/05/2024	28/05/2024
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	17	<50	<50	0	118	113
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	17	<100	<100	0	112	109
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	17	<100	<100	0	100	111
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	17	<50	<50	0	118	113
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	17	<100	<100	0	112	109
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	17	<100	<100	0	100	111
Surrogate o-Terphenyl	%		Org-020	[NT]	17	87	89	2	97	93

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	28	28/05/2024	28/05/2024		[NT]	[NT]
Date analysed	-			[NT]	28	29/05/2024	29/05/2024		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	28	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	28	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	28	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	28	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	28	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	28	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	28	87	86	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	352254-5
Date extracted	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Date analysed	-			03/06/2024	1	28/05/2024	28/05/2024		03/06/2024	28/05/2024
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	100
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	100	104
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	120	124
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	120	124
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	132	134
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	0.1	<0.1	0	120	126
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	96	100
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	0.06	<0.05	18	100	94
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	127	1	112	107	5	97	97

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	352254-24
Date extracted	-			[NT]	17	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Date analysed	-			[NT]	17	28/05/2024	28/05/2024		03/06/2024	28/05/2024
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	114	102
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	116	104
Fluorene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	114	122
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	118	126
Anthracene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	118	132
Pyrene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	116	124
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	108	98
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	17	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	17	<0.05	<0.05	0	120	88
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	17	107	105	2	123	104

Client Reference: Detailed Site Investigation:25-27 Leeds St, Rhodes

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	28	28/05/2024	28/05/2024		[NT]	[NT]
Date analysed	-			[NT]	28	28/05/2024	28/05/2024		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	28	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	28	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	28	102	101	1	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	352254-5
Date extracted	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Date analysed	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	120	126
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	120	126
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	120	126
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	118	122
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	124	130
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	114	120
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	118	124
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	118	124
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	122	128
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	112	112
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	97	1	94	94	0	96	94

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	352254-24
Date extracted	-			[NT]	17	28/05/2024	28/05/2024		[NT]	28/05/2024
Date analysed	-			[NT]	17	28/05/2024	28/05/2024		[NT]	28/05/2024
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	122
HCB	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	124
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	124
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	122
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	128
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	120
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	124
Endrin	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	124
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	124
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	102
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	17	92	92	0	[NT]	90

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	28	28/05/2024	28/05/2024		[NT]	[NT]
Date analysed	-			[NT]	28	28/05/2024	28/05/2024		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	28	92	89	3	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	352254-5
Date extracted	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Date analysed	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	140	140
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	124	130
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	124	130
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	134	138
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	128	136
Fenthion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	120	122
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	130	138
Phosalone	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	97	1	94	94	0	96	94

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	352254-24
Date extracted	-			[NT]	17	28/05/2024	28/05/2024		[NT]	28/05/2024
Date analysed	-			[NT]	17	28/05/2024	28/05/2024		[NT]	28/05/2024
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	136
Mevinphos	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	126
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	126
Malathion	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	128
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	132
Fenthion	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	118
Bromophos-ethyl	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	130
Phosalone	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	17	92	92	0	[NT]	90

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	28	28/05/2024	28/05/2024		[NT]	[NT]
Date analysed	-			[NT]	28	28/05/2024	28/05/2024		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Mevinphos	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Fenthion	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Phosalone	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	28	92	89	3	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	352254-5
Date extracted	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Date analysed	-			28/05/2024	1	28/05/2024	28/05/2024		28/05/2024	28/05/2024
Aroclor 1016	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	129	91
Aroclor 1260	mg/kg	0.1	Org-021/022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	110	1	105	110	5	104	102

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	352254-24
Date extracted	-			[NT]	17	28/05/2024	28/05/2024		[NT]	28/05/2024
Date analysed	-			[NT]	17	28/05/2024	28/05/2024		[NT]	28/05/2024
Aroclor 1016	mg/kg	0.1	Org-021/022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	[NT]	17	<0.1	<0.1	0	[NT]	93
Aroclor 1260	mg/kg	0.1	Org-021/022/025	[NT]	17	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	[NT]	17	106	108	2	[NT]	104

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	28	28/05/2024	28/05/2024		[NT]	[NT]
Date analysed	-			[NT]	28	28/05/2024	28/05/2024		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021/022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021/022/025	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	[NT]	28	107	105	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	352254-5
Date prepared	-			29/05/2024	1	29/05/2024	29/05/2024		29/05/2024	29/05/2024
Date analysed	-			30/05/2024	1	30/05/2024	30/05/2024		30/05/2024	30/05/2024
Arsenic	mg/kg	4	Metals-020	<4	1	<4	5	22	102	95
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	101	92
Chromium	mg/kg	1	Metals-020	<1	1	8	9	12	98	89
Copper	mg/kg	1	Metals-020	<1	1	18	24	29	99	93
Lead	mg/kg	1	Metals-020	<1	1	32	48	40	104	92
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	0.1	0	100	97
Nickel	mg/kg	1	Metals-020	<1	1	5	8	46	101	95
Zinc	mg/kg	1	Metals-020	<1	1	54	91	51	106	93
Iron	mg/kg	10	Metals-020	<10	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	352254-24
Date prepared	-			[NT]	17	29/05/2024	29/05/2024		29/05/2024	29/05/2024
Date analysed	-			[NT]	17	30/05/2024	30/05/2024		30/05/2024	30/05/2024
Arsenic	mg/kg	4	Metals-020	[NT]	17	5	5	0	100	101
Cadmium	mg/kg	0.4	Metals-020	[NT]	17	<0.4	<0.4	0	99	96
Chromium	mg/kg	1	Metals-020	[NT]	17	9	9	0	100	95
Copper	mg/kg	1	Metals-020	[NT]	17	17	21	21	99	106
Lead	mg/kg	1	Metals-020	[NT]	17	19	19	0	105	97
Mercury	mg/kg	0.1	Metals-021	[NT]	17	<0.1	<0.1	0	98	96
Nickel	mg/kg	1	Metals-020	[NT]	17	8	10	22	99	101
Zinc	mg/kg	1	Metals-020	[NT]	17	51	79	43	105	110
Iron	mg/kg	10	Metals-020	[NT]	[NT]	[NT]	[NT]	[NT]	114	[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]	28	29/05/2024	29/05/2024		[NT]	[NT]
Date analysed	-			[NT]	28	30/05/2024	30/05/2024		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	28	<4	4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	28	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	28	9	9	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	28	13	13	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	28	12	13	8	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	28	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	28	9	10	11	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	28	51	60	16	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			29/05/2024	1	29/05/2024	29/05/2024		29/05/2024	[NT]
Date analysed	-			29/05/2024	1	29/05/2024	29/05/2024		29/05/2024	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	103	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	100	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	99	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	101	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	94	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	110	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	94	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	97	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	97	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	99	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	97	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	91	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	99	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	100	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	99	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	95	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	1	<5	<5	0	110	[NT]
4:2 FTS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	99	[NT]
6:2 FTS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	92	[NT]
8:2 FTS	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	115	[NT]
10:2 FTS	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	118	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	1	<1	<1	0	95	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	1	<1	<1	0	103	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	<1	1	<1	<1	0	102	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	<1	1	<1	<1	0	104	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	<5	1	<5	<5	0	100	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	105	[NT]
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	97	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	94	1	95	94	1	94	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	98	1	97	97	0	94	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	97	1	100	102	2	98	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	100	1	102	103	1	96	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	98	1	99	100	1	100	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	105	1	107	106	1	105	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	105	1	103	104	1	103	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	101	1	100	104	4	100	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	103	1	104	105	1	102	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	105	1	109	108	1	106	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	104	1	103	102	1	102	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	107	1	107	110	3	108	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	119	1	120	126	5	107	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	107	1	109	113	4	113	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	115	1	128	124	3	128	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	80	1	83	83	0	93	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	91	1	87	89	2	103	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	99	1	99	107	8	107	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	115	1	117	112	4	109	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	95	1	98	99	1	97	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	96	1	103	102	1	101	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	104	1	101	104	3	102	[NT]

Client Reference: Detailed Site Investigation:25-27 Leeds St, Rhodes

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	104	1	101	101	0	100	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	104	1	101	104	3	99	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	106	1	99	103	4	101	[NT]

QUALITY CONTROL: Dioxins and Furans					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Please see attached			ORG-038	#	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: Chromium Suite						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			24/05/2024	3	24/05/2024	24/05/2024		24/05/2024	[NT]
Date analysed	-			28/05/2024	3	28/05/2024	28/05/2024		28/05/2024	[NT]
pH $_{kcl}$	pH units		Inorg-068	[NT]	3	9.1	9.1	0	95	[NT]
s-TAA pH 6.5	%w/w S	0.01	Inorg-068	<0.01	3	<0.01	<0.01	0	[NT]	[NT]
TAA pH 6.5	moles H^+/t	5	Inorg-068	<5	3	<5	<5	0	95	[NT]
Chromium Reducible Sulfur	%w/w	0.005	Inorg-068	<0.005	3	1.4	1.4	0	97	[NT]
a-Chromium Reducible Sulfur	moles H^+/t	3	Inorg-068	<3	3	870	860	1	[NT]	[NT]
S_{HCl}	%w/w S	0.005	Inorg-068	<0.005	3	[NT]	[NT]		[NT]	[NT]
S_{KCl}	%w/w S	0.005	Inorg-068	<0.005	3	[NT]	[NT]		[NT]	[NT]
S_{NAS}	%w/w S	0.005	Inorg-068	<0.005	3	[NT]	[NT]		[NT]	[NT]
ANC_{BT}	% $CaCO_3$	0.05	Inorg-068	<0.05	3	2.8	2.8	0	100	[NT]
s-ANC_{BT}	%w/w S	0.05	Inorg-068	<0.05	3	0.88	0.88	0	[NT]	[NT]
s-Net Acidity	%w/w S	0.005	Inorg-068	<0.005	3	0.80	0.80	0	[NT]	[NT]
a-Net Acidity	moles H^+/t	5	Inorg-068	<5	3	500	500	0	[NT]	[NT]
Liming rate	kg $CaCO_3$/t	0.75	Inorg-068	<0.75	3	38	37	3	[NT]	[NT]
a-Net Acidity without ANCE	moles H^+/t	5	Inorg-068	<5	3	870	860	1	[NT]	[NT]
Liming rate without ANCE	kg $CaCO_3$/t	0.75	Inorg-068	<0.75	3	65	65	0	[NT]	[NT]
s-Net Acidity without ANCE	%w/w S	0.005	Inorg-068	<0.005	3	1.4	1.4	0	[NT]	[NT]

QUALITY CONTROL: Chromium Suite					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	36	24/05/2024	24/05/2024		[NT]	[NT]
Date analysed	-			[NT]	36	28/05/2024	28/05/2024		[NT]	[NT]
pH $_{kcl}$	pH units		Inorg-068	[NT]	36	4.4	4.4	0	[NT]	[NT]
s-TAA pH 6.5	%w/w S	0.01	Inorg-068	[NT]	36	0.02	0.02	0	[NT]	[NT]
TAA pH 6.5	moles H^+/t	5	Inorg-068	[NT]	36	11	11	0	[NT]	[NT]
Chromium Reducible Sulfur	%w/w	0.005	Inorg-068	[NT]	36	<0.005	<0.005	0	[NT]	[NT]
a-Chromium Reducible Sulfur	moles H^+/t	3	Inorg-068	[NT]	36	<3	<3	0	[NT]	[NT]
S_{HCl}	%w/w S	0.005	Inorg-068	[NT]	36	0.037	0.037	0	[NT]	[NT]
S_{KCl}	%w/w S	0.005	Inorg-068	[NT]	36	0.028	0.026	7	[NT]	[NT]
S_{NAS}	%w/w S	0.005	Inorg-068	[NT]	36	0.019	0.022	15	[NT]	[NT]
s-Net Acidity	%w/w S	0.005	Inorg-068	[NT]	36	0.040	0.043	7	[NT]	[NT]
a-Net Acidity	moles H^+/t	5	Inorg-068	[NT]	36	22	23	4	[NT]	[NT]
Liming rate	kg $CaCO_3$/t	0.75	Inorg-068	[NT]	36	2	2	0	[NT]	[NT]
a-Net Acidity without ANCE	moles H^+/t	5	Inorg-068	[NT]	36	22	23	4	[NT]	[NT]
Liming rate without ANCE	kg $CaCO_3$/t	0.75	Inorg-068	[NT]	36	1.7	1.7	0	[NT]	[NT]
s-Net Acidity without ANCE	%w/w S	0.005	Inorg-068	[NT]	36	0.035	0.037	6	[NT]	[NT]

QUALITY CONTROL: Misc Inorg - Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date prepared	-			24/05/2024	2	24/05/2024	24/05/2024		24/05/2024	[NT]
Date analysed	-			29/05/2024	2	30/05/2024	30/05/2024		29/05/2024	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	2	4.4	4.4	0	100	[NT]
Total Organic Carbon in soil/solids	mg/kg	100	INORG-137	<100	2	3100	[NT]		87	[NT]

QUALITY CONTROL: CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	352254-14
Date prepared	-			03/06/2024	2	03/06/2024	03/06/2024		03/06/2024	03/06/2024
Date analysed	-			03/06/2024	2	03/06/2024	03/06/2024		03/06/2024	03/06/2024
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	2	0.8	1	22	88	106
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	2	0.2	0.2	0	104	113
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	2	1.3	1.5	14	86	101
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	2	0.8	0.7	13	115	122

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 352254-1 for Pb and Zn. Therefore a triplicate result has been issued as laboratory sample number 352254-42.
- The laboratory RPD acceptance criteria has been exceeded for 352254-17 for Zn. Therefore a triplicate result has been issued as laboratory sample number 352254-43.

CHROMIUM_SUITE:Samples were out of the recommended holding time for this analysis.

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Note: All samples analysed as received. However, all samples are below the minimum recommended 500mL sample volume as per National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.

Asbestos: A portion of the supplied sample was sub-sampled for asbestos according to ASB-001 asbestos subsampling procedure. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab/MPL recommends supplying 40-60g or 500ml of sample in its own container.
Note: Sample 352254-34 was sub-sampled from a jar provided by the client.

Dioxins analysed by MPL Laboratories. Report no. PFE1917.
Please see attached report.

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
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lab@mpl.com.au
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Certificate of Analysis PFE1917

Client Details

Client	Envirolab (Sydney)
Contact	Results Receivable
Address	12 Ashley St, Chatswood, NSW, 2067

Sample Details

Your Reference	352254
Number of Samples	6 Soil, 3 Swab
Date Samples Received	29/05/2024
Date Instructions Received	29/05/2024

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	13/06/2024
Date of Reissue	20/06/2024 - This report supercedes previous report, see amendment history for details

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Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with *.

Authorisation Details

Results Approved By	Heram Halim, Operations Manager Steven Luong, Senior Chemist Travis Carey, Organics Supervisor
Laboratory Manager	Michael Kubiak

Certificate of Analysis PFE1917

Report Amendment History

Revision	Reason for Amendment
R-01	This report contains samples from job reference 352299.
R-02	This report contains samples from job reference 352254.
R-03	Corrected TEQ reporting.

Certificate of Analysis PFE1917

Samples in this Report

Envirolab ID	Sample ID	Description	Matrix	Date Sampled	Date Received
PFE1917-04	BH102_0.5	352254-1	Soil	21/05/2024	29/05/2024
PFE1917-05	BH103_1.0	352254-5	Soil	22/05/2024	29/05/2024
PFE1917-06	BH105_0.5	352254-10	Soil	21/05/2024	29/05/2024
PFE1917-07	BH106_0.5	352254-13	Soil	22/05/2024	29/05/2024
PFE1917-08	BH107_0.5	352254-17	Soil	21/05/2024	29/05/2024
PFE1917-09	BH109_0.5	352254-21	Soil	20/05/2024	29/05/2024

Certificate of Analysis PFE1917

Inorganics - Moisture (Soil) - Analysed By Envirolab Services Sydney

Envirolab ID	**Units**	**PQL**	PFE1917-04	PFE1917-05	PFE1917-06	PFE1917-07	PFE1917-08
Your Reference			BH102_0.5 352254-1	BH103_1.0 352254-5	BH105_0.5 352254-10	BH106_0.5 352254-13	BH107_0.5 352254-17
Date Sampled			21/05/2024	22/05/2024	21/05/2024	22/05/2024	21/05/2024
Moisture	%	0.10	10	5.7	11	12	8.6

Envirolab ID	**Units**	**PQL**	PFE1917-09
Your Reference			BH109_0.5 352254-21
Date Sampled			20/05/2024
Moisture	%	0.10	17

Certificate of Analysis PFE1917

Dioxins/Furans (Soil)

Envirolab ID: PFE1917-04 **Date Sampled:** 21/05/2024

Client ID: BH102_0.5

Analyte	PQL	Units	Result	WHO-TEF	WHO-TEQ1	WHO-TEQ2	WHO-TEQ3	I-TEF	I-TEQ1	I-TEQ2	I-TEQ3	Recovery
2,3,7,8-TCDD	0.50	pg/g	<0.50	*1*	*0.0*	*0.25*	*0.50*	*1*	*0.0*	*0.25*	*0.50*	*83.4%*
1,2,3,7,8-PeCDD	2.00	pg/g	<2.0	*1*	*0.0*	*1.0*	*2.0*	*0.5*	*0.0*	*0.50*	*1.0*	*93.0%*
1,2,3,4,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*86.2%*
1,2,3,6,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*82.8%*
1,2,3,7,8,9-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	-
1,2,3,4,6,7,8-HpCDD	2.00	pg/g	120	*0.01*	*1.2*	*1.2*	*1.2*	*0.01*	*1.2*	*1.2*	*1.2*	*76.9%*
OCDD	5.00	pg/g	1400	*0.0003*	*0.41*	*0.41*	*0.41*	*0.001*	*1.4*	*1.4*	*1.4*	*81.3%*
2,3,7,8-TCDF	0.50	pg/g	<0.50	*0.1*	*0.0*	*0.025*	*0.050*	*0.1*	*0.0*	*0.025*	*0.050*	*96.9%*
1,2,3,7,8-PeCDF	2.00	pg/g	<2.0	*0.03*	*0.0*	*0.030*	*0.060*	*0.05*	*0.0*	*0.050*	*0.10*	*83.7%*
2,3,4,7,8-PeCDF	2.00	pg/g	<2.0	*0.3*	*0.0*	*0.30*	*0.60*	*0.5*	*0.0*	*0.50*	*1.0*	*90.3%*
1,2,3,4,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*80.9%*
1,2,3,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*86.5%*
1,2,3,7,8,9-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*81.7%*
2,3,4,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*96.9%*
1,2,3,4,6,7,8-HpCDF	2.00	pg/g	57	*0.01*	*0.56*	*0.56*	*0.56*	*0.01*	*0.56*	*0.56*	*0.56*	*75.9%*
1,2,3,4,7,8,9-HpCDF	2.00	pg/g	<2.0	*0.01*	*0.0*	*0.010*	*0.020*	*0.01*	*0.0*	*0.010*	*0.020*	*77.3%*
OCDF	5.00	pg/g	18	*0.0003*	*0.0053*	*0.0053*	*0.0053*	*0.001*	*0.018*	*0.018*	*0.018*	-

Certificate of Analysis PFE1917

Envirolab ID: PFE1917-05 **Date Sampled:** 22/05/2024

Client ID: BH103_1.0

Analyte	PQL	Units	Result	WHO-TEF	WHO-TEQ1	WHO-TEQ2	WHO-TEQ3	I-TEF	I-TEQ1	I-TEQ2	I-TEQ3	Recovery
2,3,7,8-TCDD	0.50	pg/g	<0.50	*1*	*0.0*	*0.25*	*0.50*	*1*	*0.0*	*0.25*	*0.50*	*88.2%*
1,2,3,7,8-PeCDD	2.00	pg/g	<2.0	*1*	*0.0*	*1.0*	*2.0*	*0.5*	*0.0*	*0.50*	*1.0*	*82.9%*
1,2,3,4,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*84.8%*
1,2,3,6,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*89.9%*
1,2,3,7,8,9-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	-
1,2,3,4,6,7,8-HpCDD	2.00	pg/g	7.3	*0.01*	*0.073*	*0.073*	*0.073*	*0.01*	*0.073*	*0.073*	*0.073*	*87.0%*
OCDD	5.00	pg/g	760	*0.0003*	*0.23*	*0.23*	*0.23*	*0.001*	*0.76*	*0.76*	*0.76*	*83.2%*
2,3,7,8-TCDF	0.50	pg/g	<0.50	*0.1*	*0.0*	*0.025*	*0.050*	*0.1*	*0.0*	*0.025*	*0.050*	*77.6%*
1,2,3,7,8-PeCDF	2.00	pg/g	<2.0	*0.03*	*0.0*	*0.030*	*0.060*	*0.05*	*0.0*	*0.050*	*0.10*	*84.2%*
2,3,4,7,8-PeCDF	2.00	pg/g	<2.0	*0.3*	*0.0*	*0.30*	*0.60*	*0.5*	*0.0*	*0.50*	*1.0*	*91.9%*
1,2,3,4,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*85.2%*
1,2,3,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*85.9%*
1,2,3,7,8,9-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*89.9%*
2,3,4,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*89.4%*
1,2,3,4,6,7,8-HpCDF	2.00	pg/g	<2.0	*0.01*	*0.0*	*0.010*	*0.020*	*0.01*	*0.0*	*0.010*	*0.020*	*82.5%*
1,2,3,4,7,8,9-HpCDF	2.00	pg/g	<2.0	*0.01*	*0.0*	*0.010*	*0.020*	*0.01*	*0.0*	*0.010*	*0.020*	*83.1%*
OCDF	5.00	pg/g	<5.0	*0.0003*	*0.0*	*0.00075*	*0.0015*	*0.001*	*0.0*	*0.0025*	*0.0050*	-

Certificate of Analysis PFE1917

Envirolab ID:	PFE1917-06	**Date Sampled:**	21/05/2024
Client ID:	BH105_0.5		

Analyte	PQL	Units	Result	WHO-TEF	WHO-TEQ1	WHO-TEQ2	WHO-TEQ3	I-TEF	I-TEQ1	I-TEQ2	I-TEQ3	Recovery
2,3,7,8-TCDD	0.50	pg/g	<0.50	*1*	*0.0*	*0.25*	*0.50*	*1*	*0.0*	*0.25*	*0.50*	*96.0%*
1,2,3,7,8-PeCDD	2.00	pg/g	<2.0	*1*	*0.0*	*1.0*	*2.0*	*0.5*	*0.0*	*0.50*	*1.0*	*97.4%*
1,2,3,4,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*90.6%*
1,2,3,6,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*95.2%*
1,2,3,7,8,9-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	-
1,2,3,4,6,7,8-HpCDD	2.00	pg/g	21	*0.01*	*0.21*	*0.21*	*0.21*	*0.01*	*0.21*	*0.21*	*0.21*	*86.9%*
OCDD	5.00	pg/g	2300	*0.0003*	*0.68*	*0.68*	*0.68*	*0.001*	*2.3*	*2.3*	*2.3*	*84.7%*
2,3,7,8-TCDF	0.50	pg/g	<0.50	*0.1*	*0.0*	*0.025*	*0.050*	*0.1*	*0.0*	*0.025*	*0.050*	*86.8%*
1,2,3,7,8-PeCDF	2.00	pg/g	<2.0	*0.03*	*0.0*	*0.030*	*0.060*	*0.05*	*0.0*	*0.050*	*0.10*	*84.3%*
2,3,4,7,8-PeCDF	2.00	pg/g	<2.0	*0.3*	*0.0*	*0.30*	*0.60*	*0.5*	*0.0*	*0.50*	*1.0*	*98.7%*
1,2,3,4,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*96.6%*
1,2,3,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*87.6%*
1,2,3,7,8,9-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*89.3%*
2,3,4,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*88.1%*
1,2,3,4,6,7,8-HpCDF	2.00	pg/g	3.9	*0.01*	*0.039*	*0.039*	*0.039*	*0.01*	*0.039*	*0.039*	*0.039*	*83.0%*
1,2,3,4,7,8,9-HpCDF	2.00	pg/g	<2.0	*0.01*	*0.0*	*0.010*	*0.020*	*0.01*	*0.0*	*0.010*	*0.020*	*84.4%*
OCDF	5.00	pg/g	<5.0	*0.0003*	*0.0*	*0.00075*	*0.0015*	*0.001*	*0.0*	*0.0025*	*0.0050*	-

Certificate of Analysis PFE1917

Envirolab ID:	PFE1917-07	**Date Sampled:**	22/05/2024
Client ID:	BH106_0.5		

Analyte	PQL	Units	Result	WHO-TEF	WHO-TEQ1	WHO-TEQ2	WHO-TEQ3	I-TEF	I-TEQ1	I-TEQ2	I-TEQ3	Recovery
2,3,7,8-TCDD	0.50	pg/g	<0.50	1	0.0	0.25	0.50	1	0.0	0.25	0.50	73.2%
1,2,3,7,8-PeCDD	2.00	pg/g	<2.0	1	0.0	1.0	2.0	0.5	0.0	0.50	1.0	70.1%
1,2,3,4,7,8-HxCDD	2.00	pg/g	<2.0	0.1	0.0	0.10	0.20	0.1	0.0	0.10	0.20	75.5%
1,2,3,6,7,8-HxCDD	2.00	pg/g	<2.0	0.1	0.0	0.10	0.20	0.1	0.0	0.10	0.20	68.2%
1,2,3,7,8,9-HxCDD	2.00	pg/g	<2.0	0.1	0.0	0.10	0.20	0.1	0.0	0.10	0.20	-
1,2,3,4,6,7,8-HpCDD	2.00	pg/g	13	0.01	0.13	0.13	0.13	0.01	0.13	0.13	0.13	55.7% [2]
OCDD	5.00	pg/g	580	0.0003	0.17	0.17	0.17	0.001	0.58	0.58	0.58	47.7% [2]
2,3,7,8-TCDF	0.50	pg/g	<0.50	0.1	0.0	0.025	0.050	0.1	0.0	0.025	0.050	73.5%
1,2,3,7,8-PeCDF	2.00	pg/g	<2.0	0.03	0.0	0.030	0.060	0.05	0.0	0.050	0.10	69.8%
2,3,4,7,8-PeCDF	2.00	pg/g	<2.0	0.3	0.0	0.30	0.60	0.5	0.0	0.50	1.0	75.6%
1,2,3,4,7,8-HxCDF	2.00	pg/g	<2.0	0.1	0.0	0.10	0.20	0.1	0.0	0.10	0.20	63.3%
1,2,3,6,7,8-HxCDF	2.00	pg/g	<2.0	0.1	0.0	0.10	0.20	0.1	0.0	0.10	0.20	58.9% [2]
1,2,3,7,8,9-HxCDF	2.00	pg/g	<2.0	0.1	0.0	0.10	0.20	0.1	0.0	0.10	0.20	61.5%
2,3,4,6,7,8-HxCDF	2.00	pg/g	<2.0	0.1	0.0	0.10	0.20	0.1	0.0	0.10	0.20	67.4%
1,2,3,4,6,7,8-HpCDF	2.00	pg/g	<2.0	0.01	0.0	0.010	0.020	0.01	0.0	0.010	0.020	53.4% [2]
1,2,3,4,7,8,9-HpCDF	2.00	pg/g	<2.0	0.01	0.0	0.010	0.020	0.01	0.0	0.010	0.020	52.7% [2]
OCDF	5.00	pg/g	<5.0	0.0003	0.0	0.00075	0.0015	0.001	0.0	0.0025	0.0050	-

Certificate of Analysis PFE1917

Envirolab ID:	PFE1917-08	**Date Sampled:**	21/05/2024
Client ID:	BH107_0.5		

Analyte	PQL	Units	Result	WHO-TEF	WHO-TEQ1	WHO-TEQ2	WHO-TEQ3	I-TEF	I-TEQ1	I-TEQ2	I-TEQ3	Recovery
2,3,7,8-TCDD	0.50	pg/g	<0.50	*1*	*0.0*	*0.25*	*0.50*	*1*	*0.0*	*0.25*	*0.50*	*72.0%*
1,2,3,7,8-PeCDD	2.00	pg/g	<2.0	*1*	*0.0*	*1.0*	*2.0*	*0.5*	*0.0*	*0.50*	*1.0*	*74.1%*
1,2,3,4,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*79.7%*
1,2,3,6,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*75.7%*
1,2,3,7,8,9-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	-
1,2,3,4,6,7,8-HpCDD	2.00	pg/g	12	*0.01*	*0.12*	*0.12*	*0.12*	*0.01*	*0.12*	*0.12*	*0.12*	*71.5%*
OCDD	5.00	pg/g	1200	*0.0003*	*0.36*	*0.36*	*0.36*	*0.001*	*1.2*	*1.2*	*1.2*	*69.2%*
2,3,7,8-TCDF	0.50	pg/g	<0.50	*0.1*	*0.0*	*0.025*	*0.050*	*0.1*	*0.0*	*0.025*	*0.050*	*75.1%*
1,2,3,7,8-PeCDF	2.00	pg/g	<2.0	*0.03*	*0.0*	*0.030*	*0.060*	*0.05*	*0.0*	*0.050*	*0.10*	*73.0%*
2,3,4,7,8-PeCDF	2.00	pg/g	<2.0	*0.3*	*0.0*	*0.30*	*0.60*	*0.5*	*0.0*	*0.50*	*1.0*	*78.5%*
1,2,3,4,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*78.5%*
1,2,3,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*71.9%*
1,2,3,7,8,9-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*68.9%*
2,3,4,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*76.4%*
1,2,3,4,6,7,8-HpCDF	2.00	pg/g	<2.0	*0.01*	*0.0*	*0.010*	*0.020*	*0.01*	*0.0*	*0.010*	*0.020*	*68.4%*
1,2,3,4,7,8,9-HpCDF	2.00	pg/g	<2.0	*0.01*	*0.0*	*0.010*	*0.020*	*0.01*	*0.0*	*0.010*	*0.020*	*67.8%*
OCDF	5.00	pg/g	<5.0	*0.0003*	*0.0*	*0.00075*	*0.0015*	*0.001*	*0.0*	*0.0025*	*0.0050*	-

Certificate of Analysis PFE1917

Envirolab ID: PFE1917-09 **Date Sampled:** 20/05/2024

Client ID: BH109_0.5

Analyte	PQL	Units	Result	WHO-TEF	WHO-TEQ1	WHO-TEQ2	WHO-TEQ3	I-TEF	I-TEQ1	I-TEQ2	I-TEQ3	Recovery
2,3,7,8-TCDD	0.50	pg/g	<0.50	*1*	*0.0*	*0.25*	*0.50*	*1*	*0.0*	*0.25*	*0.50*	*63.9%*
1,2,3,7,8-PeCDD	2.00	pg/g	<2.0	*1*	*0.0*	*1.0*	*2.0*	*0.5*	*0.0*	*0.50*	*1.0*	*62.2%*
1,2,3,4,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*54.2% [2]*
1,2,3,6,7,8-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*47.1% [2]*
1,2,3,7,8,9-HxCDD	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	-
1,2,3,4,6,7,8-HpCDD	2.00	pg/g	6.1	*0.01*	*0.061*	*0.061*	*0.061*	*0.01*	*0.061*	*0.061*	*0.061*	*44.3% [2]*
OCDD	5.00	pg/g	800	*0.0003*	*0.24*	*0.24*	*0.24*	*0.001*	*0.80*	*0.80*	*0.80*	*31.1% [2]*
2,3,7,8-TCDF	0.50	pg/g	<0.50	*0.1*	*0.0*	*0.025*	*0.050*	*0.1*	*0.0*	*0.025*	*0.050*	*70.1%*
1,2,3,7,8-PeCDF	2.00	pg/g	<2.0	*0.03*	*0.0*	*0.030*	*0.060*	*0.05*	*0.0*	*0.050*	*0.10*	*59.1% [2]*
2,3,4,7,8-PeCDF	2.00	pg/g	<2.0	*0.3*	*0.0*	*0.30*	*0.60*	*0.5*	*0.0*	*0.50*	*1.0*	*67.1%*
1,2,3,4,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*54.7% [2]*
1,2,3,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*51.9% [2]*
1,2,3,7,8,9-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*53.0% [2]*
2,3,4,6,7,8-HxCDF	2.00	pg/g	<2.0	*0.1*	*0.0*	*0.10*	*0.20*	*0.1*	*0.0*	*0.10*	*0.20*	*56.8% [2]*
1,2,3,4,6,7,8-HpCDF	2.00	pg/g	<2.0	*0.01*	*0.0*	*0.010*	*0.020*	*0.01*	*0.0*	*0.010*	*0.020*	*37.0% [2]*
1,2,3,4,7,8,9-HpCDF	2.00	pg/g	<2.0	*0.01*	*0.0*	*0.010*	*0.020*	*0.01*	*0.0*	*0.010*	*0.020*	*35.7% [2]*
OCDF	5.00	pg/g	<5.0	*0.0003*	*0.0*	*0.00075*	*0.0015*	*0.001*	*0.0*	*0.0025*	*0.0050*	-

Certificate of Analysis PFE1917

Result Comments

Identifier	Description
[2]	Surrogate recovery was outside routine acceptance criteria (60-140%) due to sample matrix effects. This may be due to the presence of carbon and/or other artefacts. An acceptable recovery was achieved for the LCS surrogates.

Method Summary

Method ID	Methodology Summary
INORG-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
ORG-025	Determination of semi-volatile organic compounds (SVOCs) by GC-MS-MS. Water samples are extracted by LLE and soils/solids/biota using DCM/Acetone/Methanol.
ORG-025_DIOXIN	Water samples are extracted with DCM and concentrated. The extract is analysed by GC-MSMS for Dioxin and Furans. Soils, Biota and Sorbents are solvent extracted, followed by clean-up and GC-MSMS analysis. 1. I -TEQ(zero) and WHO-TEQ(zero) calculated where analyte components that are <PQL are considered to be zero in the TEQ calculation. Where all sample analyte results are <PQL, the calculated sample TEQ = 0, this is due to the calculation being an arithmetic formula and therefore does not reflect the associated PQLs. 2. I -TEQ(0.5) and WHO-TEQ(0.5) calculated where analyte components that are <PQL are considered to be 0.5 * the component PQL in the TEQ calculation. 3. I-TEQ(PQL) and WHO-TEQ(PQL) calculated where analyte components that are <PQL are considered to be equal to the component PQL in the TEQ calculation. 13C12 Rec is the recovery of Isotopically labelled compound added by the Laboratory for quantification and to measure extraction efficiency. I-TEF - International toxic equivalency factor I-TEQ - International toxic equivalence WHO-TEF - World Health Organisation toxic equivalency factor WHO-TEQ - World Health Organisation toxic equivalence TEQ values are rounded to the same number of significant figures as the raw results for consistency and therefore may not calculate out exactly as PQL * TEF, given rounded up or down as appropriate.

Result Definitions

Identifier	Description
NR	Not reported
NEPM	National Environment Protection Measure
NS	Not specified
LCS	Laboratory Control Sample
RPD	Relative Percent Difference
>	Greater than
<	Less than
PQL	Practical Quantitation Limit
INS	Insufficient sample for this test
NA	Test not required
NT	Not tested
DOL	Samples rejected due to particulate overload (air filters only)
RFD	Samples rejected due to filter damage (air filters only)
RUD	Samples rejected due to uneven deposition (air filters only)
##	Indicates a laboratory acceptance criteria outlier, for further details, see Result Comments and/or QC Comments

Quality Control Definitions

Blank

This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, and is determined by processing solvents and reagents in exactly the same manner as for samples.

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.

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.

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.

Duplicate

This is the complete duplicate analysis of a sample from the process batch. The sample selected should be one where the analyte concentration is easily measurable.

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.

General Acceptance Criteria (GAC) - Analyte specific criteria applies for some analytes and is reflected in QC recovery tables.

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 QAQC tables for details (available on request); <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; 60-140% for organics (+/-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 typically insufficient in order to satisfy laboratory QA/QC protocols.

Miscellaneous Information

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. We have taken the sampling date as being the date received at the laboratory.

Two significant figures are reported for the majority of tests and with a high degree of confidence, for results <10*PQL, the second significant figure may be in doubt i.e. has a relatively high degree of uncertainty and is provided for information only.

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 or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS where sediment/solids are included by default.

Urine Analysis - The BEI values listed are taken from the 2022 edition of *TLVs and BEIs Threshold Limits by ACGIH*.

Air volume measurements are not covered by Envirolab's NATA accreditation.

Data Quality Assessment Summary PFE1917

Client Details

Client	Envirolab (Sydney)
Your Reference	352254
Date Issued	20/06/2024

Recommended Holding Time Compliance

No recommended holding time exceedances

Quality Control and QC Frequency

QC Type	Compliant	Details
Blank	Yes	No Outliers
LCS	Yes	No Outliers
Duplicates	Yes	No Outliers
Matrix Spike	No	Matrix Spike Outliers Exist - See detailed list below
Surrogates / Extracted Internal Standards	Yes	No Outliers
QC Frequency	Yes	No Outliers

Surrogates/Extracted Internal Standards, Duplicates and/or Matrix Spikes are not always relevant/applicable to certain analyses and matrices. Therefore, said QC measures are deemed compliant in these situations by default. See Laboratory Acceptance Criteria for more information

Data Quality Assessment Summary PFE1917

Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
1,2,3,4,6,7,8-HpCDD | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,4,6,7,8-HpCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,4,7,8,9-HpCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,4,7,8-HxCDD | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,4,7,8-HxCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,6,7,8-HxCDD | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,6,7,8-HXCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,7,8,9-HxCDD | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,7,8,9-HxCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes

Data Quality Assessment Summary PFE1917

Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,7,8-PeCDD | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
1,2,3,7,8-PeCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
2,3,4,6,7,8-HxCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
2,3,4,7,8-PeCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
2,3,7,8-TCDD | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
2,3,7,8-TCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
OCDD | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
OCDF | Soil	9	20/05/2024	31/05/2024	11/06/2024	Yes
	4	21/05/2024	31/05/2024	10/06/2024	Yes
	6, 8	21/05/2024	31/05/2024	11/06/2024	Yes
	5	22/05/2024	31/05/2024	10/06/2024	Yes
	7	22/05/2024	31/05/2024	11/06/2024	Yes
Moisture | Soil	9	20/05/2024	28/05/2024	29/05/2024	Yes
	4, 6, 8	21/05/2024	28/05/2024	29/05/2024	Yes
	5, 7	22/05/2024	28/05/2024	29/05/2024	Yes

Outliers: Matrix Spike

ORG-025_DIOXIN|Dioxins/Furans (Soil)| Batch BFE5524

Sample ID	Analyte	% Limits	% Recovery
BFE5524-MS1#	OCDD	60 - 140	##[1]

Quality Control PFE1917

ORG-025_DIOXIN | Dioxins/Furans (Soil) | Batch BFE5524

Analyte	Units	PQL	Blank	DUP1 BFE5524-DUP1# Samp | QC | RPD %	LCS %	Spike % BFE5524-MS1#
2,3,7,8-TCDD	pg/g	0.50	<0.50	<0.50 | <0.50 | [NA]	95.7	92.8
Surrogate 13C-2,3,7,8-TCDD	*%*		*75.7*	*83.4 | 88.3*	*115*	*88.8*
2,3,7,8-TCDD WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,7,8-TCDD WHO-TEQ2	pg/g		0.250	0.250 | 0.250 | 0.00	[NA]	[NA]
2,3,7,8-TCDD WHO-TEQ3	pg/g		0.500	0.500 | 0.500 | 0.00	[NA]	[NA]
2,3,7,8-TCDD I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,7,8-TCDD I-TEQ2	pg/g		0.250	0.250 | 0.250 | 0.00	[NA]	[NA]
2,3,7,8-TCDD I-TEQ3	pg/g		0.500	0.500 | 0.500 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDD	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	98.6	96.5
Surrogate 13C-1,2,3,7,8-PeCDD	*%*		*84.5*	*93.0 | 82.5*	*107*	*92.7*
1,2,3,7,8-PeCDD WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8-PeCDD WHO-TEQ2	pg/g		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDD WHO-TEQ3	pg/g		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDD I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8-PeCDD I-TEQ2	pg/g		0.500	0.500 | 0.500 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDD I-TEQ3	pg/g		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDD	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	121	112
Surrogate 13C-1,2,3,4,7,8-HxCDD	*%*		*83.4*	*86.2 | 89.5*	*103*	*91.7*
1,2,3,4,7,8-HxCDD WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8-HxCDD WHO-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDD WHO-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDD I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8-HxCDD I-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDD I-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDD	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	88.8	88.9
Surrogate 13C-1,2,3,6,7,8-HxCDD	*%*		*77.9*	*82.8 | 90.3*	*111*	*88.6*
1,2,3,6,7,8-HxCDD WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,6,7,8-HxCDD WHO-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDD WHO-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDD I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,6,7,8-HxCDD I-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDD I-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDD	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	90.5	85.4
1,2,3,7,8,9-HxCDD WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8,9-HxCDD WHO-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDD WHO-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDD I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8,9-HxCDD I-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDD I-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD	pg/g	2.0	<2.0	116 | 93.8 | 21.1	99.6	84.2
Surrogate 13C-1,2,3,4,6,7,8-HpCDD	*%*		*78.5*	*76.9 | 78.1*	*109*	*91.5*
1,2,3,4,6,7,8-HpCDD WHO-TEQ1	pg/g		0.00	1.16 | 0.938 | 21.1	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD WHO-TEQ2	pg/g		0.0100	1.16 | 0.938 | 21.1	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD WHO-TEQ3	pg/g		0.0200	1.16 | 0.938 | 21.1	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD I-TEQ1	pg/g		0.00	1.16 | 0.938 | 21.1	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD I-TEQ2	pg/g		0.0100	1.16 | 0.938 | 21.1	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD I-TEQ3	pg/g		0.0200	1.16 | 0.938 | 21.1	[NA]	[NA]
OCDD	pg/g	5.0	<5.0	1370 | 1230 | 10.9	108	##[1]
Surrogate 13C-OCDD	*%*		*73.8*	*81.3 | 81.2*	*104*	*86.0*
OCDD WHO-TEQ1	pg/g		0.00	0.412 | 0.370 | 10.8	[NA]	[NA]
OCDD WHO-TEQ2	pg/g		0.000750	0.412 | 0.370 | 10.8	[NA]	[NA]
OCDD WHO-TEQ3	pg/g		0.00150	0.412 | 0.370 | 10.8	[NA]	[NA]
OCDD I-TEQ1	pg/g		0.00	1.37 | 1.23 | 10.8	[NA]	[NA]
OCDD I-TEQ2	pg/g		0.00250	1.37 | 1.23 | 10.8	[NA]	[NA]
OCDD I-TEQ3	pg/g		0.00500	1.37 | 1.23 | 10.8	[NA]	[NA]
2,3,7,8-TCDF	pg/g	0.50	<0.50	<0.50 | <0.50 | [NA]	104	102
Surrogate 13C-2,3,7,8-TCDF	*%*		*79.4*	*96.9 | 94.9*	*103*	*84.6*

Quality Control PFE1917

ORG-025_DIOXIN | Dioxins/Furans (Soil) | Batch BFE5524

Analyte	Units	PQL	Blank	DUP1 BFE5524-DUP1# Samp | QC | RPD %	LCS %	Spike % BFE5524-MS1#
2,3,7,8-TCDF WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,7,8-TCDF WHO-TEQ2	pg/g		0.0250	0.0250 | 0.0250 | 0.00	[NA]	[NA]
2,3,7,8-TCDF WHO-TEQ3	pg/g		0.0500	0.0500 | 0.0500 | 0.00	[NA]	[NA]
2,3,7,8-TCDF I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,7,8-TCDF I-TEQ2	pg/g		0.0250	0.0250 | 0.0250 | 0.00	[NA]	[NA]
2,3,7,8-TCDF I-TEQ3	pg/g		0.0500	0.0500 | 0.0500 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDF	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	94.4	84.3
Surrogate 13C-1,2,3,7,8-PeCDF	*%*		*76.8*	*83.7 | 85.4*	*108*	*91.1*
1,2,3,7,8-PeCDF WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8-PeCDF WHO-TEQ2	pg/g		0.0300	0.0300 | 0.0300 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDF WHO-TEQ3	pg/g		0.0600	0.0600 | 0.0600 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDF I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8-PeCDF I-TEQ2	pg/g		0.0500	0.0500 | 0.0500 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDF I-TEQ3	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
2,3,4,7,8-PeCDF	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	84.5	86.8
Surrogate 13C-2,3,4,7,8-PeCDF	*%*		*79.9*	*90.3 | 89.7*	*118*	*94.1*
2,3,4,7,8-PeCDF WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,4,7,8-PeCDF WHO-TEQ2	pg/g		0.300	0.300 | 0.300 | 0.00	[NA]	[NA]
2,3,4,7,8-PeCDF WHO-TEQ3	pg/g		0.600	0.600 | 0.600 | 0.00	[NA]	[NA]
2,3,4,7,8-PeCDF I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,4,7,8-PeCDF I-TEQ2	pg/g		0.500	0.500 | 0.500 | 0.00	[NA]	[NA]
2,3,4,7,8-PeCDF I-TEQ3	pg/g		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDF	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	91.3	90.1
Surrogate 13C-1,2,3,4,7,8-HxCDF	*%*		*83.1*	*80.9 | 84.0*	*108*	*93.2*
1,2,3,4,7,8-HxCDF WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8-HxCDF WHO-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDF WHO-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDF I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8-HxCDF I-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDF I-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDF	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	90.8	85.9
Surrogate 13C-1,2,3,6,7,8-HxCDF	*%*		*76.1*	*86.5 | 82.4*	*114*	*96.0*
1,2,3,6,7,8-HxCDF WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,6,7,8-HxCDF WHO-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDF WHO-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDF I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,6,7,8-HxCDF I-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDF I-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDF	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	98.1	93.0
Surrogate 13C-1,2,3,7,8,9-HxCDF	*%*		*71.4*	*81.7 | 79.3*	*107*	*91.5*
1,2,3,7,8,9-HxCDF WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8,9-HxCDF WHO-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDF WHO-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDF I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8,9-HxCDF I-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDF I-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
2,3,4,6,7,8-HxCDF	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	96.7	95.9
Surrogate 13C-2,3,4,6,7,8-HxCDF	*%*		*80.8*	*96.9 | 80.1*	*104*	*85.7*
2,3,4,6,7,8-HxCDF WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,4,6,7,8-HxCDF WHO-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
2,3,4,6,7,8-HxCDF WHO-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
2,3,4,6,7,8-HxCDF I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,4,6,7,8-HxCDF I-TEQ2	pg/g		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
2,3,4,6,7,8-HxCDF I-TEQ3	pg/g		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF	pg/g	2.0	<2.0	56.5 | 40.3 | 33.4	96.8	96.7
Surrogate 13C-1,2,3,4,6,7,8-HpCDF	*%*		*78.2*	*75.9 | 77.5*	*105*	*86.3*
1,2,3,4,6,7,8-HpCDF WHO-TEQ1	pg/g		0.00	0.560 | 0.403 | 32.6	[NA]	[NA]

Quality Control PFE1917

ORG-025_DIOXIN | Dioxins/Furans (Soil) | Batch BFE5524

Analyte	Units	PQL	Blank	DUP1 BFE5524-DUP1# Samp | QC | RPD %	LCS %	Spike % BFE5524-MS1#
1,2,3,4,6,7,8-HpCDF WHO-TEQ2	pg/g		0.0100	0.560 | 0.403 | 32.6	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF WHO-TEQ3	pg/g		0.0200	0.560 | 0.403 | 32.6	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF I-TEQ1	pg/g		0.00	0.560 | 0.403 | 32.6	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF I-TEQ2	pg/g		0.0100	0.560 | 0.403 | 32.6	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF I-TEQ3	pg/g		0.0200	0.560 | 0.403 | 32.6	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF	pg/g	2.0	<2.0	<2.0 | <2.0 | [NA]	98.9	89.5
Surrogate 13C-1,2,3,4,7,8,9-HpCDF	*%*		*77.3*	*77.3 | 78.6*	*104*	*87.9*
1,2,3,4,7,8,9-HpCDF WHO-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF WHO-TEQ2	pg/g		0.0100	0.0100 | 0.0100 | 0.00	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF WHO-TEQ3	pg/g		0.0200	0.0200 | 0.0200 | 0.00	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF I-TEQ1	pg/g		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF I-TEQ2	pg/g		0.0100	0.0100 | 0.0100 | 0.00	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF I-TEQ3	pg/g		0.0200	0.0200 | 0.0200 | 0.00	[NA]	[NA]
OCDF	pg/g	5.0	<5.0	17.7 | 13.7 | 25.2	97.3	88.7
OCDF WHO-TEQ1	pg/g		0.00	0.00530 | 0.00411 | 25.2	[NA]	[NA]
OCDF WHO-TEQ2	pg/g		0.000750	0.00530 | 0.00411 | 25.2	[NA]	[NA]
OCDF WHO-TEQ3	pg/g		0.00150	0.00530 | 0.00411 | 25.2	[NA]	[NA]
OCDF I-TEQ1	pg/g		0.00	0.0177 | 0.0137 | 25.2	[NA]	[NA]
OCDF I-TEQ2	pg/g		0.00250	0.0177 | 0.0137 | 25.2	[NA]	[NA]
OCDF I-TEQ3	pg/g		0.00500	0.0177 | 0.0137 | 25.2	[NA]	[NA]

The QC reported was not specifically part of this workorder but formed part of the QC process batch.

Quality Control PFE1917

ORG-025_DIOXIN | Dioxins/Furans (Swab) | Batch BFF0424

Analyte	Units	PQL	Blank	LCS %
2,3,7,8-TCDD	pg/sample	10	<10	90.5
Surrogate 13C-2,3,7,8-TCDD	*%*		*105*	*121*
1,2,3,7,8-PeCDD	pg/sample	50	<50	84.1
Surrogate 13C-1,2,3,7,8-PeCDD	*%*		*99.5*	*107*
1,2,3,4,7,8-HxCDD	pg/sample	50	<50	114
Surrogate 13C-1,2,3,4,7,8-HxCDD	*%*		*99.5*	*106*
1,2,3,6,7,8-HxCDD	pg/sample	50	<50	83.2
Surrogate 13C-1,2,3,6,7,8-HxCDD	*%*		*97.5*	*119*
1,2,3,7,8,9-HxCDD	pg/sample	50	<50	81.7
1,2,3,4,6,7,8-HpCDD	pg/sample	50	<50	80.8
Surrogate 13C-1,2,3,4,6,7,8-HpCDD	*%*		*102*	*107*
OCDD	pg/sample	100	<100	82.0
Surrogate 13C-OCDD	*%*		*96.6*	*120*
2,3,7,8-TCDF	pg/sample	10	<10	88.8
Surrogate 13C-2,3,7,8-TCDF	*%*		*106*	*113*
1,2,3,7,8-PeCDF	pg/sample	50	<50	83.8
Surrogate 13C-1,2,3,7,8-PeCDF	*%*		*92.3*	*107*
2,3,4,7,8-PeCDF	pg/sample	50	<50	93.6
Surrogate 13C-2,3,4,7,8-PeCDF	*%*		*105*	*123*
1,2,3,4,7,8-HxCDF	pg/sample	50	<50	83.0
Surrogate 13C-1,2,3,4,7,8-HxCDF	*%*		*92.7*	*114*
1,2,3,6,7,8-HxCDF	pg/sample	50	<50	78.2
Surrogate 13C-1,2,3,6,7,8-HxCDF	*%*		*97.5*	*131*
1,2,3,7,8,9-HxCDF	pg/sample	50	<50	94.7
Surrogate 13C-1,2,3,7,8,9-HxCDF	*%*		*101*	*120*
2,3,4,6,7,8-HxCDF	pg/sample	50	<50	88.8
Surrogate 13C-2,3,4,6,7,8-HxCDF	*%*		*97.7*	*123*
1,2,3,4,6,7,8-HpCDF	pg/sample	50	<50	78.3
Surrogate 13C-1,2,3,4,6,7,8-HpCDF	*%*		*90.8*	*116*
1,2,3,4,7,8,9-HpCDF	pg/sample	50	<50	74.7
Surrogate 13C-1,2,3,4,7,8,9-HpCDF	*%*		*93.2*	*123*
OCDF	pg/sample	100	<100	79.3

INORG-008 | Inorganics - Moisture (Soil) | Batch BFF0905

Analyte	Units	PQL	Blank	DUP1 BFF0905-DUP1# Samp | QC | RPD %	LCS %
Moisture	%	0.1		10.3 | 10.3 | 0.00	[NA]
% Solids	%	0.1		89.7 | 89.7 | 0.00	[NA]

The QC reported was not specifically part of this workorder but formed part of the QC process batch.

QC Comments

Identifier	Description
[1]	Spike recovery is not applicable due to the relatively high analyte background in the sample (>3* spike level). However, the LCS recovery is within acceptance criteria.

CHAIN OF CUSTODY FORM - Client

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Client Project Name/Number/Site etc (ie report title):
Detailed Site Investigation: 25-27 Leeds St, Rhodes NSW
PO No.: 22148
Envirolab Quote No. :
Date results required:
Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Additional report format: esdat / equis /
Lab Comments:

Sample information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 6a	Dioxins & Furins	PFAS	Asbesots (%w/w)	Combo 3	TRH, BTEX, PAH, Metals	TRH, BTEX	NEPM EILs	Chromium Reducible Sulfur (CrS)	Hold						Provide as much information about the sample as you can
1	BH102	0.5	21/05/2024	S	X	X	X	X												
2	BH102	2	21/05/2024	S					X			X								
3	BH102	4	21/05/2024	S									X							
4	BH102	6	21/05/2024	S									X							
5	BH103	1	22/05/2024	S	X	X	X	X												
6	BH103	3	22/05/2024	S					X											
7	BH103	4	22/05/2024	S					X				X							
8	BH103	6	22/05/2024	S									X							
9	BH103	7	22/05/2024	S										X						
10	BH105	0.5	21/05/2024	S	X	X	X	X												
11	BH105	3	21/05/2024	S					X											
12	BH105	4	21/05/2024	S									X							
13	BH106	0.5	22/05/2024	S	X	X	X	X												
14	BH106	2	22/05/2024	S					X			X								
15	BH106	3	22/05/2024	S									X							
16	BH106	6	22/05/2024	S									X							
17	BH107	0.5	21/05/2024	S	X	X	X	X												
18	BH107	3	21/05/2024	S					X											
19	BH107	4	21/05/2024	S									X							
20	BH108	0.3	23/05/2024	S	X			X												
21	BH109	0.3	20/05/2024	S	X	X	X	X												
22	BH109	1	20/05/2024	S					X											
23	BH109	2	20/05/2024	S									X							
24	BH110	0.25	20/05/2024	S	X		X	X												
25	BH110	1	20/05/2024	S					X											
26	BH111	0.5	23/05/2024	S	X		X	X												
27	BH111	2	23/05/2024	S					X											
28	BH112	0.3	20/05/2024	S	X		X	X												
29	BH112	1	20/05/2024	S					X											
30	BH113	0.5	20/05/2024	S	X			X												
31	BH113	2	20/05/2024	S					X											
32	BH114	0.5	20/05/2024	S	X		X	X												
33	BH114	1	20/05/2024	S					X				X							
34	BH115	0.2	23/05/2024	S	X			X												
35	BH115	1	23/05/2024	S					X											
36	BH115	5.1	23/05/2024	S									X							
37	BH115	10.7	23/05/2024	S									X							
38	DUP02	2	21/05/2024	S					X											
S/0	TRIP02	2	21/05/2024	S						X										Pls fwd to ALS
39	DUP03	3	21/05/2024	S					X											
S/0	TRIP03	3	21/05/2024	S						X										Pls fwd to ALS
40	Trip Blank			S							X									
41	Trip Spike			S							X									

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Reditus	**Received by (Company):** ELS SYD	**Lab Use Only**
Print Name: Renee Ashton	**Print Name:** Shann Tok	**Job number:** 35 2254 · **Cooling:** Ice / [✓ Ice pack] / None
Date & Time: 24/05/2024	**Date & Time:** 24/5/24 1620	**Temperature:** 10 · **Security seal:** [✓ Intact] / Broken / None
Signature:	**Signature:** ST	**TAT Req - SAME day / 1 / 2 / 3 / 4 / STD**

Relinquished by ~~Chr~~ ELS SYD
Chris C 27/5/24 1035

Thanh L
27/5/24 1600

Environmental Division
Sydney
Work Order Reference
ES2417505

Telephone : + 61-2-8784 8555

CERTIFICATE OF ANALYSIS

Work Order	: **ES2417505**	Page	: 1 of 6
Client	: **REDITUS CONSULTING PTY LTD.**	Laboratory	: Environmental Division Sydney
Contact	: Toby Scrivener	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	: Detailed Site Investigation: 25-27 Leeds St, Rhodes NSW	Date Samples Received	: 27-May-2024 16:00
Order number	: 22148	Date Analysis Commenced	: 29-May-2024
C-O-C number	: ----	Issue Date	: 03-Jun-2024 15:31
Sampler	: renee Ashton		
Site	:		
Quote number	: EN/333		
No. of samples received	: 2		
No. of samples analysed	: 2		

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
Sanjeshni Jyoti	Senior Chemist Volatiles	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*	**TRIP02**	**TRIP03**	**----**	**----**	**----**
			Sampling date / time	21-May-2024 00:00	21-May-2024 00:00	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2417505-001**	**ES2417505-002**	**--------**	**--------**	**--------**
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**12.2**	**14.3**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	**8**	**8**	----	----	----
Copper	7440-50-8	5	mg/kg	<5	**17**	----	----	----
Lead	7439-92-1	5	mg/kg	**18**	**46**	----	----	----
Nickel	7440-02-0	2	mg/kg	<2	**6**	----	----	----
Zinc	7440-66-6	5	mg/kg	<5	**58**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	----
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	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TRIP02	TRIP03	----	----	----
				Sampling date / time	21-May-2024 00:00	21-May-2024 00:00	----	----	----
	Compound	CAS Number	LOR	Unit	ES2417505-001	ES2417505-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
	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	<50	----	----	----
	C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	----	----
	C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	----	----
^	**C10 - C36 Fraction (sum)**	----	50	mg/kg	<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
	C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	----	----
^	**C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg	<10	<10	----	----	----
	>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	----	----
	>C16 - C34 Fraction	----	100	mg/kg	<100	<100	----	----	----
	>C34 - C40 Fraction	----	100	mg/kg	<100	<100	----	----	----
^	**>C10 - C40 Fraction (sum)**	----	50	mg/kg	<50	<50	----	----	----
^	**>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg	<50	<50	----	----	----
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	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)			*Sample ID*	**TRIP02**	**TRIP03**	----	----	----
			Sampling date / time	21-May-2024 00:00	21-May-2024 00:00	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2417505-001**	**ES2417505-002**	--------	--------	--------
				Result	Result	----	----	----
EP080: BTEXN - Continued								
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**89.6**	**87.5**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**99.1**	**85.6**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**84.1**	**76.8**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**92.7**	**85.4**	----	----	----
Anthracene-d10	1719-06-8	0.5	%	**95.3**	**89.5**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**103**	**95.0**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**79.8**	**79.5**	----	----	----
Toluene-D8	2037-26-5	0.2	%	**75.1**	**80.6**	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**89.0**	**93.1**	----	----	----

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

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2417505**	Page	: 1 of 4
Client	: **REDITUS CONSULTING PTY LTD.**	Laboratory	: Environmental Division Sydney
Contact	: Toby Scrivener	Telephone	: +61-2-8784 8555
Project	: Detailed Site Investigation: 25-27 Leeds St, Rhodes NSW	Date Samples Received	: 27-May-2024
Site	:	Issue Date	: 03-Jun-2024
Sampler	: renee Ashton	No. of samples received	: 2
Order number	: 22148	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, where applicable to the methodology, 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) TRIP02, TRIP03	**21-May-2024**	**----**	----	----	**30-May-2024**	04-Jun-2024	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) TRIP02, TRIP03	**21-May-2024**	**30-May-2024**	18-Nov-2024	✓	**31-May-2024**	18-Nov-2024	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) TRIP02, TRIP03	**21-May-2024**	**30-May-2024**	18-Jun-2024	✓	**03-Jun-2024**	18-Jun-2024	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) TRIP02, TRIP03	**21-May-2024**	**30-May-2024**	04-Jun-2024	✓	**31-May-2024**	09-Jul-2024	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) TRIP02, TRIP03	**21-May-2024**	**29-May-2024**	04-Jun-2024	✓	**29-May-2024**	04-Jun-2024	✓
Soil Glass Jar - Unpreserved (EP071) TRIP02, TRIP03	**21-May-2024**	**30-May-2024**	04-Jun-2024	✓	**31-May-2024**	09-Jul-2024	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) TRIP02, TRIP03	**21-May-2024**	**29-May-2024**	04-Jun-2024	✓	**29-May-2024**	04-Jun-2024	✓
Soil Glass Jar - Unpreserved (EP071) TRIP02, TRIP03	**21-May-2024**	**30-May-2024**	04-Jun-2024	✓	**31-May-2024**	09-Jul-2024	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) TRIP02, TRIP03	**21-May-2024**	**29-May-2024**	04-Jun-2024	✓	**29-May-2024**	04-Jun-2024	✓

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	17	**11.76**	**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	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	**5.88**	**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	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	**5.88**	**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	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	**5.88**	**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	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	**8.33**	**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 (SnCl2) (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 SnCl2 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, Na2SO4 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.

QUALITY CONTROL REPORT

Work Order	: **ES2417505**	Page	: 1 of 8
Client	: **REDITUS CONSULTING PTY LTD.**	Laboratory	: Environmental Division Sydney
Contact	: Toby Scrivener	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	: Detailed Site Investigation: 25-27 Leeds St, Rhodes NSW	Date Samples Received	: 27-May-2024
Order number	: 22148	Date Analysis Commenced	: 29-May-2024
C-O-C number	: ----	Issue Date	: 03-Jun-2024
Sampler	: renee Ashton		
Site	:		
Quote number	: EN/333		
No. of samples received	: 2		
No. of samples analysed	: 2		

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 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
Sanjeshni Jyoti	Senior Chemist Volatiles	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
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

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: 5825491)									
ES2417303-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	21	18	11.2	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	13	11	12.6	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	24	18	28.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	6	6	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	62	57	8.2	0% - 50%
ES2417501-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	16	17.1	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	8	6	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	14	12	17.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	37	21	55.2	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	45	39	14.4	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5825496)									
ES2417314-001	Anonymous	EA055: Moisture Content	----	0.1	%	14.1	14.7	4.2	0% - 20%
ES2417501-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	10.4	10.3	1.5	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5825492)									
ES2417303-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2417501-001	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 (%)***
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5821839)									
ES2417493-001	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	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		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
ES2417448-001	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	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		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: 5821839) - continued									
ES2417448-001	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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5821838)									
ES2417493-001	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
ES2417448-001	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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5822800)									
ES2417505-001	TRIP02	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2417133-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5821838)									
ES2417493-001	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
ES2417448-001	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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5822800)									
ES2417505-001	TRIP02	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2417133-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 5822800)									
ES2417505-001	TRIP02	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
ES2417133-002	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

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: BTEXN (QC Lot: 5822800) - continued									
ES2417133-002	Anonymous	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**

				Method Blank (MB) Report	*Laboratory Control Spike (LCS) Report*			
					Spike	*Spike Recovery (%)*	*Acceptable Limits (%)*	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5825491)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	103	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	124	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	119	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	104	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	104	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	91.5	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5825492)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	94.8	70.0	125
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5821839)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	91.9	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	93.3	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	98.4	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	89.7	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	90.9	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	93.0	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	96.8	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	94.1	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	94.7	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	89.1	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	89.7	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	93.9	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	98.6	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	79.3	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	77.3	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	79.6	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5821838)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	112	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	113	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	114	71.0	129

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	*Laboratory Control Spike (LCS) Report*			
					Spike	*Spike Recovery (%)*	*Acceptable Limits (%)*	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5822800)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	89.5	72.2	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5821838)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	99.2	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	110	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	120	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5822800)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	81.3	72.4	133
EP080: BTEXN (QCLot: 5822800)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	82.3	76.0	124
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	79.2	78.5	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	82.4	77.4	121
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	85.0	78.2	121
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	92.9	81.3	121
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	92.0	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: 5825491)							
ES2417303-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	102	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.3	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	94.4	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	96.7	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	94.5	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.3	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	87.1	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5825492)							
ES2417303-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	97.4	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5821839)							
ES2417448-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	90.9	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	97.7	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: 5821838)							
ES2417448-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	98.8	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	103	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	119	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5822800)							
ES2417133-002	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	92.1	60.4	142
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5821838)							
ES2417448-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	89.2	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	109	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	131	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5822800)							
ES2417133-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	87.0	61.1	142
EP080: BTEXN (QCLot: 5822800)							
ES2417133-002	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	87.9	62.1	122
		EP080: Toluene	108-88-3	2.5 mg/kg	89.6	66.6	119
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	94.7	67.4	123
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	99.8	66.4	121
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	110	70.7	121
		EP080: Naphthalene	91-20-3	2.5 mg/kg	108	61.1	115

Updated: 1/7/24 0732

ENVIROLAB GROUP

CHAIN OF CUSTODY FORM - Client

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National phone number 1300 424 344

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☎ 08 8967 1201 | ✉ darwin@envirolab.com.au

Client: Reditus Consulting
Contact Person: Toby Scrivener
Project Mgr: Toby Scrivener
Sampler: Kyle Sier
Address: Unit 1A, Level 1, 29-33 Waratah Street Kirrawee NSW
Phone: 02 9521 6567 Mob: 0478117515
Email Invoice To: accounts@reditusconsulting.com
tobyscrivener@reditus.com.au
Email Results To: tobyscrivener@reditus.com.au, kylesier@reditusconsulting.com
reditusconsulting@esdat.com.au

Client Project Name/Number/Site etc (ie report title): 22148
PO No.: 22148
Envirolab Quote No. :
Date results required: standard
Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Additional report format: esdat
Lab Comments:

Sample information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3	PFAS Short Suite (Trace)	Cations	Anions	Ionic Balance	Nutrients	Dioxins & Furans									Provide as much information about the sample as you can
1	RMW01	-	30/05/2024	Water	x	x	x	x	x	x	x									
2	RMW02	-	30/05/2024	Water	x		x	x	x	x										
3	RMW03	-	30/05/2024	Water	x		x	x	x	x										
4	RMW04	-	30/05/2024	Water	x	x	x	x	x	x	x									
	RMW05	-	31/05/2024	Water	x		x	x	x	x										
	MW1-B	-	31/05/2024	Water	x	x														
	MW2-B	-	31/05/2024	Water	x	x														
5	MW3-B		30/05/2024	Water	x	x					x									
	MW4-B	-	31/05/2024	Water	x	x														
	EW1	-	31/05/2024	Water	x	x														
	DUP1	-	31/05/2024	Water	x	x														
	TRIP1	-	31/05/2024	Water	x	x														Please forward to ALS
	DUP2	-	31/05/2024	Water		x														
	TRIP2	-	31/05/2024	Water		x														Please forward to ALS
	BLANK	-	31/05/2024	Water	x	x														
				Sample Count	13	12	5	5	5	5	3	0	0	0	0	0	0	0	0	

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Reditus
Print Name: Kyle Sier
Date & Time: 31/05/2024
Signature: K.Sier

Received by (Company): ELS SYD
Print Name: OW
Date & Time: 30/5/24 1810
Signature: OW

Lab Use Only
Job number: 352732-A
Cooling: [✓ Ice] / Ice pack / None
Temperature: 8
Security seal: [✓ Intact] / Broken / None
TAT Req - SAME day / 1 / 2 / 3 / 4 / STD

Anna Bui

From: tobyscrivener@redituscounsulting.com
Sent: Monday, 3 June 2024 10:41 AM
To: 'Kyle Sier'; Samplereceipt
Subject: RE: COC - 22148

1 2

Hi all – further to Kyle's email (below), could I please also add the following to samples RMW01, RMW02, RMW03, RMW04 and RMW05:

3 4

- Dissolved –
    - Aluminium (Al),
    - antimony (Sb),
    - arsenic (As),
    - barium (Ba),
    - beryllium (Be),
    - boron (B),
    - cadmium (Cd),
    - chromium (Cr),
    - cobalt (Co),
    - copper (Cu),
    - iron (Fe),
    - lead (Pb),
    - lithium (Li),
    - manganese (Mn),
    - mercury (Hg),
    - molybdenum (Mo),
    - nickel (Ni),
    - selenium (Se),
    - silica (dissolved SiO_2),
    - silver (Ag),
    - strontium (Sr),
    - uranium (U),
    - vanadium (V),
    - zinc (Zn)
- Alkalinity (bicarbonate, carbonate, hydroxide and total)
- Total dissolved solids (TDS), total hardness

Thanks,

Regards,

352732-A

Toby Scrivener
Principal Environmental Engineer
EIANZ Certified Environmental Practitioner - Site Contamination Specialist

REDITUS

Unit 1A, 29-33 Waratah Street
Kirrawee NSW 2232

Envirolab Services Pty Ltd
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12 Ashley St Chatswood NSW 2067
ph 02 9910 6200   fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 352732-A

Client Details

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

Sample Details

Your Reference	**22148**
Number of Samples	Additional analysis
Date samples received	30/05/2024
Date completed instructions received	03/06/2024

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	13/06/2024
Date of Issue	13/06/2024

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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
Giovanni Agosti, Group Technical Manager
Sean McAlary, Chemist (FAS)
Stuart Chen, Asbestos Approved Identifier/Report coordinator
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		352732-A-1	352732-A-2	352732-A-3	352732-A-4	352732-A-5
Your Reference	UNITS	RMW01	RMW02	RMW03	RMW04	MW3-B
Date Sampled		30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	11/06/2024	11/06/2024	11/06/2024	11/06/2024	11/06/2024
Date analysed	-	11/06/2024	11/06/2024	11/06/2024	11/06/2024	11/06/2024
TRH C_6 - C_9	µg/L	<10	81	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	93	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	47	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	46	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	116	111	117	118	118
Surrogate Toluene-d8	%	99	99	99	98	99
Surrogate 4-Bromofluorobenzene	%	99	99	99	98	98

svTRH (C10-C40) in Water						
Our Reference	UNITS	352732-A-1	352732-A-2	352732-A-3	352732-A-4	352732-A-5
Your Reference		RMW01	RMW02	RMW03	RMW04	MW3-B
Date Sampled		30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	04/06/2024	04/06/2024	04/06/2024	04/06/2024	04/06/2024
Date analysed	-	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH $>C_{10}$ - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH $>C_{10}$ - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH $>C_{16}$ - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH $>C_{34}$ - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	73	87	91	100	79

PAHs in Water						
Our Reference	UNITS	352732-A-1	352732-A-2	352732-A-3	352732-A-4	352732-A-5
Your Reference		RMW01	RMW02	RMW03	RMW04	MW3-B
Date Sampled		30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	04/06/2024	04/06/2024	04/06/2024	04/06/2024	04/06/2024
Date analysed	-	04/06/2024	04/06/2024	04/06/2024	04/06/2024	04/06/2024
Naphthalene	µg/L	<0.1	0.2	<0.1	<0.1	<0.1
Acenaphthylene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	µg/L	<0.1	0.22	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d14	%	62	68	72	76	81

All metals in water-dissolved						
Our Reference		352732-A-1	352732-A-2	352732-A-3	352732-A-4	352732-A-5
Your Reference	UNITS	RMW01	RMW02	RMW03	RMW04	MW3-B
Date Sampled		30/05/2024	30/05/2024	30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024
Date analysed	-	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024
Aluminium-Dissolved	µg/L	9,200	5,600	16,000	100	[NA]
Antimony-Dissolved	µg/L	<1	<1	<1	<1	[NA]
Arsenic-Dissolved	µg/L	4	4	9	3	<1
Barium-Dissolved	µg/L	60	25	96	46	[NA]
Beryllium-Dissolved	µg/L	1	5	6	<0.5	[NA]
Boron-Dissolved	µg/L	1,000	1,600	1,400	2,000	[NA]
Cadmium-Dissolved	µg/L	0.5	0.9	1.1	<0.1	0.1
Chromium-Dissolved	µg/L	3	1	3	<1	<1
Cobalt-Dissolved	µg/L	25	73	92	51	[NA]
Copper-Dissolved	µg/L	<1	12	120	<1	1
Iron-Dissolved	µg/L	120,000	66,000	50,000	31,000	[NA]
Lead-Dissolved	µg/L	3	44	19	<1	<1
Lithium-Dissolved	µg/L	4	21	24	2	[NA]
Manganese-Dissolved	µg/L	480	2,500	2,600	1,900	[NA]
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Molybdenum-Dissolved	µg/L	<1	<1	<1	<1	[NA]
Nickel-Dissolved	µg/L	30	61	130	9	<1
Selenium-Dissolved	µg/L	<1	<1	<1	<1	[NA]
Silver-Dissolved	µg/L	<1	<1	<1	<1	[NA]
Strontium-Dissolved	µg/L	5,200	1,800	2,700	1,000	[NA]
Uranium-Dissolved	µg/L	<0.5	2.0	1.3	<0.5	[NA]
Vanadium-Dissolved	µg/L	5	<1	4	<1	[NA]
Zinc-Dissolved	µg/L	490	420	620	32	32

Ion Balance					
Our Reference		352732-A-1	352732-A-2	352732-A-3	352732-A-4
Your Reference	UNITS	RMW01	RMW02	RMW03	RMW04
Date Sampled		30/05/2024	30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water	Water
Date prepared	-	07/06/2024	07/06/2024	07/06/2024	07/06/2024
Date analysed	-	07/06/2024	07/06/2024	07/06/2024	07/06/2024
Calcium - Dissolved	mg/L	290	91	130	71
Potassium - Dissolved	mg/L	96	120	120	96
Sodium - Dissolved	mg/L	3,200	4,000	5,000	3,100
Magnesium - Dissolved	mg/L	430	310	400	140
Hardness (calc) equivalent $CaCO_3$	mg/L	2,500	1,500	2,000	750
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	140
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	140
Sulphate, SO4	mg/L	980	1,400	1,600	1,200
Chloride, Cl	mg/L	6,500	6,300	8,000	5,000
Ionic Balance	%	-3.0	0	0	-6.0

Miscellaneous Inorganics					
Our Reference		352732-A-1	352732-A-2	352732-A-3	352732-A-4
Your Reference	UNITS	RMW01	RMW02	RMW03	RMW04
Date Sampled		30/05/2024	30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water	Water
Date prepared	-	03/06/2024	03/06/2024	03/06/2024	03/06/2024
Date analysed	-	03/06/2024	03/06/2024	03/06/2024	03/06/2024
Total Dissolved Solids (grav)	mg/L	11,000	12,000	16,000	9,400
Ammonia as N in water	mg/L	0.21	0.13	0.15	0.26
Nitrate as N in water	mg/L	<0.005	0.01	0.02	<0.005
Nitrite as N in water	mg/L	<0.005	<0.005	0.007	<0.005
NOx as N in water	mg/L	<0.005	0.01	0.03	0.008
Total Nitrogen in water	mg/L	1.1	0.3	0.4	0.3
TKN in water	mg/L	1.1	0.3	0.3	0.3
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005	<0.005
Organic Nitrogen as N	mg/L	0.9	<0.2	<0.2	<0.2

Metals in Waters - Acid extractable					
Our Reference		352732-A-1	352732-A-2	352732-A-3	352732-A-4
Your Reference	UNITS	RMW01	RMW02	RMW03	RMW04
Date Sampled		30/05/2024	30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water	Water
Date prepared	-	05/06/2024	05/06/2024	05/06/2024	05/06/2024
Date analysed	-	05/06/2024	05/06/2024	05/06/2024	05/06/2024
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05	<0.05

Metals in Water - Dissolved					
Our Reference		352732-A-1	352732-A-2	352732-A-3	352732-A-4
Your Reference	UNITS	RMW01	RMW02	RMW03	RMW04
Date Sampled		30/05/2024	30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water	Water
Date digested	-	04/06/2024	04/06/2024	04/06/2024	04/06/2024
Date analysed	-	04/06/2024	04/06/2024	04/06/2024	04/06/2024
Silicon*- Dissolved	mg/L	15	12	12	3.7

PFAS in Water TRACE Short				
Our Reference		352732-A-1	352732-A-4	352732-A-5
Your Reference	UNITS	RMW01	RMW04	MW3-B
Date Sampled		30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water
Date prepared	-	05/06/2024	05/06/2024	05/06/2024
Date analysed	-	05/06/2024	05/06/2024	05/06/2024
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.068	<0.0002	0.002
Perfluorooctanesulfonic acid PFOS	µg/L	0.0031	0.0003	0.010
Perfluorooctanoic acid PFOA	µg/L	0.0029	0.0002	0.002
6:2 FTS	µg/L	<0.0004	<0.0004	<0.0004
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	94	95	102
Surrogate $^{13}C_2$ *PFOA*	%	92	92	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	81	82	88
Extracted ISTD $^{13}C_4$ *PFOS*	%	77	83	74
Extracted ISTD $^{13}C_4$ *PFOA*	%	107	100	126
Extracted ISTD$^{13}C_2$ *6:2FTS*	%	153	125	177
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	173	191	#
Total Positive PFHxS & PFOS	µg/L	0.071	0.0003	0.012
Total Positive PFOS & PFOA	µg/L	0.0060	0.0006	0.012
Total Positive PFAS	µg/L	0.074	0.0006	0.014

Dioxins and Furans				
Our Reference		352732-A-1	352732-A-4	352732-A-5
Your Reference	UNITS	RMW01	RMW04	MW3-B
Date Sampled		30/05/2024	30/05/2024	30/05/2024
Type of sample		Water	Water	Water
See attached report		#	#	#

Method ID	Methodology Summary
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C. NOTE: Where the EC of the sample is <100µS/cm, the TDS will typically be below 70mg/L (as the sample is very likely to be at least drinking water quality). Therefore to ensure data quality for TDS, the TDS is typically calculated as per the equation below:- TDS = EC * 0.6
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS. Please note for Bromine and Iodine, any forms of these elements that are present are included together in the one result reported for each of these two elements. Salt forms (e.g. FeO, PbO, ZnO) are determined stoichiometrically from the base metal concentration.
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.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly 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-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

Method ID	Methodology Summary
ORG-038	Water samples are extracted with DCM and concentrated. The extract is analysed by GC/MSMS for selected Dioxin and Furans. Soils and Sorbents are solvent extracted, followed by an extract clean-up and GC/MSMS analysis. 1. I -TEQ(zero) and WHO-TEQ(zero) calculated where analyte components that are <PQL are considered to be zero in the TEQ calculation. Where all sample analyte results are <PQL, the calculated sample TEQ = 0, this is due to the calculation being an arithmetic formula and therefore does not reflect the associated PQLs. 2. I -TEQ(0.5) and WHO-TEQ(0.5) calculated where analyte components that are <PQL are considered to be 0.5 * the component PQL in the TEQ calculation. 3. I-TEQ(PQL) and WHO-TEQ(PQL) calculated where analyte components that are <PQL are considered to be equal to the component PQL in the TEQ calculation. 13C Rec is the recovery of Isotopically labelled compound added by the Laboratory for quantification and to measure extraction efficiency. I-TEF - International toxic equivalency factor I-TEQ - International toxic equivalence WHO-TEF - World Health Organisation toxic equivalency factor WHO-TEQ - World Health Organisation toxic equivalence

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			11/06/2024	[NT]	[NT]	[NT]	[NT]	11/06/2024	[NT]
Date analysed	-			11/06/2024	[NT]	[NT]	[NT]	[NT]	11/06/2024	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	83	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	83	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	82	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	83	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	82	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	109	[NT]	[NT]	[NT]	[NT]	129	[NT]
Surrogate Toluene-d8	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	108	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	106	[NT]

Client Reference: 22148

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	352732-A-2
Date extracted	-			04/06/2024	1	04/06/2024	04/06/2024		04/06/2024	04/06/2024
Date analysed	-			05/06/2024	1	05/06/2024	05/06/2024		05/06/2024	05/06/2024
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	98	92
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	103	97
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	100	80
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	98	92
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	103	97
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	100	80
Surrogate o-Terphenyl	%		Org-020	90	1	73	60	20	113	96

Client Reference: 22148

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	352732-A-2
Date extracted	-			04/06/2024	1	04/06/2024	04/06/2024		04/06/2024	04/06/2024
Date analysed	-			04/06/2024	1	04/06/2024	04/06/2024		04/06/2024	04/06/2024
Naphthalene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	109	120
Acenaphthylene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	115	118
Fluorene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	108	121
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	110	106
Anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	105	103
Pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	103	102
Benzo(a)anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	103	103
Benzo(b,j+k)fluoranthene	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	98
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	85	1	62	62	0	81	78

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	352732-A-2
Date prepared	-			05/06/2024	1	05/06/2024	05/06/2024		05/06/2024	05/06/2024
Date analysed	-			05/06/2024	1	05/06/2024	05/06/2024		05/06/2024	05/06/2024
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	9200	9300	1	96	[NT]
Antimony-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	94	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	4	4	0	101	[NT]
Barium-Dissolved	µg/L	1	Metals-022	<1	1	60	58	3	107	[NT]
Beryllium-Dissolved	µg/L	0.5	Metals-022	<0.5	1	1	1	0	83	[NT]
Boron-Dissolved	µg/L	20	Metals-022	<20	1	1000	1100	10	112	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	0.5	0.5	0	98	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	3	3	0	98	[NT]
Cobalt-Dissolved	µg/L	1	Metals-022	<1	1	25	26	4	103	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	98	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	120000	140000	15	99	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	3	3	0	98	[NT]
Lithium-Dissolved	µg/L	1	Metals-022	<1	1	4	4	0	92	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	480	490	2	97	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	101	77
Molybdenum-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	30	30	0	101	[NT]
Selenium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	98	[NT]
Silver-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	104	[NT]
Strontium-Dissolved	µg/L	1	Metals-022	<1	1	5200	5200	0	99	[NT]
Uranium-Dissolved	µg/L	0.5	Metals-022	<0.5	1	<0.5	<0.5	0	91	[NT]
Vanadium-Dissolved	µg/L	1	Metals-022	<1	1	5	5	0	99	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	490	500	2	98	[NT]

Client Reference: 22148

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			07/06/2024	[NT]	[NT]	[NT]	[NT]	07/06/2024	[NT]
Date analysed	-			07/06/2024	[NT]	[NT]	[NT]	[NT]	07/06/2024	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	105	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	98	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	101	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	102	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	109	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]

Client Reference: 22148

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	352732-A-2
Date prepared	-			03/06/2024	1	03/06/2024	03/06/2024		03/06/2024	03/06/2024
Date analysed	-			03/06/2024	1	03/06/2024	03/06/2024		03/06/2024	03/06/2024
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	11000	[NT]		96	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.21	0.23	9	90	#
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	<0.005	0	95	#
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	<0.005	0	99	#
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	<0.005	0	95	#
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.1	1.1	0	89	[NT]
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	1.1	1.1	0	[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	<0.005	0	107	#
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	<0.2	1	0.9	0.8	12	[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			05/06/2024	1	05/06/2024	05/06/2024		05/06/2024	[NT]
Date analysed	-			05/06/2024	1	05/06/2024	05/06/2024		05/06/2024	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	<0.05	<0.05	0	93	[NT]

QUALITY CONTROL: Metals in Water - Dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date digested	-			04/06/2024	[NT]	[NT]	[NT]	[NT]	04/06/2024	[NT]
Date analysed	-			04/06/2024	[NT]	[NT]	[NT]	[NT]	04/06/2024	[NT]
Silicon*- Dissolved	mg/L	0.2	Metals-020	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: PFAS in Water TRACE Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			05/06/2024	[NT]	[NT]	[NT]	[NT]	05/06/2024	[NT]
Date analysed	-			05/06/2024	[NT]	[NT]	[NT]	[NT]	05/06/2024	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	100	[NT]
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	96	[NT]
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	92	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	95	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	83	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	69	[NT]	[NT]	[NT]	[NT]	75	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD$^{13}C_2$ *6:2FTS*	%		Org-029	175	[NT]	[NT]	[NT]	[NT]	164	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	190	[NT]	[NT]	[NT]	[NT]	186	[NT]

QUALITY CONTROL: Dioxins and Furans					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
See attached report			ORG-038	#	[NT]	[NT]	[NT]	[NT]	[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

NO2/NO3/PO4 - out of recommended holding time

MISC_INORG: # Percent recovery not reported due to matrix interferences. Samples were diluted and reanalysed and the poor recovery was confirmed. However, an acceptable recovery was obtained for the LCS.

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle. Note: there is a possibility some elements may be underestimated.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Dioxins analysed by MPL Laboratories. Report no. PFF0035.

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
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Certificate of Analysis PFF0035

Client Details

Client	Envirolab (Sydney)
Contact	Results Receivable
Address	12 Ashley St, Chatswood, NSW, 2067

Sample Details

Your Reference	352732
Number of Samples	3 Water
Date Samples Received	04/06/2024
Date Instructions Received	04/06/2024

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	13/06/2024
Date of Issue	13/06/2024

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Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with *.

Authorisation Details

Results Approved By	Huong Patfield, Organics Chemist
Laboratory Manager	Michael Kubiak

Certificate of Analysis PFF0035

Samples in this Report

Envirolab ID	Sample ID	Matrix	Date Sampled	Date Received
PFF0035-01	352732-1	Water	04/06/2024	04/06/2024
PFF0035-02	352732-4	Water	04/06/2024	04/06/2024
PFF0035-03	352732-5	Water	04/06/2024	04/06/2024

Sample Comments

General Comment	No sampling date(s) was/were provided by client. Therefore the sampling date(s) is/are assigned as the date(s) of sample receipt to the laboratory.

Certificate of Analysis PFF0035

Dioxins/Furans (Water)

Envirolab ID: PFF0035-01 **Date Sampled:** 04/06/2024

Client ID: 352732-1

Analyte	PQL	Units	Result	WHO-TEF	WHO-TEQ1	WHO-TEQ2	WHO-TEQ3	I-TEF	I-TEQ1	I-TEQ2	I-TEQ3	Recovery
2,3,7,8-TCDD	5.00	pg/L	<5.0	*1*	*0.0*	*2.5*	*5.0*	*1*	*0.0*	*2.5*	*5.0*	*80.2%*
1,2,3,7,8-PeCDD	20.00	pg/L	<20	*1*	*0.0*	*10*	*20*	*0.5*	*0.0*	*5.0*	*10*	*88.9%*
1,2,3,4,7,8-HxCDD	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*83.8%*
1,2,3,6,7,8-HxCDD	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*98.1%*
1,2,3,7,8,9-HxCDD	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	-
1,2,3,4,6,7,8-HpCDD	20.00	pg/L	<20	*0.01*	*0.0*	*0.10*	*0.20*	*0.01*	*0.0*	*0.10*	*0.20*	*87.0%*
OCDD	50.00	pg/L	120	*0.0003*	*0.036*	*0.036*	*0.036*	*0.001*	*0.12*	*0.12*	*0.12*	*86.8%*
2,3,7,8-TCDF	5.00	pg/L	<5.0	*0.1*	*0.0*	*0.25*	*0.50*	*0.1*	*0.0*	*0.25*	*0.50*	*79.4%*
1,2,3,7,8-PeCDF	20.00	pg/L	<20	*0.03*	*0.0*	*0.30*	*0.60*	*0.05*	*0.0*	*0.50*	*1.0*	*84.2%*
2,3,4,7,8-PeCDF	20.00	pg/L	<20	*0.3*	*0.0*	*3.0*	*6.0*	*0.5*	*0.0*	*5.0*	*10*	*91.8%*
1,2,3,4,7,8-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*90.0%*
1,2,3,6,7,8-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*95.4%*
1,2,3,7,8,9-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*91.5%*
2,3,4,6,7,8-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*91.8%*
1,2,3,4,6,7,8-HpCDF	20.00	pg/L	<20	*0.01*	*0.0*	*0.10*	*0.20*	*0.01*	*0.0*	*0.10*	*0.20*	*89.6%*
1,2,3,4,7,8,9-HpCDF	20.00	pg/L	<20	*0.01*	*0.0*	*0.10*	*0.20*	*0.01*	*0.0*	*0.10*	*0.20*	*87.4%*
OCDF	50.00	pg/L	<50	*0.0003*	*0.0*	*0.0075*	*0.015*	*0.001*	*0.0*	*0.025*	*0.050*	-

Certificate of Analysis PFF0035

Envirolab ID: PFF0035-02 **Date Sampled:** 04/06/2024

Client ID: 352732-4

Analyte	PQL	Units	Result	WHO-TEF	WHO-TEQ1	WHO-TEQ2	WHO-TEQ3	I-TEF	I-TEQ1	I-TEQ2	I-TEQ3	Recovery
2,3,7,8-TCDD	5.00	pg/L	<5.0	*1*	*0.0*	*2.5*	*5.0*	*1*	*0.0*	*2.5*	*5.0*	*92.5%*
1,2,3,7,8-PeCDD	20.00	pg/L	<20	*1*	*0.0*	*10*	*20*	*0.5*	*0.0*	*5.0*	*10*	*102%*
1,2,3,4,7,8-HxCDD	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*99.3%*
1,2,3,6,7,8-HxCDD	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*110%*
1,2,3,7,8,9-HxCDD	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	-
1,2,3,4,6,7,8-HpCDD	20.00	pg/L	<20	*0.01*	*0.0*	*0.10*	*0.20*	*0.01*	*0.0*	*0.10*	*0.20*	*107%*
OCDD	50.00	pg/L	<50	*0.0003*	*0.0079*	*0.0079*	*0.0079*	*0.001*	*0.026*	*0.026*	*0.026*	*103%*
2,3,7,8-TCDF	5.00	pg/L	<5.0	*0.1*	*0.0*	*0.25*	*0.50*	*0.1*	*0.0*	*0.25*	*0.50*	*92.6%*
1,2,3,7,8-PeCDF	20.00	pg/L	<20	*0.03*	*0.0*	*0.30*	*0.60*	*0.05*	*0.0*	*0.50*	*1.0*	*100%*
2,3,4,7,8-PeCDF	20.00	pg/L	<20	*0.3*	*0.0*	*3.0*	*6.0*	*0.5*	*0.0*	*5.0*	*10*	*102%*
1,2,3,4,7,8-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*112%*
1,2,3,6,7,8-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*108%*
1,2,3,7,8,9-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*98.2%*
2,3,4,6,7,8-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*105%*
1,2,3,4,6,7,8-HpCDF	20.00	pg/L	<20	*0.01*	*0.0*	*0.10*	*0.20*	*0.01*	*0.0*	*0.10*	*0.20*	*109%*
1,2,3,4,7,8,9-HpCDF	20.00	pg/L	<20	*0.01*	*0.0*	*0.10*	*0.20*	*0.01*	*0.0*	*0.10*	*0.20*	*103%*
OCDF	50.00	pg/L	<50	*0.0003*	*0.0*	*0.0075*	*0.015*	*0.001*	*0.0*	*0.025*	*0.050*	-

Certificate of Analysis PFF0035

Envirolab ID:	PFF0035-03	**Date Sampled:**	04/06/2024
Client ID:	352732-5		

Analyte	PQL	Units	Result	WHO-TEF	WHO-TEQ1	WHO-TEQ2	WHO-TEQ3	I-TEF	I-TEQ1	I-TEQ2	I-TEQ3	Recovery
2,3,7,8-TCDD	5.00	pg/L	<5.0	*1*	*0.0*	*2.5*	*5.0*	*1*	*0.0*	*2.5*	*5.0*	*112%*
1,2,3,7,8-PeCDD	20.00	pg/L	<20	*1*	*0.0*	*10*	*20*	*0.5*	*0.0*	*5.0*	*10*	*112%*
1,2,3,4,7,8-HxCDD	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*120%*
1,2,3,6,7,8-HxCDD	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*124%*
1,2,3,7,8,9-HxCDD	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*-*
1,2,3,4,6,7,8-HpCDD	20.00	pg/L	<20	*0.01*	*0.0*	*0.10*	*0.20*	*0.01*	*0.0*	*0.10*	*0.20*	*113%*
OCDD	50.00	pg/L	57	*0.0003*	*0.017*	*0.017*	*0.017*	*0.001*	*0.057*	*0.057*	*0.057*	*108%*
2,3,7,8-TCDF	5.00	pg/L	<5.0	*0.1*	*0.0*	*0.25*	*0.50*	*0.1*	*0.0*	*0.25*	*0.50*	*116%*
1,2,3,7,8-PeCDF	20.00	pg/L	<20	*0.03*	*0.0*	*0.30*	*0.60*	*0.05*	*0.0*	*0.50*	*1.0*	*118%*
2,3,4,7,8-PeCDF	20.00	pg/L	<20	*0.3*	*0.0*	*3.0*	*6.0*	*0.5*	*0.0*	*5.0*	*10*	*121%*
1,2,3,4,7,8-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*119%*
1,2,3,6,7,8-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*114%*
1,2,3,7,8,9-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*111%*
2,3,4,6,7,8-HxCDF	20.00	pg/L	<20	*0.1*	*0.0*	*1.0*	*2.0*	*0.1*	*0.0*	*1.0*	*2.0*	*119%*
1,2,3,4,6,7,8-HpCDF	20.00	pg/L	<20	*0.01*	*0.0*	*0.10*	*0.20*	*0.01*	*0.0*	*0.10*	*0.20*	*117%*
1,2,3,4,7,8,9-HpCDF	20.00	pg/L	<20	*0.01*	*0.0*	*0.10*	*0.20*	*0.01*	*0.0*	*0.10*	*0.20*	*112%*
OCDF	50.00	pg/L	<50	*0.0003*	*0.0*	*0.0075*	*0.015*	*0.001*	*0.0*	*0.025*	*0.050*	*-*

Method Summary

Method ID	Methodology Summary
ORG-025	Determination of semi-volatile organic compounds (SVOCs) by GC-MS-MS. Water samples are extracted by LLE and soils/solids/biota using DCM/Acetone/Methanol.
ORG-025_DIOXIN	Water samples are extracted with DCM and concentrated. The extract is analysed by GC-MSMS for Dioxin and Furans. Soils, Biota and Sorbents are solvent extracted, followed by clean-up and GC-MSMS analysis. 1. I -TEQ(zero) and WHO-TEQ(zero) calculated where analyte components that are <PQL are considered to be zero in the TEQ calculation. Where all sample analyte results are <PQL, the calculated sample TEQ = 0, this is due to the calculation being an arithmetic formula and therefore does not reflect the associated PQLs. 2. I -TEQ(0.5) and WHO-TEQ(0.5) calculated where analyte components that are <PQL are considered to be 0.5 * the component PQL in the TEQ calculation. 3. I-TEQ(PQL) and WHO-TEQ(PQL) calculated where analyte components that are <PQL are considered to be equal to the component PQL in the TEQ calculation. 13C12 Rec is the recovery of Isotopically labelled compound added by the Laboratory for quantification and to measure extraction efficiency. I-TEF - International toxic equivalency factor I-TEQ - International toxic equivalence WHO-TEF - World Health Organisation toxic equivalency factor WHO-TEQ - World Health Organisation toxic equivalence TEQ values are rounded to the same number of significant figures as the raw results for consistency and therefore may not calculate out exactly as PQL * TEF, given rounded up or down as appropriate.

Result Definitions

Identifier	Description
NR	Not reported
NEPM	National Environment Protection Measure
NS	Not specified
LCS	Laboratory Control Sample
RPD	Relative Percent Difference
>	Greater than
<	Less than
PQL	Practical Quantitation Limit
INS	Insufficient sample for this test
NA	Test not required
NT	Not tested
DOL	Samples rejected due to particulate overload (air filters only)
RFD	Samples rejected due to filter damage (air filters only)
RUD	Samples rejected due to uneven deposition (air filters only)
##	Indicates a laboratory acceptance criteria outlier, for further details, see Result Comments and/or QC Comments

Quality Control Definitions

Blank

This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, and is determined by processing solvents and reagents in exactly the same manner as for samples.

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.

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.

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.

Duplicate

This is the complete duplicate analysis of a sample from the process batch. The sample selected should be one where the analyte concentration is easily measurable.

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.

General Acceptance Criteria (GAC) - Analyte specific criteria applies for some analytes and is reflected in QC recovery tables.

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 QAQC tables for details (available on request); <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; 60-140% for organics (+/-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 typically insufficient in order to satisfy laboratory QA/QC protocols.

Miscellaneous Information

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. We have taken the sampling date as being the date received at the laboratory.

Two significant figures are reported for the majority of tests and with a high degree of confidence, for results <10*PQL, the second significant figure may be in doubt i.e. has a relatively high degree of uncertainty and is provided for information only.

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 or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS where sediment/solids are included by default.

Urine Analysis - The BEI values listed are taken from the 2022 edition of *TLVs and BEIs Threshold Limits by ACGIH*.

Air volume measurements are not covered by Envirolab's NATA accreditation.

Data Quality Assessment Summary PFF0035

Client Details

Client	Envirolab (Sydney)
Your Reference	352732
Date Issued	13/06/2024

Recommended Holding Time Compliance

No recommended holding time exceedances

Quality Control and QC Frequency

QC Type	Compliant	Details
Blank	Yes	No Outliers
LCS	Yes	No Outliers
Duplicates	Yes	No Outliers
Matrix Spike	Yes	No Outliers
Surrogates / Extracted Internal Standards	Yes	No Outliers
QC Frequency	Yes	No Outliers

Surrogates/Extracted Internal Standards, Duplicates and/or Matrix Spikes are not always relevant/applicable to certain analyses and matrices. Therefore, said QC measures are deemed compliant in these situations by default. See Laboratory Acceptance Criteria for more information

Data Quality Assessment Summary PFF0035

Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
1,2,3,4,6,7,8-HpCDD | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,4,6,7,8-HpCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,4,7,8,9-HpCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,4,7,8-HxCDD | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,4,7,8-HxCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,6,7,8-HxCDD | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,6,7,8-HXCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,7,8,9-HxCDD | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,7,8,9-HxCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,7,8-PeCDD | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
1,2,3,7,8-PeCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
2,3,4,6,7,8-HxCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
2,3,4,7,8-PeCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
2,3,7,8-TCDD | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
2,3,7,8-TCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
OCDD | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes
OCDF | Water	1-2	04/06/2024	07/06/2024	12/06/2024	Yes
	3	04/06/2024	07/06/2024	13/06/2024	Yes

No sampling date(s) was/were provided by client. Therefore the sampling date(s) is/are assigned as the date(s) of sample receipt to the laboratory.

Quality Control PFF0035

ORG-025_DIOXIN|Dioxins/Furans (Water) | Batch BFF0816

Analyte	Units	PQL	Blank	DUP1 PFF0035-01 Samp | QC | RPD %	LCS %	Spike % PFF0035-02
2,3,7,8-TCDD	pg/L	5.0	<5.0	<5.0 | <5.0 | [NA]	97.1	98.0
Surrogate 13C-2,3,7,8-TCDD	*%*		*97.9*	*80.2 | 84.3*	*97.1*	*61.2*
2,3,7,8-TCDD WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,7,8-TCDD WHO-TEQ2	pg/L		2.50	2.50 | 2.50 | 0.00	[NA]	[NA]
2,3,7,8-TCDD WHO-TEQ3	pg/L		5.00	5.00 | 5.00 | 0.00	[NA]	[NA]
2,3,7,8-TCDD I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,7,8-TCDD I-TEQ2	pg/L		2.50	2.50 | 2.50 | 0.00	[NA]	[NA]
2,3,7,8-TCDD I-TEQ3	pg/L		5.00	5.00 | 5.00 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDD	pg/L	20	<20	<20 | <20 | [NA]	100	83.0
Surrogate 13C-1,2,3,7,8-PeCDD	*%*		*90.5*	*88.9 | 90.6*	*95.2*	*72.9*
1,2,3,7,8-PeCDD WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8-PeCDD WHO-TEQ2	pg/L		10.0	10.0 | 10.0 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDD WHO-TEQ3	pg/L		20.0	20.0 | 20.0 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDD I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8-PeCDD I-TEQ2	pg/L		5.00	5.00 | 5.00 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDD I-TEQ3	pg/L		10.0	10.0 | 10.0 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDD	pg/L	20	<20	<20 | <20 | [NA]	99.7	75.3
Surrogate 13C-1,2,3,4,7,8-HxCDD	*%*		*102*	*83.8 | 88.7*	*91.9*	*73.9*
1,2,3,4,7,8-HxCDD WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8-HxCDD WHO-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDD WHO-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDD I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8-HxCDD I-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDD I-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDD	pg/L	20	<20	<20 | <20 | [NA]	96.5	73.7
Surrogate 13C-1,2,3,6,7,8-HxCDD	*%*		*89.7*	*98.1 | 101*	*98.8*	*83.2*
1,2,3,6,7,8-HxCDD WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,6,7,8-HxCDD WHO-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDD WHO-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDD I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,6,7,8-HxCDD I-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDD I-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDD	pg/L	20	<20	<20 | <20 | [NA]	96.3	72.2
1,2,3,7,8,9-HxCDD WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8,9-HxCDD WHO-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDD WHO-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDD I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8,9-HxCDD I-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDD I-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD	pg/L	20	<20	<20 | <20 | [NA]	98.2	71.0
Surrogate 13C-1,2,3,4,6,7,8-HpCDD	*%*		*97.1*	*87.0 | 95.4*	*100*	*78.8*
1,2,3,4,6,7,8-HpCDD WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD WHO-TEQ2	pg/L		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD WHO-TEQ3	pg/L		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD I-TEQ2	pg/L		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDD I-TEQ3	pg/L		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
OCDD	pg/L	50	<50	121 | 168 | 32.4	101	70.3
Surrogate 13C-OCDD	*%*		*94.0*	*86.8 | 90.3*	*94.5*	*78.6*
OCDD WHO-TEQ1	pg/L		0.00	0.0363 | 0.0503 | 32.4	[NA]	[NA]
OCDD WHO-TEQ2	pg/L		0.00750	0.0363 | 0.0503 | 32.4	[NA]	[NA]
OCDD WHO-TEQ3	pg/L		0.0150	0.0363 | 0.0503 | 32.4	[NA]	[NA]
OCDD I-TEQ1	pg/L		0.00	0.121 | 0.168 | 32.4	[NA]	[NA]
OCDD I-TEQ2	pg/L		0.0250	0.121 | 0.168 | 32.4	[NA]	[NA]
OCDD I-TEQ3	pg/L		0.0500	0.121 | 0.168 | 32.4	[NA]	[NA]
2,3,7,8-TCDF	pg/L	5.0	<5.0	<5.0 | <5.0 | [NA]	107	103
Surrogate 13C-2,3,7,8-TCDF	*%*		*99.0*	*79.4 | 82.8*	*96.2*	*64.4*

Quality Control PFF0035

ORG-025_DIOXIN | Dioxins/Furans (Water) | Batch BFF0816

Analyte	Units	PQL	Blank	DUP1 PFF0035-01 Samp | QC | RPD %	LCS %	Spike % PFF0035-02
2,3,7,8-TCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,7,8-TCDF WHO-TEQ2	pg/L		0.250	0.250 | 0.250 | 0.00	[NA]	[NA]
2,3,7,8-TCDF WHO-TEQ3	pg/L		0.500	0.500 | 0.500 | 0.00	[NA]	[NA]
2,3,7,8-TCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,7,8-TCDF I-TEQ2	pg/L		0.250	0.250 | 0.250 | 0.00	[NA]	[NA]
2,3,7,8-TCDF I-TEQ3	pg/L		0.500	0.500 | 0.500 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDF	pg/L	20	<20	<20 | <20 | [NA]	101	81.7
Surrogate 13C-1,2,3,7,8-PeCDF	*%*		*95.7*	*84.2 | 89.6*	*94.0*	*74.3*
1,2,3,7,8-PeCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8-PeCDF WHO-TEQ2	pg/L		0.300	0.300 | 0.300 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDF WHO-TEQ3	pg/L		0.600	0.600 | 0.600 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8-PeCDF I-TEQ2	pg/L		0.500	0.500 | 0.500 | 0.00	[NA]	[NA]
1,2,3,7,8-PeCDF I-TEQ3	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
2,3,4,7,8-PeCDF	pg/L	20	<20	<20 | <20 | [NA]	101	86.7
Surrogate 13C-2,3,4,7,8-PeCDF	*%*		*94.9*	*91.8 | 88.9*	*92.3*	*68.2*
2,3,4,7,8-PeCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,4,7,8-PeCDF WHO-TEQ2	pg/L		3.00	3.00 | 3.00 | 0.00	[NA]	[NA]
2,3,4,7,8-PeCDF WHO-TEQ3	pg/L		6.00	6.00 | 6.00 | 0.00	[NA]	[NA]
2,3,4,7,8-PeCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,4,7,8-PeCDF I-TEQ2	pg/L		5.00	5.00 | 5.00 | 0.00	[NA]	[NA]
2,3,4,7,8-PeCDF I-TEQ3	pg/L		10.0	10.0 | 10.0 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDF	pg/L	20	<20	<20 | <20 | [NA]	99.5	68.9
Surrogate 13C-1,2,3,4,7,8-HxCDF	*%*		*90.4*	*90.0 | 94.8*	*95.4*	*77.8*
1,2,3,4,7,8-HxCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8-HxCDF WHO-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDF WHO-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8-HxCDF I-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,4,7,8-HxCDF I-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDF	pg/L	20	<20	<20 | <20 | [NA]	103	61.8
Surrogate 13C-1,2,3,6,7,8-HxCDF	*%*		*89.8*	*95.4 | 96.1*	*96.4*	*86.0*
1,2,3,6,7,8-HxCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,6,7,8-HxCDF WHO-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDF WHO-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,6,7,8-HxCDF I-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,6,7,8-HxCDF I-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDF	pg/L	20	<20	<20 | <20 | [NA]	104	104
Surrogate 13C-1,2,3,7,8,9-HxCDF	*%*		*98.5*	*91.5 | 87.7*	*96.8*	*74.2*
1,2,3,7,8,9-HxCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8,9-HxCDF WHO-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDF WHO-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,7,8,9-HxCDF I-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
1,2,3,7,8,9-HxCDF I-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
2,3,4,6,7,8-HxCDF	pg/L	20	<20	<20 | <20 | [NA]	102	75.4
Surrogate 13C-2,3,4,6,7,8-HxCDF	*%*		*89.8*	*91.8 | 94.2*	*98.2*	*78.2*
2,3,4,6,7,8-HxCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,4,6,7,8-HxCDF WHO-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
2,3,4,6,7,8-HxCDF WHO-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
2,3,4,6,7,8-HxCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
2,3,4,6,7,8-HxCDF I-TEQ2	pg/L		1.00	1.00 | 1.00 | 0.00	[NA]	[NA]
2,3,4,6,7,8-HxCDF I-TEQ3	pg/L		2.00	2.00 | 2.00 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF	pg/L	20	<20	<20 | <20 | [NA]	99.6	66.9
Surrogate 13C-1,2,3,4,6,7,8-HpCDF	*%*		*97.7*	*89.6 | 93.8*	*95.4*	*79.4*
1,2,3,4,6,7,8-HpCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]

Quality Control PFF0035

ORG-025_DIOXIN|Dioxins/Furans (Water) | Batch BFF0816

Analyte	Units	PQL	Blank	DUP1 PFF0035-01 Samp | QC | RPD %	LCS %	Spike % PFF0035-02
1,2,3,4,6,7,8-HpCDF WHO-TEQ2	pg/L		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF WHO-TEQ3	pg/L		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF I-TEQ2	pg/L		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,6,7,8-HpCDF I-TEQ3	pg/L		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF	pg/L	20	<20	<20 | <20 | [NA]	99.8	69.1
Surrogate 13C-1,2,3,4,7,8,9-HpCDF	*%*		*96.3*	*87.4 | 89.2*	*95.8*	*78.9*
1,2,3,4,7,8,9-HpCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF WHO-TEQ2	pg/L		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF WHO-TEQ3	pg/L		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF I-TEQ2	pg/L		0.100	0.100 | 0.100 | 0.00	[NA]	[NA]
1,2,3,4,7,8,9-HpCDF I-TEQ3	pg/L		0.200	0.200 | 0.200 | 0.00	[NA]	[NA]
OCDF	pg/L	50	<50	<50 | <50 | [NA]	101	66.2
OCDF WHO-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
OCDF WHO-TEQ2	pg/L		0.00750	0.00750 | 0.00750 | 0.00	[NA]	[NA]
OCDF WHO-TEQ3	pg/L		0.0150	0.0150 | 0.0150 | 0.00	[NA]	[NA]
OCDF I-TEQ1	pg/L		0.00	0.00 | 0.00 | [NA]	[NA]	[NA]
OCDF I-TEQ2	pg/L		0.0250	0.0250 | 0.0250 | 0.00	[NA]	[NA]
OCDF I-TEQ3	pg/L		0.0500	0.0500 | 0.0500 | 0.00	[NA]	[NA]

CHAIN OF CUSTODY FORM - Client

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Contact Person: Kyle Sier
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Email Invoice to: accounts@redituSconsulting.com

Client Project Name/Number/Site etc (ie report title): 22148
PO No. (if applicable): 22148
Envirolab Quote No. :
Date results required: Microbiological TAT
Or choose: ☐ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day

Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Additional report format: ☐ Esdat ☐ Equis
Lab Comments:

Sample information					Tests Required																	Comments
Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	Faecal Coliforms	Faecal Streptococci	E. Coli	HOLD														Provide as much information about the sample as you can
1	MW4 - B	-	31/5/24	Water				X														
2	MW1 - B	-	↓	↓				X														
3	MW2 - B	-						X														
4	EW1	-						X														
5	RMW05	-			X	X	X															
6	DUP1	-						X														
7	TRIP1	-						X														
8	DUP2	-						X														
9	TRIP2	-						X														
10	BLANK	-	↓	↓				X														

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Reditus Consulting
Print Name: Kyle Sier
Date & Time: 31/5/24 -> 5:59pm
Signature:

Received by (Company): ELS SYD
Print Name: Q.NICIAK.
Date & Time: 3/5/24 1800
Signature:

Lab Use Only
Job number: 352854
Temperature: 10°C
TAT Req - SAME day / 1 / 2 / 3 / 4 / [✓ STD]
Cooling: [✓ Ice] / Ice pack / None
Security seal: [✓ Intact] / Broken / None

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CERTIFICATE OF ANALYSIS 352854

Client Details

Client	Reditus Consulting
Attention	Toby Scrivener, Kyle Sier
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	22148
Number of Samples	10 Water
Date samples received	31/05/2024
Date completed instructions received	31/05/2024

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	07/06/2024
Date of Issue	04/06/2024

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Stuart Chen, Asbestos Approved Identifier/Report coordinator

Authorised By
Nancy Zhang, Laboratory Manager

Microbiologocal Testing		
Our Reference	UNITS	352854-5
Your Reference		RMW05
Date Sampled		31/05/2024
Type of sample		Water
Date of testing	-	01/06/2024
Faecal Coliforms	cfu/100mL	80
E. coli	cfu/100mL	80
Enterococci	cfu/100mL	<1

Method ID	Methodology Summary
Ext-008	Subcontracted to Sonic Food & Water Testing. NATA Accreditation No. 4034.

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

Microbiology analysed by Sonic Food & Water Testing. Report no. W2413062

The time between collection and the commencement of testing should not exceed 24 hours. Samples tested outside this time may have their results compromised.

Updated: 1/7/24 0732

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CHAIN OF CUSTODY FORM - Client

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Client: Reditus Consulting
Contact Person: Toby Scrivener
Project Mgr: Toby Scrivener
Sampler: Kyle Sier
Address: Unit 1A, Level 1, 29-33 Waratah Street Kirrawee NSW
Phone: 02 9521 6567 **Mob:** 0478117515
Email Invoice To: accounts@reditusconsulting.com
tobyscrivener@reditus.com.au
Email Results To: tobyscrivener@reditus.com.au, kylesier@reditusconsulting.com
reditusconsulting@esdat.com.au

Client Project Name/Number/Site etc (ie report title): 22148
PO No.: 22148
Envirolab Quote No. :
Date results required: standard
Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Additional report format: esdat
Lab Comments:

Sample information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3	PFAS Short Suite (Trace)	Cations	Anions	Ionic Balance	Nutrients	Dioxins & Furans									Provide as much information about the sample as you can
	RMW01	-	30/05/2024	Water	x	x	x	x	x	x	x									
	RMW02	-	30/05/2024	Water	x		x	x	x	x										
	RMW03	-	30/05/2024	Water	x		x	x	x	x										
	RMW04	-	30/05/2024	Water	x	x	x	x	x	x	x									
5	RMW05	-	31/05/2024	Water	x		x	x	x	x										
2	MW1-B	-	31/05/2024	Water	x	x														
3	MW2-B	-	31/05/2024	Water	x	x														
	MW3-B		30/05/2024	Water	x	x					x									
1	MW4-B	-	31/05/2024	Water	x	x														
4	EW1	-	31/05/2024	Water	x	x														
6	DUP1	-	31/05/2024	Water	x	x														
7	TRIP1	-	31/05/2024	Water	x	x														Please forward to ALS
8	DUP2	-	31/05/2024	Water		x														
9	TRIP2	-	31/05/2024	Water		x														Please forward to ALS
10	BLANK	-	31/05/2024	Water	x	x														
				Sample Count	13	12	5	5	5	5	3									

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Reditus	**Received by (Company):** ELS MD	***Lab Use Only***
Print Name: Kyle Sier	**Print Name:** O.W	**Job number:** 352854-A **Cooling:** [✓ Ice] / Ice pack / None
Date & Time: 31/05/2024	**Date & Time:** 31/5/24 1800	**Temperature:** 10 **Security seal:** [✓ Intact] / Broken / None
Signature: K.Sier	**Signature:** OW	**TAT Req - SAME day / 1 / 2 / 3 / 4 / STD**

From: tobyscrivener@reditusconsulting.com
Sent: Monday, 3 June 2024 10:41 AM
To: 'Kyle Sier'; Samplereceipt
Subject: RE: COC - 22148

Hi all – further to Kyle's email (below), could I please also add the following to samples RMW01, RMW02, RMW03, RMW04 and RMW05:

5

- Dissolved –
    - Aluminium (Al),
    - antimony (Sb),
    - arsenic (As),
    - barium (Ba),
    - beryllium (Be),
    - boron (B),
    - cadmium (Cd),
    - chromium (Cr),
    - cobalt (Co),
    - copper (Cu),
    - iron (Fe),
    - lead (Pb),
    - lithium (Li),
    - manganese (Mn),
    - mercury (Hg),
    - molybdenum (Mo),
    - nickel (Ni),
    - selenium (Se),
    - silica (dissolved SiO_2),
    - silver (Ag),
    - strontium (Sr),
    - uranium (U),
    - vanadium (V),
    - zinc (Zn)
- Alkalinity (bicarbonate, carbonate, hydroxide and total)
- Total dissolved solids (TDS), total hardness

Thanks,

Regards,

352854-A

Toby Scrivener
Principal Environmental Engineer
EIANZ Certified Environmental Practitioner - Site Contamination Specialist

REDITUS

Unit 1A, 29-33 Waratah Street
Kirrawee NSW 2232

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12 Ashley St Chatswood NSW 2067
ph 02 9910 6200   fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 352854-A

Client Details

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

Sample Details

Your Reference	**22148**
Number of Samples	Additional analysis
Date samples received	31/05/2024
Date completed instructions received	03/06/2024

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	11/06/2024
Date of Issue	11/06/2024

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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
Giovanni Agosti, Group Technical Manager
Jack Wallis, Chemist (FAS)
Loren Bardwell, Development Chemist
Sean McAlary, Chemist (FAS)

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		352854-A-1	352854-A-2	352854-A-3	352854-A-4	352854-A-5
Your Reference	UNITS	MW4-B	MW1-B	MW2-B	EW1	RMW05
Date Sampled		31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	11/06/2024	11/06/2024	11/06/2024	11/06/2024	11/06/2024
Date analysed	-	11/06/2024	11/06/2024	11/06/2024	11/06/2024	11/06/2024
TRH C_6 - C_9	µg/L	47	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	50	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	50	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	106	112	112	111	112
Surrogate Toluene-d8	%	90	94	94	94	94
Surrogate 4-Bromofluorobenzene	%	105	107	107	106	106

vTRH(C6-C10)/BTEXN in Water			
Our Reference		352854-A-6	352854-A-10
Your Reference	UNITS	DUP1	BLANK
Date Sampled		31/05/2024	31/05/2024
Type of sample		Water	Water
Date extracted	-	11/06/2024	11/06/2024
Date analysed	-	11/06/2024	11/06/2024
TRH C_6 - C_9	µg/L	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10
Benzene	µg/L	<1	<1
Toluene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
m+p-xylene	µg/L	<2	<2
o-xylene	µg/L	<1	<1
Naphthalene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	112	112
Surrogate Toluene-d8	%	93	94
Surrogate 4-Bromofluorobenzene	%	107	107

svTRH (C10-C40) in Water						
Our Reference	UNITS	352854-A-1	352854-A-2	352854-A-3	352854-A-4	352854-A-5
Your Reference		MW4-B	MW1-B	MW2-B	EW1	RMW05
Date Sampled		31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	04/06/2024	04/06/2024	04/06/2024	04/06/2024	04/06/2024
Date analysed	-	04/06/2024	04/06/2024	04/06/2024	04/06/2024	04/06/2024
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	61	93	77	80	75

svTRH (C10-C40) in Water			
Our Reference	UNITS	352854-A-6	352854-A-10
Your Reference		DUP1	BLANK
Date Sampled		31/05/2024	31/05/2024
Type of sample		Water	Water
Date extracted	-	11/06/2024	04/06/2024
Date analysed	-	11/06/2024	04/06/2024
TRH C_{10} - C_{14}	µg/L	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50
Surrogate o-Terphenyl	%	76	71

PAHs in Water						
Our Reference	UNITS	352854-A-1	352854-A-2	352854-A-3	352854-A-4	352854-A-5
Your Reference		MW4-B	MW1-B	MW2-B	EW1	RMW05
Date Sampled		31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	04/06/2024	04/06/2024	04/06/2024	04/06/2024	04/06/2024
Date analysed	-	04/06/2024	04/06/2024	04/06/2024	04/06/2024	04/06/2024
Naphthalene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d14	%	65	83	74	83	82

PAHs in Water			
Our Reference		352854-A-6	352854-A-10
Your Reference	UNITS	DUP1	BLANK
Date Sampled		31/05/2024	31/05/2024
Type of sample		Water	Water
Date extracted	-	04/06/2024	04/06/2024
Date analysed	-	04/06/2024	04/06/2024
Naphthalene	µg/L	<0.1	<0.1
Acenaphthylene	µg/L	<0.1	<0.1
Acenaphthene	µg/L	<0.1	<0.1
Fluorene	µg/L	<0.1	<0.1
Phenanthrene	µg/L	<0.1	<0.1
Anthracene	µg/L	<0.1	<0.1
Fluoranthene	µg/L	<0.1	<0.1
Pyrene	µg/L	<0.1	<0.1
Benzo(a)anthracene	µg/L	<0.1	<0.1
Chrysene	µg/L	<0.1	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2	<0.2
Benzo(a)pyrene	µg/L	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5	<0.5
Total +ve PAH's	µg/L	<0.1	<0.1
Surrogate p-Terphenyl-d14	%	76	70

All metals in water-dissolved						
Our Reference	UNITS	352854-A-1	352854-A-2	352854-A-3	352854-A-4	352854-A-5
Your Reference		MW4-B	MW1-B	MW2-B	EW1	RMW05
Date Sampled		31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024
Date analysed	-	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024
Aluminium-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	60
Antimony-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	<1
Arsenic-Dissolved	µg/L	<1	2	2	<1	<1
Barium-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	50
Beryllium-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	3
Boron-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	60
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Cobalt-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	91
Copper-Dissolved	µg/L	2	<1	<1	<1	<1
Iron-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	48,000
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Lithium-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	36
Manganese-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	4,300
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Molybdenum-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	<1
Nickel-Dissolved	µg/L	<1	2	25	120	94
Selenium-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	<1
Silver-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	<1
Strontium-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	88
Uranium-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	<0.5
Vanadium-Dissolved	µg/L	[NA]	[NA]	[NA]	[NA]	<1
Zinc-Dissolved	µg/L	7	9	4	68	400

All metals in water-dissolved			
Our Reference		352854-A-6	352854-A-10
Your Reference	UNITS	DUP1	BLANK
Date Sampled		31/05/2024	31/05/2024
Type of sample		Water	Water
Date prepared	-	05/06/2024	05/06/2024
Date analysed	-	05/06/2024	05/06/2024
Arsenic-Dissolved	µg/L	2	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1
Copper-Dissolved	µg/L	<1	<1
Lead-Dissolved	µg/L	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05
Nickel-Dissolved	µg/L	2	<1
Zinc-Dissolved	µg/L	6	<1

Ion Balance		
Our Reference		352854-A-5
Your Reference	UNITS	RMW05
Date Sampled		31/05/2024
Type of sample		Water
Date prepared	-	07/06/2024
Date analysed	-	07/06/2024
Calcium - Dissolved	mg/L	10
Potassium - Dissolved	mg/L	7.8
Sodium - Dissolved	mg/L	850
Magnesium - Dissolved	mg/L	120
Hardness (calc) equivalent $CaCO_3$	mg/L	520
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	75
Carbonate Alkalinity as $CaCO_3$	mg/L	<5
Total Alkalinity as $CaCO_3$	mg/L	75
Sulphate, SO4	mg/L	310
Chloride, Cl	mg/L	1,500
Ionic Balance	%	-3.0

Miscellaneous Inorganics		
Our Reference		352854-A-5
Your Reference	UNITS	RMW05
Date Sampled		31/05/2024
Type of sample		Water
Date prepared	-	03/06/2024
Date analysed	-	03/06/2024
Total Dissolved Solids (grav)	mg/L	3,100
Ammonia as N in water	mg/L	0.016
Nitrate as N in water	mg/L	0.31
Nitrite as N in water	mg/L	0.021
NOx as N in water	mg/L	0.3
Total Nitrogen in water	mg/L	0.5
TKN in water	mg/L	0.2
Phosphate as P in water	mg/L	<0.005
Organic Nitrogen as N	mg/L	<0.2

Metals in Waters - Acid extractable		
Our Reference		352854-A-5
Your Reference	UNITS	RMW05
Date Sampled		31/05/2024
Type of sample		Water
Date prepared	-	04/06/2024
Date analysed	-	04/06/2024
Phosphorus - Total	mg/L	<0.05

Metals in Water - Dissolved		
Our Reference	UNITS	352854-A-5
Your Reference		RMW05
Date Sampled		31/05/2024
Type of sample		Water
Date digested	-	04/06/2024
Date analysed	-	04/06/2024
Silicon*- Dissolved	mg/L	11

PFAS in Water TRACE Short						
Our Reference	UNITS	352854-A-1	352854-A-2	352854-A-3	352854-A-4	352854-A-6
Your Reference		MW4-B	MW1-B	MW2-B	EW1	DUP1
Date Sampled		31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024
Date analysed	-	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0039	0.0081	0.001	<0.0002	0.0074
Perfluorooctanesulfonic acid PFOS	µg/L	0.013	0.001	0.002	<0.0002	0.001
Perfluorooctanoic acid PFOA	µg/L	0.018	0.0023	0.0020	<0.0002	0.0021
6:2 FTS	µg/L	<0.0004	0.0007	0.0007	<0.0004	0.0005
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	92	114	97	107	95
Surrogate $^{13}C_2$ *PFOA*	%	89	91	95	92	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	84	70	83	81	79
Extracted ISTD $^{13}C_4$ *PFOS*	%	89	71	84	69	82
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	91	98	105	98
Extracted ISTD$^{13}C_2$ *6:2FTS*	%	125	102	157	94	156
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	164	92	164	120	186
Total Positive PFHxS & PFOS	µg/L	0.017	0.0094	0.0032	<0.0002	0.0085
Total Positive PFOS & PFOA	µg/L	0.031	0.0035	0.0038	<0.0002	0.0031
Total Positive PFAS	µg/L	0.035	0.012	0.0060	<0.0002	0.011

PFAS in Water TRACE Short			
Our Reference		352854-A-8	352854-A-10
Your Reference	UNITS	DUP2	BLANK
Date Sampled		31/05/2024	31/05/2024
Type of sample		Water	Water
Date prepared	-	05/06/2024	05/06/2024
Date analysed	-	05/06/2024	05/06/2024
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.0002	<0.0002
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	<0.0002
Perfluorooctanoic acid PFOA	µg/L	<0.0002	<0.0002
6:2 FTS	µg/L	<0.0004	<0.0004
8:2 FTS	µg/L	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	112	97
Surrogate $^{13}C_2$ *PFOA*	%	90	96
Extracted ISTD $^{18}O_2$ *PFHxS*	%	80	91
Extracted ISTD $^{13}C_4$ *PFOS*	%	76	84
Extracted ISTD $^{13}C_4$ *PFOA*	%	105	130
Extracted ISTD$^{13}C_2$ *6:2FTS*	%	103	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	117	#
Total Positive PFHxS & PFOS	µg/L	0.0002	<0.0002
Total Positive PFOS & PFOA	µg/L	0.0002	<0.0002
Total Positive PFAS	µg/L	0.0002	<0.0002

Method ID	Methodology Summary
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C. NOTE: Where the EC of the sample is <100µS/cm, the TDS will typically be below 70mg/L (as the sample is very likely to be at least drinking water quality). Therefore to ensure data quality for TDS, the TDS is typically calculated as per the equation below:- TDS = EC * 0.6
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS. Please note for Bromine and Iodine, any forms of these elements that are present are included together in the one result reported for each of these two elements. Salt forms (e.g. FeO, PbO, ZnO) are determined stoichiometrically from the base metal concentration.
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.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly 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-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			11/06/2024	[NT]	[NT]	[NT]	[NT]	11/06/2024	[NT]
Date analysed	-			11/06/2024	[NT]	[NT]	[NT]	[NT]	11/06/2024	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	94	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	97	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	107	[NT]	[NT]	[NT]	[NT]	123	[NT]
Surrogate Toluene-d8	%		Org-023	95	[NT]	[NT]	[NT]	[NT]	94	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	107	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	352854-A-2
Date extracted	-			04/06/2024	1	04/06/2024	04/06/2024		04/06/2024	04/06/2024
Date analysed	-			04/06/2024	1	04/06/2024	04/06/2024		04/06/2024	04/06/2024
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	114	97
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	104	98
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	100	82
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	114	97
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	104	98
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	100	82
Surrogate o-Terphenyl	%		Org-020	89	1	61	70	14	88	99

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	352854-A-2
Date extracted	-			04/06/2024	1	04/06/2024	04/06/2024		04/06/2024	04/06/2024
Date analysed	-			04/06/2024	1	04/06/2024	04/06/2024		04/06/2024	04/06/2024
Naphthalene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	109	118
Acenaphthylene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	115	118
Fluorene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	108	118
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	110	102
Anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	105	100
Pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	103	100
Benzo(a)anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	103	103
Benzo(b,j+k)fluoranthene	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	94
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	85	1	65	75	14	81	75

QUALITY CONTROL: All metals in water-dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date prepared	-			05/06/2024	1	05/06/2024	05/06/2024		05/06/2024	[NT]
Date analysed	-			05/06/2024	1	05/06/2024	05/06/2024		05/06/2024	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	96	[NT]
Antimony-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		101	[NT]
Barium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Beryllium-Dissolved	µg/L	0.5	Metals-022	<0.5	[NT]	[NT]	[NT]	[NT]	83	[NT]
Boron-Dissolved	µg/L	20	Metals-022	<20	[NT]	[NT]	[NT]	[NT]	112	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	[NT]		98	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		98	[NT]
Cobalt-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	[NT]		98	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	99	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		98	[NT]
Lithium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	[NT]	[NT]	[NT]	[NT]	97	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	101	[NT]
Molybdenum-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		101	[NT]
Selenium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Silver-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Strontium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Uranium-Dissolved	µg/L	0.5	Metals-022	<0.5	[NT]	[NT]	[NT]	[NT]	91	[NT]
Vanadium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	7	[NT]		98	[NT]

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			07/06/2024	[NT]	[NT]	[NT]	[NT]	07/06/2024	[NT]
Date analysed	-			07/06/2024	[NT]	[NT]	[NT]	[NT]	07/06/2024	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	105	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	98	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	101	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	102	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	109	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]

Client Reference: 22148

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			03/06/2024	[NT]	[NT]	[NT]	[NT]	03/06/2024	[NT]
Date analysed	-			03/06/2024	[NT]	[NT]	[NT]	[NT]	03/06/2024	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	[NT]	[NT]	[NT]	[NT]	96	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	[NT]	[NT]	[NT]	[NT]	92	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	[NT]	[NT]	[NT]	[NT]	97	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	[NT]	[NT]	[NT]	[NT]	99	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	[NT]	[NT]	[NT]	[NT]	97	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
TKN in water	mg/L	0.1	Inorg-062	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	[NT]	[NT]	[NT]	[NT]	99	[NT]
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			04/06/2024	[NT]	[NT]	[NT]	[NT]	04/06/2024	[NT]
Date analysed	-			04/06/2024	[NT]	[NT]	[NT]	[NT]	04/06/2024	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	96	[NT]

Client Reference: 22148

QUALITY CONTROL: Metals in Water - Dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date digested	-			04/06/2024	[NT]	[NT]	[NT]	[NT]	04/06/2024	[NT]
Date analysed	-			04/06/2024	[NT]	[NT]	[NT]	[NT]	04/06/2024	[NT]
Silicon*- Dissolved	mg/L	0.2	Metals-020	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: PFAS in Water TRACE Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			05/06/2024	[NT]	[NT]	[NT]	[NT]	05/06/2024	[NT]
Date analysed	-			05/06/2024	[NT]	[NT]	[NT]	[NT]	05/06/2024	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	94	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	100	[NT]
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	91	[NT]
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	83	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	69	[NT]	[NT]	[NT]	[NT]	74	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD$^{13}C_2$ *6:2FTS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	127	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	149	[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

NO2/NO3/PO4 - out of recommended holding time

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle. Note: there is a possibility some elements may be underestimated.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Updated: 1/7/24 0732

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ENVIROLAB GROUP
ENVIROLAB SERVICES
mpl

CHAIN OF CUSTODY FORM - Client

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16-18 Hayden Crt, Myaree, WA 6154
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25 Research Drive, Croydon South, VIC 3136
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Brisbane Office - Envirolab Services
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Darwin Office - Envirolab Services
Unit 7, 17 Willes Rd, Berrimah, NT 0820
☏ 08 8967 1201 | darwin@envirolab.com.au

Client: Reditus Consulting
Contact Person: Toby Scrivener
Project Mgr: Toby Scrivener
Sampler: Kyle Sier
Address: Unit 1A, Level 1, 29-33 Waratah Street Kirrawee NSW
Phone: 02 9521 6567 Mob: 0478117515
Email Invoice To: accounts@reditusconsulting.com, tobyscrivener@reditus.com.au
Email Results To: tobyscrivener@reditus.com.au, kylesier@reditusconsulting.com, reditusconsulting@esdat.com.au

Client Project Name/Number/Site etc (ie report title): 22148
PO No.: 22148
Envirolab Quote No. :
Date results required: standard
Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Additional report format: esdat
Lab Comments:

Sample information					Tests Required							Comments
Envirolab Sample ID	Client Sample ID or Information	Depth	Date sampled	Type of sample	Combo 3	PFAS Short Suite (Trace)	Cations	Anions	Ionic Balance	Nutrients	Dioxins & Furans	
	RMW01	-	30/05/2024	Water	x	x	x	x	x	x	x	
	RMW02	-	30/05/2024	Water	x		x	x	x	x		
	RMW03	-	30/05/2024	Water	x		x	x	x	x		
	RMW04	-	30/05/2024	Water	x	x	x	x	x	x	x	
5	RMW05	-	31/05/2024	Water	x		x	x	x	x		
2	MW1-B	-	31/05/2024	Water	x	x						
3	MW2-B	-	31/05/2024	Water	x	x						
	MW3-B	-	30/05/2024	Water	x	x					x	
1	MW4-B	-	31/05/2024	Water	x	x						
4	EW1	-	31/05/2024	Water	x	x						
6	DUP1	-	31/05/2024	Water	x	x						
7	TRIP1	-	31/05/2024	Water	x	x						
8	DUP2	-	31/05/2024	Water		x						Please forward to ALS
9	TRIP2	-	31/05/2024	Water		x						
10	BLANK	-	31/05/2024	Water	x	x						Please forward to ALS
				Sample Count	13	12	5	5	5	5	3	

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Environmental Division
Sydney
Work Order Reference
ES2418204

Telephone : + 61-2-8784 8555

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Reditus
Print Name: Kyle Sier
Date & Time: 31/05/2024
Signature: K.Sier

ELS SYD
Christine Ho
3/6/24 1130

Received by (Company): ELS SYD
Print Name: O.W
Date & Time: 31/5/24 1800
Signature: OW

Lab Use Only
Job number: 352854-A
Temperature: 10
TAT Req - SAME day / 1 / 2 / 3 / 4 / STD
Cooling: [✓ Ice] / Ice pack / None
Security seal: [✓ Intact] / Broken / None

Rec:
3/6/24
1705

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2418204**

Client	: **REDITUS CONSULTING PTY LTD.**	Laboratory	: Environmental Division Sydney
Contact	: Toby Scrivener	Contact	: Customer Services ES
Address	: 1A/29-33 Waratah Street KIRRAWEE	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: tobyscrivener@reditusconsulting.com.au	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: 22148	Page	: 1 of 3
Order number	: 22148	Quote number	: EP2023REDITUS0001 (EN/333)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	:		
Sampler	: KYLE SIER		

Dates

Date Samples Received	: 03-Jun-2024 17:05	Issue Date	: 03-Jun-2024
Client Requested Due Date	: 12-Jun-2024	Scheduled Reporting Date	: **12-Jun-2024**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 10.8, 5.6, 7.6'C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 2 / 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
- **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: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231 PFAS - Short Suite (12 analytes)	WATER - W-26 TRH/BTEXN/PAH/8 Metals
ES2418204-001	31-May-2024 00:00	TRIP1	✓	✓
ES2418204-002	31-May-2024 00:00	TRIP2	✓	

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
Esdat Deliverables		
- EDI Format - ESDAT (ESDAT)	Email	reditusconsulting@esdat.com.au
KYLE SIER		
- *AU Certificate of Analysis - NATA (COA)	Email	kylesier@reditusconsulting.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kylesier@reditusconsulting.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kylesier@reditusconsulting.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	kylesier@reditusconsulting.com
- Chain of Custody (CoC) (COC)	Email	kylesier@reditusconsulting.com
- EDI Format - ENMRG (ENMRG)	Email	kylesier@reditusconsulting.com
- EDI Format - ESDAT (ESDAT)	Email	kylesier@reditusconsulting.com
REDITUS		
- EDI Format - ESDAT (ESDAT)	Email	reditusconsulting@esdat.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
- A4 - AU Tax Invoice (INV)	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

CERTIFICATE OF ANALYSIS

Work Order : **ES2418204**
Client : **REDITUS CONSULTING PTY LTD.**
Contact : Toby Scrivener
Address : 1A/29-33 Waratah Street
KIRRAWEE
Telephone : ----
Project : 22148
Order number : 22148
C-O-C number : ----
Sampler : KYLE SIER
Site :
Quote number : EN/333
No. of samples received : 2
No. of samples analysed : 2

Page : 1 of 7
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-Jun-2024 17:05
Date Analysis Commenced : 04-Jun-2024
Issue Date : 12-Jun-2024 16:59

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
Franco Lentini	LCMS 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.

- EP075 (SIM): Where reported, 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.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- 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.
- EP231X: PFAS results for sample ES2418204-001 confirmed by re-extraction and re-analysis.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			*Sample ID*	**TRIP1**	**TRIP2**	----	----	----
			Sampling date / time	31-May-2024 00:00	31-May-2024 00:00	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2418204-001**	**ES2418204-002**	--------	--------	--------
				Result	Result	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	**0.002**	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	TRIP1	TRIP2	----	----	----
			Sampling date / time	31-May-2024 00:00	31-May-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2418204-001	ES2418204-002	--------	--------	--------
				Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	**0.03**	<0.02	----	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Sample ID	**TRIP1**	**TRIP2**	----	----	----
			Sampling date / time	31-May-2024 00:00	31-May-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit	**ES2418204-001**	**ES2418204-002**	--------	--------	--------
				Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	**0.04**	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.07**	<0.01	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	**26.1**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	**47.1**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	**41.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**59.3**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%	**58.8**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	**60.9**	----	----	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			*Sample ID*	**TRIP1**	**TRIP2**	**----**	**----**	**----**
			Sampling date / time	31-May-2024 00:00	31-May-2024 00:00	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2418204-001**	**ES2418204-002**	**--------**	**--------**	**--------**
				Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**101**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	2	%	**97.1**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%	**93.3**	**----**	**----**	**----**	**----**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**105**	**106**	**----**	**----**	**----**
13C8-PFOA	----	0.02	%	**101**	**104**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	*CAS Number*	*Recovery Limits (%)*	
		Low	***High***
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	143
Toluene-D8	2037-26-5	75	131
4-Bromofluorobenzene	460-00-4	73	137
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2418204**	Page	: 1 of 6
Client	: **REDITUS CONSULTING PTY LTD.**	Laboratory	: Environmental Division Sydney
Contact	: Toby Scrivener	Telephone	: +61-2-8784 8555
Project	: 22148	Date Samples Received	: 03-Jun-2024
Site	:	Issue Date	: 12-Jun-2024
Sampler	: KYLE SIER	No. of samples received	: 2
Order number	: 22148	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, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	11	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	17	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	11	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	11	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	17	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	11	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

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: **WATER**

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*
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) TRIP1	**31-May-2024**	**----**	----	----	**07-Jun-2024**	27-Nov-2024	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) TRIP1	**31-May-2024**	**----**	----	----	**11-Jun-2024**	28-Jun-2024	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) TRIP1	**31-May-2024**	**04-Jun-2024**	07-Jun-2024	✓	**06-Jun-2024**	14-Jul-2024	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) TRIP1	**31-May-2024**	**04-Jun-2024**	07-Jun-2024	✓	**07-Jun-2024**	14-Jul-2024	✓
Clear glass VOC vial - HCl (EP080) TRIP1	**31-May-2024**	**04-Jun-2024**	14-Jun-2024	✓	**04-Jun-2024**	14-Jun-2024	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) TRIP1	**31-May-2024**	**04-Jun-2024**	07-Jun-2024	✓	**07-Jun-2024**	14-Jul-2024	✓
Clear glass VOC vial - HCl (EP080) TRIP1	**31-May-2024**	**04-Jun-2024**	14-Jun-2024	✓	**04-Jun-2024**	14-Jun-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method ***Container*** */ Client Sample ID(s)*	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP080: BTEXN							
Clear glass VOC vial - HCl (EP080) TRIP1	**31-May-2024**	**04-Jun-2024**	14-Jun-2024	✓	**04-Jun-2024**	14-Jun-2024	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) TRIP1, TRIP2	**31-May-2024**	**05-Jun-2024**	27-Nov-2024	✓	**11-Jun-2024**	27-Nov-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) TRIP1, TRIP2	**31-May-2024**	**05-Jun-2024**	27-Nov-2024	✓	**11-Jun-2024**	27-Nov-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) TRIP1, TRIP2	**31-May-2024**	**05-Jun-2024**	27-Nov-2024	✓	**11-Jun-2024**	27-Nov-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) TRIP1, TRIP2	**31-May-2024**	**05-Jun-2024**	27-Nov-2024	✓	**11-Jun-2024**	27-Nov-2024	✓

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: **WATER**

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)							
Dissolved Mercury by FIMS	EG035F	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	11	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	17	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	11	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	11	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	17	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	11	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**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*
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 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	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode 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	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

QUALITY CONTROL REPORT

Work Order	: **ES2418204**	Page	: 1 of 6
Client	: **REDITUS CONSULTING PTY LTD.**	Laboratory	: Environmental Division Sydney
Contact	: Toby Scrivener	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	: 22148	Date Samples Received	: 03-Jun-2024
Order number	: 22148	Date Analysis Commenced	: 04-Jun-2024
C-O-C number	: ----	Issue Date	: 12-Jun-2024
Sampler	: KYLE SIER		
Site	:		
Quote number	: EN/333		
No. of samples received	: 2		
No. of samples analysed	: 2		

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 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
Franco Lentini	LCMS 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: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5842140)									
ES2418202-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.014	0.010	32.2	0% - 50%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.007	<0.005	36.9	No Limit
ES2418260-002	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 5842139)									
ES2418246-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES2418288-003	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5833350)									
WN2406736-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES2418166-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5833350)									
WN2406736-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5833350) - continued									
ES2418166-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5833350)									
WN2406736-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES2418166-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	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: **WATER**

				Method Blank (MB) Report	*Laboratory Control Spike (LCS) Report*			
					Spike	*Spike Recovery (%)*	*Acceptable Limits (%)*	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EG020F: Dissolved Metals by ICP-MS (QCLot: 5842140)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	88.7	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	91.6	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	87.3	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	89.2	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	88.2	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	85.7	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	86.5	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 5842139)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	96.7	83.0	105
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5833287)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	68.9	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	75.4	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	74.3	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	75.6	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	72.2	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	73.2	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	68.1	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	71.3	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	72.8	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	77.3	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	67.4	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	80.1	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	72.7	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	71.1	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	73.4	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	71.0	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5833285)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	63.6	53.7	97.0
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	107	63.3	107
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	103	58.3	120

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5833350)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	93.3	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5833285)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	69.3	53.9	95.5
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	105	57.8	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	101	50.5	115
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5833350)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	90.9	75.0	127
EP080: BTEXN (QCLot: 5833350)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	94.4	68.3	119
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	93.1	73.5	120
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	91.1	73.8	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	89.5	73.0	122
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	87.9	76.4	123
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	108	75.5	124
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5836674)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	92.2	72.0	130
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	91.9	68.0	131
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	99.6	65.0	140
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5836674)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	102	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.2	71.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5836674)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	85.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	86.5	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	82.7	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	87.4	71.4	144

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: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 5842140)							
ES2418204-001	TRIP1	EG020A-F: Arsenic	7440-38-2	1 mg/L	83.2	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	88.6	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	83.7	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	87.2	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	76.9	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	90.2	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	87.7	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 5842139)							
ES2418210-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	84.0	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5833350)							
ES2418166-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	73.3	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5833350)							
ES2418166-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	71.0	70.0	130
EP080: BTEXN (QCLot: 5833350)							
ES2418166-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	90.4	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	87.2	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	87.4	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	86.9	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	89.1	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	105	70.0	130

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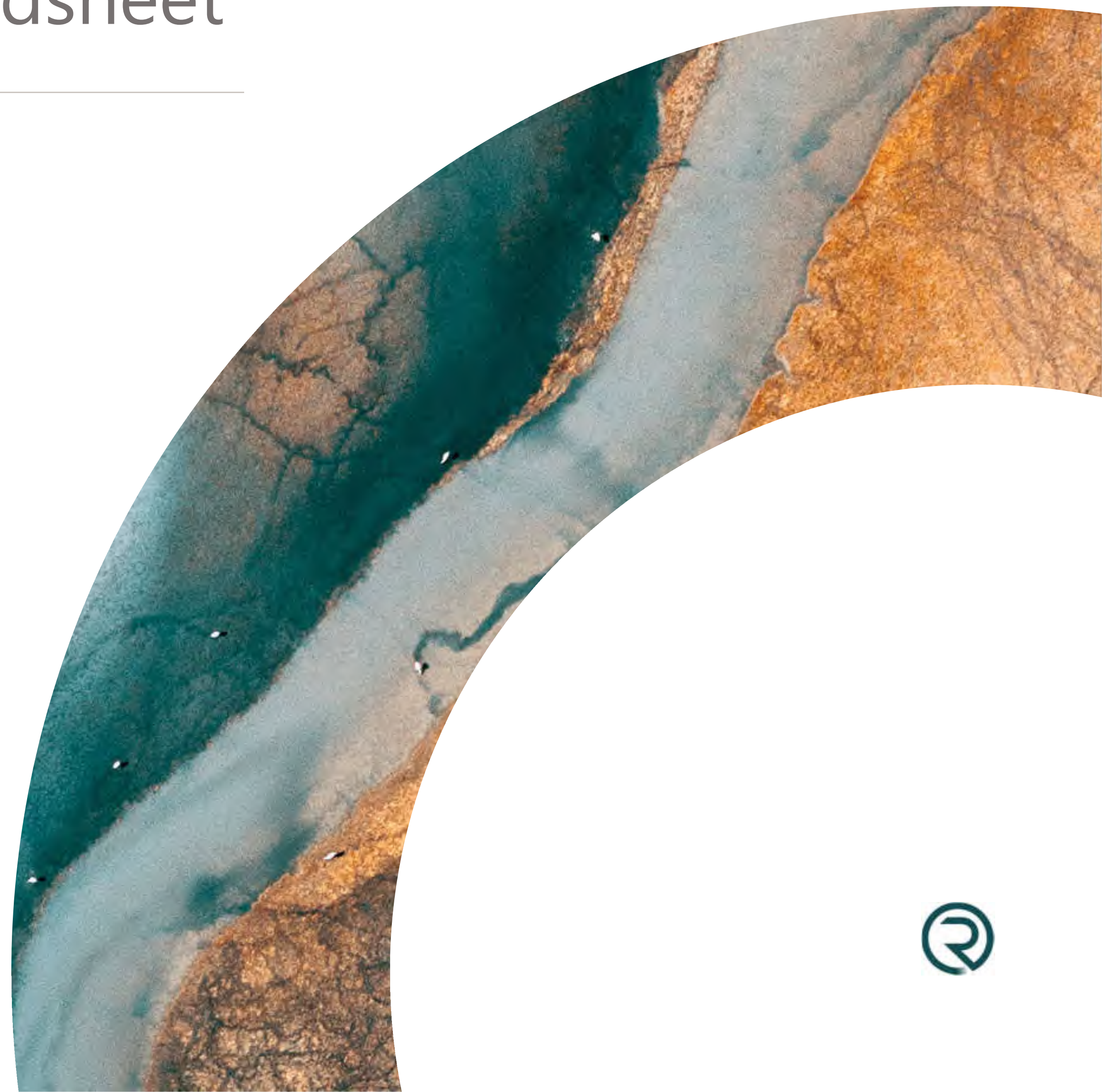
EIL Calculation Spreadsheet



Inputs
Select contaminant from list below
As
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	Arsenic generic EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	20	40
Urban residential and open public spaces	50	100
Commercial and industrial	80	160

Inputs

Select contaminant from list below

Cr_III

Below needed to calculate fresh and aged ACLs

Enter % clay (values from 0 to 100%)

12.28

Below needed to calculate fresh and aged ABCs

Measured background concentration (mg/kg). Leave blank if no measured value

or for fresh ABCs only

Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration

7

or for aged ABCs only

Enter State (or closest State)

NSW

Enter traffic volume (high or low)

low

Outputs

Land use	Cr III soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	130	150
Urban residential and open public spaces	250	430
Commercial and industrial	360	720

Inputs
Select contaminant from list below
Cu
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
3
Enter soil pH (calcium chloride method) (values from 1 to 14)
4.65
Enter organic carbon content (%OC) (values from 0 to 50%)
0.285
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Cu soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	25	25
Urban residential and open public spaces	30	40
Commercial and industrial	35	45

Inputs
Select contaminant from list below
DDT
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	DDT generic EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	3	3
Urban residential and open public spaces	180	180
Commercial and industrial	640	640

Inputs
Select contaminant from list below
Naphthalene
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	Naphthalene generic EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	10	10
Urban residential and open public spaces	170	170
Commercial and industrial	370	370

Inputs
Select contaminant from list below
Ni
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
3
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

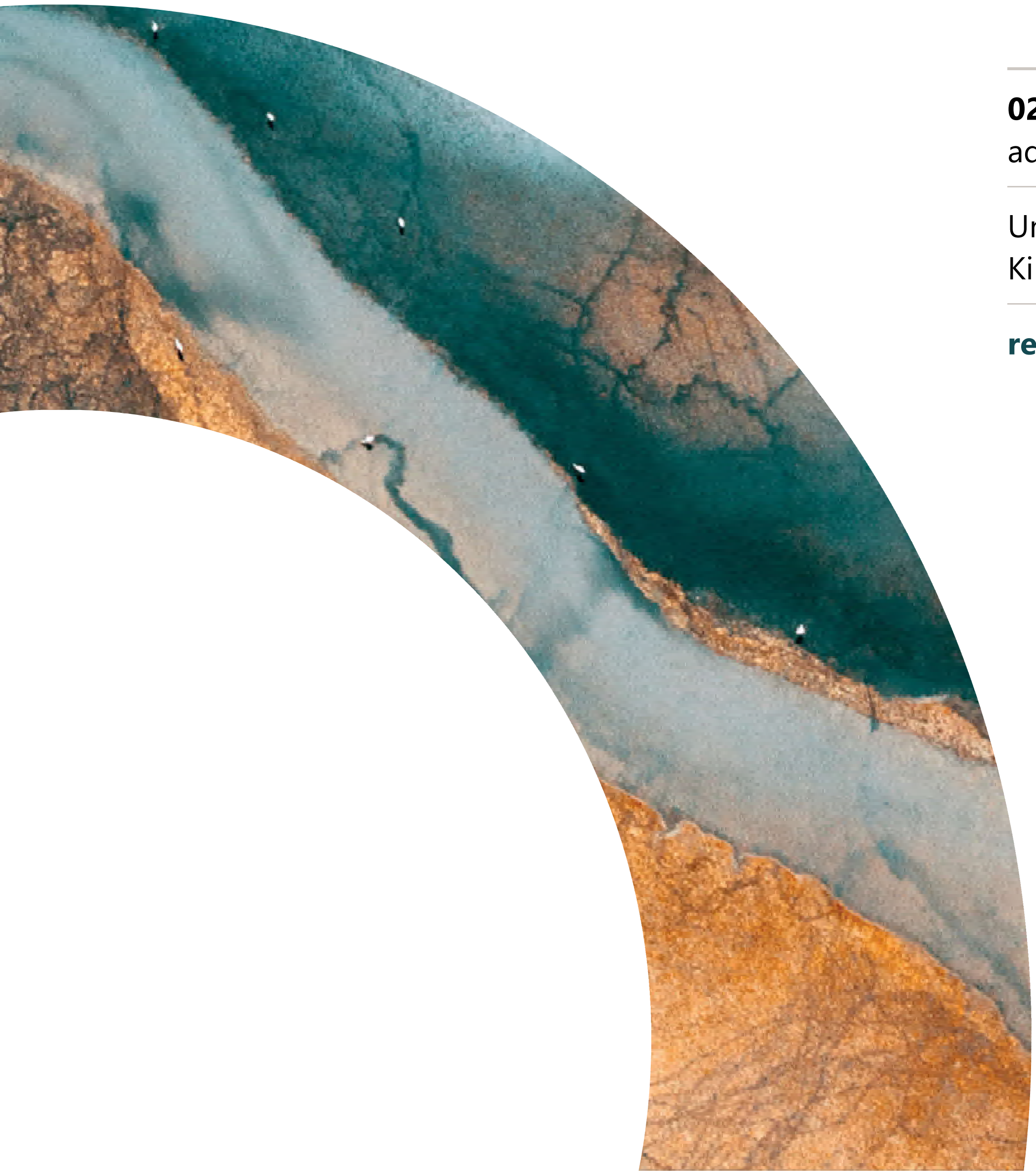
Outputs		
Land use	Ni soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	25	7
Urban residential and open public spaces	30	15
Commercial and industrial	35	20

Inputs
Select contaminant from list below
Pb
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	Lead generic EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	110	470
Urban residential and open public spaces	270	1100
Commercial and industrial	440	1800

Inputs
Select contaminant from list below
Zn
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
3
Enter soil pH (calcium chloride method) (values from 1 to 14)
4.65
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Zn soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	40	95
Urban residential and open public spaces	60	150
Commercial and industrial	80	190



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