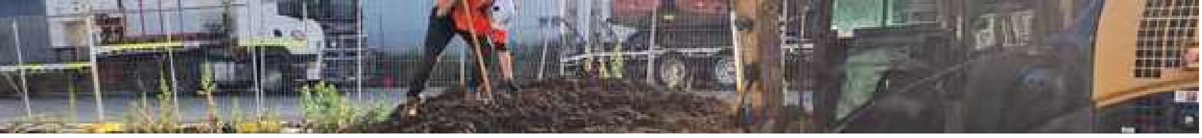

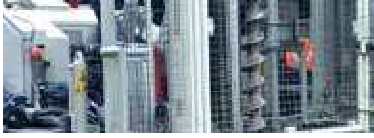

Detailed site investigation

46-52 Raymond Avenue, Matraville NSW

September 2020

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Detailed site investigation

46-52 Raymond Avenue, Matraville, NSW

Report Number

J200432 DSI

Client

Epsom Enterprises

Date

10 September 2020

Version

v2 Final

Prepared by	**Approved by**
Lachlan Lewis	**Susan Dillon**
Environmental Scientist	Associate
10 September 2020	10 September 2020

Executive Summary

EMM Consulting Pty Limited (EMM) was engaged by Epsom Enterprises (Epsom) to undertake a Detailed Site Investigation (DSI) at a property known as 42-52 Raymond Avenue, Matraville, NSW (the Site). Epsom intends to divest the Site and required assessment of contamination as part of vendor due diligence.

The Site comprises approximately 2 hectares of land in a generally industrial area. A large building previously located at Site was demolished in May/June 2020 and only the concrete slab remains. A small area of exposed soil is present at the western boundary of the Site, between the concrete slab and a stormwater channel (the Bunnerong Stormwater Channel No. 11, off-site).

Investigations undertaken by others identified that the Site was developed in the 1950s and has been occupied by paper and packaging manufacturing operations.

During the DSI, EMM identified four underground storage tanks (USTs) and associated infrastructure at the western boundary of the Site. Three of the USTs contained black oily product while the fourth contained rubble and glass. In the vicinity of the UPSS, oil was observed to be seeping through the stormwater channel brickwork and an oily sheen was observed on the surface of water in this area.

EMM completed 30 soil sampling locations across the Site and installed three groundwater monitoring wells in the vicinity of the UPSS. Soil and/or groundwater sampling locations could not be installed to the west (down-gradient) of the UPSS due to access constraints around a steep embankment.

The results indicate that the Site is underlain by shallow fill material which contained concentrations of lead (at one location) and B(a)P (at another location) greater than the assessment criteria for commercial/industrial land use within the southern portion of the Site. The calculated 95% upper confidence limit (UCL) for both CoPC was less than the SAC. Therefore, this contamination is not considered to be widespread or significant.

Asbestos was detected in fill material in the south-east corner of the Site and was observed at five other locations across the Site. It is considered possible that the asbestos observed could be associated with the former building on-site (which was reported to contain asbestos and has since been demolished) or could be attributable to imported fill materials. Given that most of the Site is covered by a concrete slab, the detection of asbestos in fill material is not considered to present a significant risk to future Site users, provided a management plan is in place for any future construction works where the slab may be penetrated. However, at the western Site boundary where exposed soils are present, further management measures such as a capping layer may need to be installed to prevent unintended exposure of asbestos containing material (ACM). EMM notes that a surface clearance was provided for asbestos on the western ground surfaces however, ACM fragments were observed during the DSI fieldwork.

Soil and groundwater investigation locations to the north, east and south of the UPSS did not identify significant contamination and therefore impacts, if present, are considered to be localised to the western (down-gradient) side.

Development of a remediation strategy and associated environmental management measures are required for the redundant UPSS infrastructure under relevant legislation. EMM notes heritage considerations associated with the Bunnerong Stormwater Channel No 11 adjacent to the remediation area must be incorporated into the remedial strategy.

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Appendices

Tables

Figures

1 Introduction

1.1 Introduction and background

EMM Consulting Pty Limited (EMM) was engaged by Epsom Enterprises (Epsom) to undertake a Detailed Site Investigation (DSI) at a property known as 42-52 Raymond Avenue, Matraville, NSW (the Site). The Site location is shown on Figure 1.1. Epsom intends to divest the Site and required assessment of contamination as part of vendor due diligence.

A preliminary site investigation (PSI) and limited DSI (JBS&G 2019a) and a Hazardous Building Materials Survey (HBMS) (JBS&G 2019b) were undertaken at the Site in 2019. Following these investigations, data gaps remaining at the Site included:

- the location of a 3,000 gallon underground storage tank (UST) was unknown. Additionally, the 3,000 gallon UST, a 1,000 gallon UST, a liquid petroleum gas (LPG) tank and a former substation were not specifically targeted during the PSI and limited DSI as the results of a SafeWork NSW Dangerous Goods search were not received before field work was undertaken;

- the number of soil sampling locations across the Site was less than the recommended minimum number in accordance with the NSW EPA Sampling Design Guidelines, which recommends a minimum of 30 sampling locations for a 2-hectare (ha) site; and

- the nature and extent of groundwater contamination beneath the Site was not assessed. The Site is located within the Orica Botany Groundwater Extraction Exclusion Area (GEEA) and therefore the potential exposure pathways associated with groundwater contamination would likely be limited to vapour migration, which was assessed as part of the PSI and limited DSI. However, there is also a potential for contaminant sources at the Site (USTs, transformer, etc) to be sources of groundwater contamination.

The PSI and limited DSI and HMBS are discussed in more detail in Section 2.3.

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Source: EMM (2020); Nearmap (2020); DFSI (2017); GA (2011); ASGC (2006)

KEY

▭ Site boundary

═ Major road

— Minor road

— Watercourse/drainage line

INSET KEY

— Main road

🟩 NPWS reserve

🟩 State forest

Site location

42-52 Raymond Avenue, Matraville NSW
Vendor due diligence detailed site investigation
Figure 1.1

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1.2 Objectives

The objective of this DSI was to assess the nature and extent of contamination at the Site, in accordance with the requirements of the National Environment Protection Council (NEPC) National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended in 2013 (the ASC NEPM).

1.3 Scope of work

To achieve the project objective, EMM undertook the following scope of work:

- preparation of health and safety documentation, obtaining dial before you dig (DBYD) plans and clearance of proposed sampling locations for subsurface services;
- completion of a ground penetrating radar (GPR) survey to identify subsurface anomalies that may represent the location(s) of the USTs;
- drilling of 25 boreholes up to 5.5 metres (m) below ground level (bgl) and collection of soil samples. The boreholes were targeted to the potential USTs as well as providing general coverage across the Site;
- conversion of 3 boreholes to groundwater monitoring wells targeting the area of the USTs;
- collection of five soil samples using hand tools from a garden bed at the western boundary of the Site;
- laboratory analysis of selected soil and groundwater samples for a range of contaminants of potential concern (CoPC);
- assessment of laboratory results against nominated site assessment criteria (SAC); and
- preparation of this DSI report.

1.4 Data quality objectives

In determining the type, quantity and quality of data needed to support decisions relating to the environmental condition of the Site, EMM undertook the seven-step process outlined in the ASC NEPM to develop the data quality objectives (DQOs).

In developing the DQOs for the investigation, an initial phase of review was undertaken to appraise relevant and available background information and to develop a preliminary conceptual site model. The DQOs are discussed in Appendix A.

1.5 Regulatory framework

An overview of NSW legislation informing the DSI is provided below.

1.5.1 NSW Contaminated Land Management Act 1997

The NSW *Contaminated Land Management Act 1997* (CLM Act) aims to promote the better management of contaminated land. The objectives of the CLM Act are to establish a process for investigating and (where appropriate) remediating land areas where contamination presents a significant risk of harm to human health or some factor of the environment.

The NSW Environment Protection Authority (EPA) has powers to respond to contamination that is causing significant risk of harm to human health or the environment. The NSW EPA can direct landowners to investigate or remediate contaminated land and requires landowners to report contamination where there is a significant risk of harm (duty to report). The CLM Act may be triggered if contamination migrates beyond site boundaries.

1.5.2 NSW Protection of the Environment Operations Act 1997

The NSW *Protection of the Environment Operations Act 1997* (POEO Act) is administered by the NSW EPA. It prohibits any person to cause pollution of waters, land or air and provides penalties for specified offences. The POEO Act enables the NSW Government to set out explicit protection of the environment policies and adopt more innovative approaches to reducing pollution. The POEO Act also requires "scheduled activities" listed at Schedule 1 to the POEO Act to be carried out in accordance with an Environment Protection Licence (EPL).

1.5.3 Environmental Planning and Assessment Act (2000) and State Environmental Planning Policy (SEPP) no.55 – Remediation of Land

State Environmental Planning Policy 55 – Remediation of Land (SEPP 55) is a planning instrument under the *Environmental Planning and Assessment Act 2000* (EPA Act) that applies to State land.

SEPP 55 Clause 7 outlines considerations regarding contamination and remediation in determining development applications by local government authorities and provides requirements for investigations to be undertaken where a change of land use is proposed.

SEPP 55 also specifies when remediation works will require Development Consent from the Local Government Authority (LGA).

1.6 Guidelines

The DSI has been completed in general accordance with the requirements of:

- the ASC NEPM;
- NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land;
- NSW Department of Environment and Conservation (2007) Guidelines for the Assessment and Management of Groundwater Contamination;
- Standards Australia (2005) Australian Standard AS4482.1 - Guide to the Investigation and Sampling of sites with Potentially Contaminated Soil. Part 1: Non-volatile and Semi-Volatile Compounds;
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018) Guidelines for Fresh and Marine Water Quality Australian and New Zealand and Australian State and Territory Governments;
- Standards Australia (1999) Australian Standard AS 4482.2 Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances; and other relevant guidelines and legislation; and
- NSW EPA (1995) Sampling Design Guidelines.

2 Site details

2.1 Site identification

Site identification details are listed in Table 2.1 and a layout of the Site (including borehole locations) is provided in Figure 2.1.

Table 2.1 Site Identification

Item	Description
Site address	42-52 Raymond Avenue, Matraville NSW
Legal description[1]	Lot 1 in Deposited Plan (DP) 369668, Lot 1 in DP 511092 and Lot 32 in DP8313.
Site area[1]	Approximately 2 ha
Site owner	Epsom Enterprises Pty Ltd
Local government authority	Randwick City Council
Current zoning[2]	IN1: General industrial
Current land use	Vacant (formerly industrial)
Proposed land use	Industrial/commercial
Site location	Refer to Figure 1.1.
Site layout	Refer to Figure 2.1.

Notes:

1. Spatial Information Exchange Viewer (www.maps.six.nsw.gov.au)
2. State Environmental Planning Policy (Port Botany) Amendment 2013

Source: EMM (2020); Nearmap (2020); DFSI (2017)

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KEY

- ▭ Site boundary
- ━ Major road
- — Minor road
- — Watercourse/drainage line
- ▨ Waterbody

Sampling location

- ● Borehole
- ● Monitoring well

Site layout and sampling locations

42-52 Raymond Avenue, Matraville NSW
Vendor due diligence detailed site investigation
Figure 2.1

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2.2 Site description and surrounding area

The Site was formerly occupied by a large industrial/warehouse building, which was demolished around May/June 2020. The Site is now predominantly covered with hardstand comprising a concrete slab with a bitumen driveway along the eastern boundary. The western boundary of the Site comprises unsealed ground/garden bed which slopes steeply towards the north-west. A small vegetated area is present at the southern extent of the Site.

A small electrical substation is located at the south-western corner of the Site, enclosed by a chain-wire fence.

A stormwater drainage channel is present immediately adjacent to the Site's western boundary and a retention pond/lagoon is located to the south. The stormwater channel is known as the Bunnerong Stormwater Channel No. 11 and is listed on the Sydney Water State Agency Section 170 Heritage and Conservation Register Properties immediately to the east, south-east and north are industrial.

The surrounding area is largely industrial/commercial, with Port Botany (including a fuel depot and container storage) located approximately 500 m to the south of the Site, a paper mill and packaging manufacturing plant approximately 100 m to the east and the Botany Freight railway line approximately 150 m to the west.

The closest residential properties are approximately 200 m to the east/north-east in the suburb of Matraville. The Penrhyn Estuary is approximately 700 m to the south-west of the Site.

2.3 Site history and previous investigations

A review of the Site history was included in the PSI and limited DSI (JBS&G, 2019a). A summary of key findings is provided below.

The PSI and limited DSI included a historical review, soil sampling from five locations, installation and screening of sub-slab soil vapour probes at 20 locations and soil vapour sampling at four locations.

The historical review identified that the Site has been occupied by an industrial building/warehouse since the 1950s. Previous landowners included Sydney Paper Mills Limited, The Australian Paper and Pulp Company, Australian Paper Manufacturers and Fibre Containers Pty Ltd.

The limited DSI identified fill materials in each of the five boreholes, and concentrations of zinc (Zn) and benzo(a)pyrene (B(a)P) were reported to be greater than the ecological assessment criteria in one sample each. No CoPC were reported in soil at concentrations greater than the human health assessment criteria. Readings using a photoionisation detector (PID) reported volatile organic compounds (VOCs) up to 18.9 parts per million (ppm) at soil vapour probe locations. Volatile total recoverable hydrocarbons (TRH) were reported in the four soil vapour samples, but at concentrations less than the adopted assessment criteria.

The HBMS (JBS&G, 2019b) identified fragments of asbestos containing materials (ACM) in a garden bed at the western Site boundary. Sources of asbestos were also identified in the warehouse building including roofing, which was found to be significantly weathered and a source of friable asbestos within dust identified in the building.

The PSI and limited DSI concluded that contamination was not identified that would prevent continued commercial use of the Site, although it was noted that some areas of concern were not assessed and further investigations were recommended to comply with NSW EPA (1995). Removal of visible asbestos from the Site surface was also advised.

The HMBS recommended remediation of the friable asbestos containing dust and sealing of the roof materials to prevent recontamination. The building has since been demolished and clearance certificates and updated asbestos register[1] provided.

---

[1] Asbestos Register Epsom Enterprises Pty Ltd 42-46 Raymond Avenue, Matraville NSW 2036. Amended 13 June 2020.

2.4 Underground petroleum Storage Systems (UPSS)

A GPR survey was undertaken to identify anomalies that may indicate the location of the presence of a former 3,000 gallon UST and a 1,000 gallon UST which were recorded in a SafeWork NSW Dangerous Goods records search previously completed for the Site (JBS&G 2019a). The survey targeted the areas where potential infrastructure may remain as indicated by the plans contained within the Safework NSW documents. No anomalies were detected within these areas.

However, EMM visually located UPSS infrastructure along the western site boundary adjacent to the edge of the concrete slab and stormwater canal wall, covering an area of approximately 150 m^2. An overview of the infrastructure is provided in Figure 2.2 and a register of identified USTs in Table 2.2.

EMM also observed liquid seeping through the brick wall of the stormwater canal downgradient of the 3,000 gallon UST. A hydrocarbon sheen was also visible on the surface of the water in the canal from the area of seepage. This may indicate that the UST or other UPSS infrastructure was leaking.

Figure 2.2 UPSS infrastructure overview

Table 2.2 UPSS register

Tank ID	Contents/volume	Dimensions (m)	Direction	Photograph
T1	UST containing 3,000 gallons (11,356 L) of black oil, medium-high viscosity	Unknown, but dipstick max measurement is 4,000 gallons	S	
T2	UST containing solid waste, top cut open, no liquid visible.	2 m ⌀ depth unknown	S	
T3	UST <50% full of liquid with oily sheen, mostly filled with solid waste	1.45 m ⌀ depth unknown but assumed approximately 2 m	S	
T4	Full of liquid with sheen, ~887 L based on dimensions	1.75 length (l) x 0.65 width (w) x 0.78 depth (d)	NW	
Holding Tank	<50% full of high viscosity black oily sludge	~2 l x 0.9 w depth unknown	SE	
Interceptor Pit	Filled with glass fragments, no liquid visible	2.5 l x 0.55 w depth unknown	SE	

2.5 Environmental setting

The following information on the environmental context of the Site has been summarised from the background information searches previously undertaken (JBS&G 2019a), in combination with observations and data collected on the Site during the DSI.

2.5.1 Topography

The Site is relatively flat and level, with an elevation of approximately 6 m Australian Height Datum (AHD). The Site features a stormwater drainage channel running along the western border of the Site (outside the Site boundary), which flows into a stormwater retention basin adjacent to the southern Site boundary. The surrounding area slopes gently to the south-west, towards Port Botany.

2.5.2 Geology and soils

The following geology and soils are present at the Site:

- the Site and surrounds are mostly underlain by highly disturbed Quaternary deposits comprising medium to fine grained marine sands with podsols;
- soils are described as coastal sand plains and dunes, lagoons, and swampy areas with generally leached, siliceous, and/or calcareous sands; and
- drillers logs from nearby groundwater bores indicated that lithology comprises sands with some peat, clay and sandstone.

2.5.3 Hydrogeology

The Site is within Botany Groundwater Management Zone 1, which is an extraction exclusion zone. The aquifer is described as a porous and extensive highly productive aquifer.

A large number of registered bores were located within a 1.5 km radius of the Site. Additionally, two monitoring bores were registered as being present on Site, installed in 1975 although these were not located during the DSI. While the purposes of the bores within the surrounding area appears to be varied, the Botany Sands Aquifer has been banned for domestic purposes since 2006, therefore no beneficial use of groundwater is expected on the Site or in the surrounding area.

2.5.4 Hydrology

The closest surface water bodies are the Sydney Water Corporation (SWC) owned Bunnerong Stormwater Channel No 11 adjacent to the western boundary of the Site, and the SWC stormwater retention basin adjacent to the southern boundary of the Site. Botany Bay is approximately 750 m downgradient to the south of the Site.

Most of the site is sealed by concrete slab and a bitumen driveway. As such, precipitation falling onto the Site is expected to pool on the slab and evaporate or enter preferential pathways (eg drainage lines, cracks or holes). Runoff along the western and southern boundaries would be expected to follow the topographic gradient and infiltrate surface soils where exposed at a rate reflective of the permeability of the underlying soils. Excess water, especially during periods of heavy or prolonged rainfall, may spill into the stormwater channel and pond to the west and south of the Site, respectively.

2.5.5 Acid sulfate soils

The Site has a low probability of occurrence of acid sulfate soils (ASS) (JBS&G 2019). This is consistent with the topographic and geologic setting of the Site. Therefore, land management activities are not likely to be affected by acid sulfate soil materials.

2.5.6 Climate

The Site is located within the following meteorological setting:

- average minimum temperatures vary from 7^{o}C in July to 19^{o}C in February;
- average maximum temperatures vary from 17^{o}C in July to 27^{o}C in January;
- average annual rainfall is approximately 1081 mm; and
- monthly rainfall varies from 60 mm in September to 125 mm in June, with the period from January to June receiving the most rainfall on average.

3 Preliminary conceptual site model

A conceptual site model (CSM) is a qualitative description of the mechanisms by which potential and/or complete exposure pathways exist between known or potential sources of Site contamination, and human or environmental receptors.

In order for a human receptor to be exposed to a chemical contaminant derived from the Site, a complete exposure pathway must exist. An exposure pathway describes the course a chemical or physical agent takes from the source to the exposed individual and generally includes the following elements (USEPA, 1989):

- a source and mechanism of chemical release;
- a retention or transport medium (or media where chemicals are transferred between media);
- a point of potential human contact with the contaminated media; and
- an exposure route (eg ingestion, inhalation) at the point of exposure).

Where one or more of the above elements is missing, the exposure pathway is considered to be incomplete and there is therefore no direct risk to the receptors. Where this is identified, the exposure pathway does not warrant further assessment.

A preliminary CSM was generated based on our understanding of the Site, to inform the DSI design. Further investigations are considered to be necessary where potentially complete source-pathway-receptor (S-P-R) linkages are identified.

3.1 Sources of contamination

Potential sources of contamination at the Site are summarised below, with associated CoPC.

Table 3.1 Summary of potential sources of contamination and CoPC

Potential sources of contamination	CoPCs	Likelihood of contamination/release mechanisms
UPSS infrastructure: 1. 1 x 3,000 gallon (11,356 L) UST full of black oil, medium viscosity, referred to as T1; 2. 2 x approximate 1,000 gallon (3,785 L) USTs, referred to as T2 and T3 respectively; 3. 1 x 887 L UST full of water/oil mixture, referred to as T4; and 4. remnant ancillary infrastructure including supply lines, vent pipes and potential dispensing bowser footing. Refer to Table 2.2 for further details.	BTEX[1]/TRH[2]/PAHs[3]/ VOCs[4]/phenols/lead	Likely As noted in Table 2.2, USTs were observed to contain black oily product and their integrity is unknown. The USTs are estimated to be up to 40 years old (based on Dangerous Goods records from 1970). Leaking of oil through the stormwater canal brickwork (off-site to the west) was observed in the vicinity of the UPSS.

Table 3.1 Summary of potential sources of contamination and CoPC

Potential sources of contamination	CoPCs	Likelihood of contamination/release mechanisms
Electrical substation (and former substation) containing transformers	PCBs[5]	Unlikely It is unknown if the transformers were PCB containing, however, based on the age of the facility it is considered possible. Leaking from the former transformer and substation infrastructure was considered possible but significant contamination is unlikely due to the size of the facilities and no observations of leakage.
ACM used in former buildings, utilities and pipework and impacted soils Site wide	Asbestos	Likely Confirmed ACM present throughout many of the buildings based on the HBMS (JBS&G 2019a). Clearance certificates were issued for recently demolished buildings, however, some asbestos pipes were noted to remain in-situ.
Former use of lead paint on buildings, based on the age of the former buildings (pre 1980s) and historical application of lead-based paints during that time.	Lead	Unlikely Flaking and/or lead dust cannot be precluded. As most of the Site is occupied by a concrete slab and driveways, impacts would likely be limited to small areas of exposed soil.
Potential application of pesticides for pest control	OCP[6]/OPP[7]	Possible Pesticides may have been applied to building footings and void spaces with the potential to impact surrounding soils, including beneath the concrete slab.
Use of aqueous film-forming foam (AFFF) containing per and poly fluoroalkyl substances (PFAS) in fire suppression (the Site is understood to formerly be used to store significant quantities of Dangerous Goods), possible use of PFAS containing products in paper/packaging manufacturing	PFAS[8]	Possible PFAS and AFFF were generally introduced in Australia for civilian use in the late 1970s until gradual phasing out commenced in the 2000s. It is unknown if AFFF was historically stored or applied at the Site. PFAS has been used in surface coatings for paper to repel grease and/or moisture, such as pizza boxes. It is unknown if these products were manufactured at the Site.
Chemical storage – bulk storage of chemicals at the Site. Dangerous Goods records indicate large quantities of dangerous goods have been historically stored at the Site.	BTEX/TRH/PAHs/VOCs/ metals/phenols/OCP/ OPP	Possible. Spills and leaks may have resulted in seepage into underlying soils, discharge into surface water and infiltration to groundwater.
Use/importation of fill material Site wide Fill materials may have been imported to the Site for levelling and grading. JBS&G (2019a) identified fill materials across the Site. The presence of contaminants within fill cannot be precluded.	BTEX/TRH/PAHs/VOCs/ phenols/heavy metals/PCBs/ Asbestos/PFAS	Likely Based on the potential leachability of CoPC within fill material and the historical use of the Site, vertical migration of contamination from the fill materials/surface soils into the underlying natural soils is potential. Fill material imported from unknown origins may also contain contaminants such as asbestos.

1. BTEX – Benzene, toluene, ethylbenzene, and xylene
2. TRH – Total recoverable hydrocarbons
3. PAHs – Polycyclic aromatic hydrocarbons
4. VOCs – Volatile organic compounds
5. PCB – Polychlorinated biphenyl
6. OCP – Organochlorine pesticides
7. OPP – Organophosphorus pesticides
8. PFAS – Per- and polyfluoroalkyl substances

3.2 Migration and exposure pathways

The following transport mechanisms may apply at the Site:

- surface run-off of CoPC into surface water channels adjacent to the Site;
- excavation and re-location of soil during future construction activities;
- vertical seepage of CoPC into the underlying soils and into the local groundwater system;
- migration of CoPC via groundwater transport, inferred to flow in a south-westerly direction;
- migration and infiltration of vapours from contaminants in soil and/or groundwater beneath the Site; and
- atmospheric dispersion (aeolian transport) of dust, derived from contaminated soil or hazardous building materials (HBM), eg asbestos or lead.

Identified potential exposure pathways for the nominated CoPC include:

- dermal contact and incidental ingestion of soil;
- inhalation of dust (including soil derived) or fibres;
- dermal contact and incidental ingestion of groundwater/surface water;
- inhalation of soil/groundwater vapours in indoor air;
- inhalation of soil/groundwater/surface water vapours in outdoor air;
- inhalation of soil/groundwater vapours within a trench;
- plant uptake and/or ingestion by animals; and
- uptake of CoPC from groundwater (stygofauna and microorganisms).

3.3 Sensitive receptors

The nearest sensitive human receptors identified at the Site comprise:

- current and future Site users (industrial);
- future construction workers involved in the development of the Site;
- users of surrounding properties; and
- down-gradient users of surface water (such as recreational users of Penrhyn Estuary and Botany Bay).

Based on the GEEA, there are not considered to be sensitive human health receptors associated with groundwater beneath the Site and/or downgradient.

The Site is generally covered by hardstand pavements and building footprints. On this basis, there are limited on-Site ecological receptors that could be exposed to environmental impacts at the Site. Possible off-site ecological receptors are limited to potential impacts associated with groundwater or surface water runoff migrating from the Site into the following adjacent water bodies:

- Bunnerong Stormwater Channel No 11, along the western Site boundary, which subsequently discharges into the Penrhyn Estuary and Botany Bay; and
- the stormwater retention basin immediately south of the Site.

3.4 Preliminary CSM

Table 3.2 Preliminary CSM

Source	Pathway	Receptor	Potentially complete S-P-R?
UPSS – USTs and ancillary underground infrastructure (eg pits and supply lines). Observations of potential leakage through stormwater channel wall in the vicinity of the UPSS. CoPC include BTEX/TRH/PAHs/VOCs	Seepage into underlying soils and inhalation of soil vapour/dust	• Future Site users • Future construction workers involved in the development of the Site • Users of surrounding properties	Yes
	Direct contact/ingestion of soils	• Future Site users • Future construction workers involved in the development of the Site	Yes
	Migration through surface water runoff	• Future construction workers involved in the development of the Site • Current and future users of surface water • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Yes
	Seepage through soil profile into groundwater and migration through groundwater flow – direct contact or incidental ingestion of groundwater or inhalation of vapours	• Future construction workers involved in the development of the Site • Adjoining land users/occupants • Groundwater ecosystem • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Possible Groundwater would be managed during future construction (if required) and is unlikely to be abstracted due to the GEEA.
Substation and former substation CoPC include PCBs and TRH	Seepage into underlying soils and inhalation of soil vapour/dust	• Future Site users • Future construction workers involved in the development of the Site • Users of surrounding properties	Possible

Table 3.2 Preliminary CSM

Source	Pathway	Receptor	Potentially complete S-P-R?
	Direct contact/ingestion of soils	• Future Site users • Future construction workers involved in the development of the Site	Possible
	Migration through surface water runoff	• Future construction workers involved in the development of the Site • Current and future users of surface water • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Possible
	Seepage through soil profile into groundwater and migration through groundwater flow – direct contact or incidental ingestion of groundwater or inhalation of vapours	• Future construction workers involved in the development of the Site • Adjoining land users/occupants • Groundwater ecosystem • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Unlikely
Potential ACM in former buildings, fragments on surface and potential asbestos impacted soil	Inhalation of dust and/or fibres through atmospheric dispersion and incidental ingestion	• Future construction workers involved in the development of the site • Future Site users • Users of surrounding properties	Yes
Potential residual lead-based paint on former buildings	Paint flaking – dermal contact/incidental ingestion and inhalation of lead entrained dust	• Future Site users • Future construction workers involved in the development of the Site • Users of surrounding properties	Yes
	Direct contact/ingestion of soils	• Future Site users • Future construction workers involved in the development of the Site	Yes
	Migration through surface runoff	• Future construction workers involved in the development of the Site • Off-Site current and future users near surface water flow • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Unlikely

Table 3.2 Preliminary CSM

Source	Pathway	Receptor	Potentially complete S-P-R?
	Seepage through soil profile into groundwater and migration through groundwater flow – direct contact or incidental ingestion of groundwater or inhalation of vapours	• Future construction workers involved in the development of the Site • Adjoining land users/occupants • Groundwater ecosystem • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Possible
Potential application of pesticides for pest control	Seepage into underlying soils and inhalation of soil vapour/dust	• Future Site users • Future construction workers involved in the development of the Site	Possible
	Direct contact/ingestion of soils	• Future Site users • Future construction workers involved in the development of the Site	Possible
	Migration through surface runoff	• Future construction workers involved in the development of the Site • Off-site current and future users near surface water flow • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Possible
	Seepage through soil profile into groundwater and migration through groundwater flow – direct contact or incidental ingestion of groundwater or inhalation of vapours	• Future construction workers involved in the development of the Site • Adjoining land users/occupants • Groundwater ecosystem • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Unlikely
Use of aqueous film-forming foam (AFFF) containing per and poly fluoroalkyl substances (PFAS) in fire suppression infrastructure or PFAS in paper/packaging manufacturing process	Seepage into underlying soils and inhalation of soil vapour/dust	• Future Site users • Future construction workers involved in the development of the Site	Possible
	Direct contact/ingestion of soils	• Future Site users • Future construction workers involved in the development of the Site	Possible
	Migration through surface runoff	• Future construction workers involved in the development of the Site • Current and future users of surface water	Possible

Table 3.2 Preliminary CSM

Source	Pathway	Receptor	Potentially complete S-P-R?
		- Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	
	Seepage through soil profile into groundwater and migration through groundwater flow – direct contact or incidental ingestion of groundwater or inhalation of vapours	- Future construction workers involved in the development of the Site - Adjoining land users/occupants - Groundwater ecosystem - Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Unlikely
Chemical storage – former bulk storage of chemicals at the Site	Seepage into underlying soils and inhalation of soil vapour/dust	- Future Site users - Future construction workers involved in the development of the Site - Users of surrounding properties	Yes
	Direct contact/ingestion of soils	- Future Site users - Future construction workers involved in the development of the Site	Yes
	Migration through surface runoff	- Future construction workers involved in the development of the Site - Current and future users of surface water - Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Possible
	Seepage through soil profile into groundwater and migration through groundwater flow – direct contact or incidental ingestion of groundwater or inhalation of vapours	- Future construction workers involved in the development of the Site - Adjoining land users/occupants - Groundwater ecosystem - Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Unlikely
Use/importation of fill material Site wide	Seepage into underlying soils and inhalation of soil vapour/dust	- Future Site users - Future construction workers involved in the development of the Site - Users of surrounding properties	Yes
	Direct contact/ingestion of soils	- Future Site users - Future construction workers involved in the development of the Site	Yes

Table 3.2 Preliminary CSM

Source	Pathway	Receptor	Potentially complete S-P-R?
	Migration through surface runoff	• Future construction workers involved in the development of the Site • Current and future users near surface water flow • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Possible
	Seepage through soil profile into groundwater and migration through groundwater flow – direct contact or incidental ingestion of groundwater or inhalation of vapours	• Future construction workers involved in the development of the Site • Adjoining land users/occupants • Groundwater ecosystem • Off-site downgradient surface water ecology (Penrhyn Estuary and Botany Bay)	Unlikely

4 Field investigation

4.1 Soil investigation

4.1.1 Rationale

The DSI was deigned to assess potentially complete S-P-R linkages as identified in the preliminary CSM. Thirty (30) soil bores were installed at the Site to meet the minimum recommendations for sampling points on a site of approximately 2 ha (NSW EPA, 1995). The soil bores were located to provide general coverage of the Site and to target areas of potential concern, such as the old transformer and LPG tank locations (BH22 and BH21, respectively), possible locations of USTs based on SafeWork NSW records (BH06 and BH24).Boreholes BH01 – BH05 were located in the garden bed at the western Site boundary to assess potential asbestos impacts in this area.

Following identification of the UPSS (discussed in Section 2.4) three boreholes (BH 12, BH26 and BH27) were located close to the infrastructure to assess potential contamination impacts. Access around the UPSS was hindered by the steep slope and unstable ground at the western Site boundary, which affected the locations of the boreholes.

4.1.2 Service location and clearance

All borehole locations were cleared for subsurface utilities as follows:

- plans of underground utilities were requested from the Dial-Before-You-Dig service and relevant utility representatives were contacted to confirm proposed sample points were clear of subsurface utilities. All plans were reviewed by EMM prior to the commencement of service location clearance. Any borehole locations potentially located in the vicinity of identified underground services were changed at this time;

- all sampling points were located in consultation with on-site personnel (RMA Group) and previously obtained subsurface utility maps. All sample locations were marked on the ground with spray paint. All locations were measured from nearby building reference points;

- each sampling location was cleared using an accredited underground services location contractor; and

- each location was cleared using non-destructive drilling (NDD) techniques (hand auger) to at least 1 m bgl prior to mechanical drilling by a competent subcontractor (Epoca Environmental Pty Ltd).

4.2 Intrusive work

EMM completed boreholes BH01 – BH05 using a hand auger. Each bore was advanced to between 0.5 m bgl and 1 m bgl with at least one sample collected by gloved hand from the auger head and placed in laboratory supplied containers.

Epoca Environmental Pty Ltd were engaged to carry out the mechanical drilling scope. Drilling techniques consisted of a combination of auger and push tube methods. Where push tube techniques were employed, continuous soil samples were collected. Soil was collected in disposable plastic liners and representative soil samples were transferred from liners into laboratory supplied sampling containers by nitrile-gloved hand. Samples were collected based on their location, distribution within the soil/fill profile and suitability for sampling. Boreholes were drilled at least 1 m into natural material, resulting in a maximum soil investigation depth of 5.5 m bgl.

Borehole locations that were not converted to monitoring wells (refer to Section 4.3) were reinstated with soil cuttings that had been drilled out from that location. All boreholes were reinstated to original surface level and condition. Any excess soil generated from the drilling, monitoring well development and monitoring well purging process was placed in drums pending classification and disposal to an appropriately licenced facility.

All soil samples were placed in laboratory prepared glass sampling containers using single use disposable nitrile gloves. Field duplicates (intra laboratory) and triplicates (inter laboratory) were prepared in the field by splitting soil samples. In order to minimise the loss of volatiles, samples were not mixed or homogenised during collection or splitting and jars were filled to minimise the amount of headspace where sample recovery allowed. Where materials potentially containing asbestos were noted, a sample of the material and the soil at the location where it was sampled was collected in separate plastic zip lock bags for laboratory analysis for asbestos.

4.2.1 Soil sample labelling, preservation, storage and transport

All samples were clearly labelled with unique sample identification numbers consisting of the date, sample location, depth of sample and samplers' initials. In the case of field duplicates and triplicates, sample containers were labelled to not reveal their purpose or sample location to the laboratory. All samples were kept chilled in an ice-filled esky prior to dispatch to the NATA registered laboratory under chain of custody (COC) procedures.

Samples for asbestos analysis were collected in laboratory supplied zip lock bags and double bagged.

All samples collected are stored at the laboratory (3 months for metals [28 days for mercury]), or 14 days for organics).

4.2.2 Field screening

For each sample depth, additional soil was screened for head space vapours and the presence of VOCs, using a calibrated PID. The headspace reading was taken at ambient temperature and was recorded on the borelogs provided in Appendix D. The PID readings were considered when selecting soil samples for laboratory analysis.

The PID was calibrated with isobutylene gas at 100 ppm at the commencement of each day of sampling and, if necessary, during the day in accordance with the procedure provided by the supplier. Calibration records are provided in Appendix C.

4.2.3 Field logging

Lithology descriptions were recorded on EMM's standard field sheets for uniformity in descriptions, presentation and to aid in any future interpretations based on lithological data. Borelogs are provided in Appendix D.

Observations of contamination were recorded on the borelogs at the depth intervals encountered. The field identification of contamination consisted primarily of visual and olfactory observations. Additionally, a PID was used to screen for the presence of VOCs (see above) and these readings are recorded on the borelogs.

Any unusually coloured or textured material, residues, staining or the presence of non-aqueous phase liquids (LNAPL/DNAPL) was recorded on the borehole logs for each investigation location, if present. Likewise, any unusual odours were recorded and the character of the odour (eg sweet, solvent-like, hydrocarbon-like) and strength noted.

4.2.4 Borehole survey

The borehole ground level was surveyed by a registered surveyor from Stuart De Nett Land Surveyors Pty Ltd with reference to the AHD and Australia Map Grid (AMG).

The elevation and position of the boreholes are recorded on the borelogs provided in provided in Appendix D.

4.2.5 Soil sample analysis

Analysis of the samples collected during the investigation works was conducted by Envirolab Service Pty Ltd (Envirolab) and secondary analysis by ALS Environmental Pty Ltd (ALS). The laboratories were NATA accredited and registered for the analyses proposed.

One sample from each borehole BH01 – BH05 and two samples from borehole BH06 – BH30 were selected for analysis as sown in Table 4.1.

Table 4.1 Soil analytical suite

CoPC	No of samples analysed
Total recoverable hydrocarbons (TRH)	55 primary samples
Benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN)	55 primary samples
Polycyclic aromatic hydrocarbons (PAHs)	55 primary samples
Metals (arsenic, cadmium, chromium, coper, lead, mercury, nickel and zinc)	55 primary samples
Volatile chlorinated hydrocarbons (VCHs)	27 primary samples
Organochlorine and organophosphate pesticides (OCP/OPP)	27 primary samples
Polychlorinated biphenyls (PCBs)	27 primary samples
Per- and polyfluoroalkyl substances (PFAS)	20 primary samples
Asbestos (presence/absence)	31 primary samples

4.3 Groundwater investigation

4.3.1 Rationale

Three groundwater monitoring wells were installed at borehole locations adjacent to the UPSS to assess potential contamination impacts. No monitoring well could be installed between the UPSS and the stormwater channel due to uneven ground at the western Site boundary and access constraints.

4.3.2 Monitoring well installation

Groundwater monitoring wells were constructed using machine slotted (0.5 mm aperture), 50 mm uPVC screens, placed from 1 m above the estimated standing water level (SWL) of groundwater to the base of the monitoring well. The monitoring wells were installed to depths of between 5.35 m bgl and 5.4 m bgl. The monitoring well locations are shown on Figure 2.1.

Prior to installation, the total depth of the borehole was measured with a weighted tape. The monitoring well casing was lowered in the borehole and suspended. Graded filter sand (2-mm diameter) was added to the annulus between the uPVC casing and the wall of borehole to approximately 0.5 m above the top of the screened interval. A minimum of 0.5 m hydrated bentonite seal was added above the filter sand. All monitoring wells were finished with a lockable PVC cap and concrete encased steel cover that was traffic rated and flush to grade (but slightly mounded at location MW01 for increased visibility in a grassed area).

4.3.3 Monitoring well development

Groundwater monitoring wells were developed using disposable polyethylene bailers. Approximately 10 well volumes of groundwater were removed from each well. Wastewater collected during development was placed into dedicated 200 L waste drums pending classification for off-site disposal.

4.3.4 Groundwater monitoring wells standing water level measurement

The measurement of SWL in all groundwater monitoring bores was conducted using an oil-water interface probe. The measurements, as reported in Section 8.4.1, were taken in as close succession as possible to account for natural fluctuations in groundwater flow dynamics.

No light non-aqueous phase liquid (LNAPL) or dense non-aqueous phase liquid (DNAPL) was identified to be present.

All measuring instruments (probe and surface of the tape) were decontaminated between monitoring wells as outlined in Section 4.5.

The time of measurement at each bore was recorded. All measurements were taken from the top of the inner uPVC casing, at the same point (a notch, or black mark was placed into the edge of the casing to assure consistency in measurement).

4.3.5 Groundwater purging

Groundwater monitoring wells were purged using low-flow sampling techniques approximately one week after their development. Monitoring wells were purged using a submersible bladder pump (with a disposable high-density polyethylene (HDPE) bladder). Dedicated HDPE tubing was used to purge and sample the monitoring wells. The purged water from each bore was assessed for the stabilisation of physical parameters (pH, electrical conductivity (EC), temperature, redox and dissolved oxygen) prior to sample collection and any other physical characteristics identified during sampling was recorded on the field sheets. Excess purge water was placed in drums pending classification for disposal to a licensed waste facility.

4.3.6 Groundwater sample collection

Groundwater samples were collected using low-flow sampling techniques. The following sampling method was followed, which is applicable to both inorganic and organic analytes:

- groundwater samples were collected directly from the discharge line while the pump was operating, with the pumping rate reduced to less than 1 litre per minute;
- samples were placed into appropriate containers provided by the laboratory, as described below (which is also the order of collection of samples (ie VOCs samples collected first):
  - water samples to be tested for TRH (C_6-C_{10}), BTEXN and VOCs were placed in 40 ml glass amber vial with zero headspace;
  - water samples to be tested for TRH (C_{10}-C_{40}), SVOCs and PAHs were collected in a 100 ml glass amber vial; and
  - water samples to be tested for metals were filtered in the field using a 0.45 µm pore size prior to filling a HNO_3 preserved sample bottle;
- samples were labelled with details including:

- date and time sampled;
- project number;
- field ID; and
- sample preservatives used.

Samples were obtained immediately upon purging the bores (once achieving sufficient stabilisation of water quality parameters).

4.3.7 Groundwater sample analysis

Analysis of the samples collected during the investigation works was conducted by ALS and secondary analysis by Envirolab. The laboratories were NATA accredited and registered for the analyses undertaken.

Groundwater samples were analysed for the following:

- dissolved heavy metals (arsenic, cadmium, chromium, copper, nickel, lead, zinc and mercury);
- TRH (C_6-C_{40}) and BTEXN;
- PAHs;
- SVOCs; and
- VOCs.

4.3.8 Survey of monitoring wells

The top of each monitoring well casing and adjacent ground level was surveyed by Stuart De Nett Land Surveyors, with reference to the AHD and AMG to allow calculation of groundwater flow direction.

The elevation and position of the monitoring wells are recorded on the borelogs provided in Appendix D.

4.4 Chain of custody protocols

Samples collected in the field were traceable from the time of collection until the analytical laboratory receives them. To maintain and document sample possession, chain of custody (CoC) procedures were followed. CoC documentation can be found in Appendix F.

CoC records accompanied samples at all times once the samples were collected by the receiving laboratory. When transferring possession of the samples, the individuals relinquishing and receiving the samples signed, dated and noted the time of transfer on the CoC record.

The EMM field staff, prior to dispatch to the laboratory, reviewed all CoC. The laboratory was contacted to return (by email) appropriately signed CoC records to confirm sample delivery.

4.5 Decontamination of field equipment

EMM field staff are responsible for ensuring that all field equipment is appropriately decontaminated prior to use on any environmental soil or groundwater investigation. Decontamination is performed for field equipment to eliminate the possibility of cross-contamination from previous jobs or between sampling locations. In general, decontamination consists of either a high pressure, hot water wash (steam-cleaning) or a non-phosphate detergent solution (Liquinox) wash followed by a deionised/potable/demineralised water rinse.

The decontamination procedures were performed before initial use of any equipment at a site and after each subsequent use.

Decontamination procedures utilised during drilling, sampling and using monitoring equipment are as follows:

- hand trowels and hand augers or any other reusable sampling equipment were washed with a mixture of water and phosphate free detergent prior to use at each location;
- all sampling and measurement field equipment were hand washed with a mixture of water and phosphate free detergent. This was followed by a double deionised water rinse prior to use in each borehole/monitoring well, between sampling and between each measurement event. Where possible, equipment was wiped with disposable paper towel prior to, and after, decontamination as above;
- disposable push tubes (approximately 1.2 m length) were used for collection of soil samples at each location and did not require decontamination (ie dedicated equipment);
- drill rods were brushed down between drilling locations to remove drilling cuttings and pressure washed where sheen, oil or odorous contamination was observed on the drill rods. The washing of equipment was not undertaken on surfaces that drain to storm water drains;
- the fluid line tubing used in the low flow purging and sampling system was replaced between monitoring wells and did not require decontamination (ie dedicated equipment); and
- following completion of sampling and decontamination of sampling equipment described above, one rinsate blank sample (from an item of sampling equipment, ie hand auger) was collected per day of sampling by running laboratory supplied distilled water over the selected undedicated sampling item and decanting directly into the sample bottle. At a minimum, rinsate samples were analysed for TRH, BTEXN and metals.

5 Assessment criteria and QA/QC

5.1 Site context

In the context of the continued commercial/industrial land use and in accordance with the DQOs outlined in Appendix A, assessment criteria have been selected based on the following:

- to assess the suitability of the Site in its current condition for the most sensitive of the proposed land use, being commercial/industrial use; and
- to inform any potential remediation and/or management strategies required.

5.2 Soil investigation criteria

The following guidelines were used to select assessment criteria for the evaluation of the soil analytical results:

- the ASC NEPM – Soil Health Investigation Levels (HILs) (for metals, PAHs, VOCs, SVOCs, OCPs);
- Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) Technical Report No.10 - Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater. September 2011. (Friebel, E. and Nadebaum, P., 2011) – Soil Health Screening Levels (HSLs) (for TPH and naphthalene);
- United States Environmental Protection Agency (USEPA, 2018). Regional Screening Levels (RSLs) for Industrial Soil, as updated January 2015 (SVOCs and VOCs without HILs or HSLs); and
- Heads of EPA Australia and New Zealand (HEPA, 2020). PFAS National Environmental Management Plan (NEMP) Version 2.0 (for PFAS).

Selection of SAC is discussed in detail in Appendix A. The adopted SAC are summarised in Table 5.1 and included in the laboratory results tables in Appendix D.1.

Table 5.1 Human health-based soil assessment criteria (SAC)

Guideline	Level adopted	CoPC
ASC NEPM	HIL D (commercial/industrial)	Metals, PAHs, VOCs, SVOCs, OCPs, PCBs
Friebel, E. and Nadebaum, P. (2011)	Vapour Intrusion: HIL D (commercial/industrial) petroleum/non-petroleum sites[1] Direct Contact: HSL D (commercial/industrial) Intrusive Maintenance Worker HSL (petroleum/non-petroleum), 0 to 2 m[1] Intrusive Maintenance Worker HSL D (commercial/industrial), 0 to 1 m, sand[1]	TRH, BTEX, Naphthalene
USEPA (2018)	Regional Screening Levels (RSLs)	SVOCs, VOCs (without HSLs or HILs)
ASC NEPM	Management Limits for TPH fractions F1 to F4 in soil – coarse textured soils	TPH fractions

9. Non-petroleum screening criteria will be adopted based on whether or not the source is considered to be a petroleum source. Aesthetic conditions listed in Appendix A have also been considered.

5.3 Groundwater assessment criteria

The ASC NEPM has been adopted as the primary guidance document for the assessment of groundwater concentrations. The following guidelines were utilised for the assessment of groundwater concentrations, based on the ASC NEPM, as required:

- Australian Drinking Water Guidelines Paper 6, National Water Quality Management Strategy. NHMRC National Resource Management Ministerial Council (NRMMC), Commonwealth of Australia, Canberra Version 3.5, August 2018. (NHMRC, 2018);
- Drinking Water Guidelines. World Health Organisation, 2011 (WHO, 2011);
- Petroleum Products in Drinking Water. World Health Organisation, 2008. (WHO, 2008); and
- Australian and New Zealand and Australian State and Territory Governments (ANZG, 2018) *Guidelines for Fresh and Marine Water Quality*.

Based on ongoing industrial land use at the Site and a marine water receiving environment, adopted groundwater assessment criteria (GAC) for this investigation are summarised below and included in the laboratory results tables in Appendix D.1. Further details on the selection of SAC are included in Appendix A.

Table 5.2 Groundwater Assessment Criteria

Receptor	Guideline	Level Adopted
Human health	Friebel, E. and Nadebaum, P. (2011)	Vapour Intrusion: HSL D (residential with minimal opportunities for soil access)
	ANZECC (2000)	Recreational primary contact
	USEPA (2018)	Regional Screening Levels
Ecological	ANZG (2018)	Marine water, 95% level of species protection where applicable, including moderate and low reliability trigger values

5.4 Quality assurance and quality control

The field and laboratory quality assurance and quality control (QA/QC) plan adopted for the investigation has been designed to achieve pre-determined data quality indicators (DQIs) that demonstrate the precision, accuracy, representativeness, completeness and comparability of the data set and that the data set is of acceptable quality to meet the objectives of the DQI.

5.4.1 QA/QC data validation

The QA/QC program implemented as part of this DQI was generated as the outcome of the seven-step DQO process, as described in Appendix A.

Analyses of primary and intra-laboratory duplicate soil and groundwater samples were undertaken by ALS. Inter-laboratory samples were analysed by Envirolab. All laboratories are NATA accredited for the analyses undertaken.

Details of the QA/QC data validation are presented in Appendix B.

5.4.2 Data useability

The data validation procedures employed for the assessment of the EMM field and laboratory QA/QC data indicated that the reported analytical results are representative of soil and groundwater conditions at the sample locations, and that the overall quality of the analytical data produced is acceptably reliable for the purpose of the investigation.

6 Results

6.1 Field observations – soil

Encountered stratigraphic conditions were generally found to comprise gravelly sand fill material (ranging between 0.5 m and 2 m thickness) overlying natural sand with some peat inclusions. At one location (BH13) fill was recorded to 1.5 m bgl, where refusal on concrete was encountered. Anthropogenic materials were observed in the fill material, including ceramic, brick, asphalt, concrete, glass and potential asbestos containing material (ACM) fragments. PID readings ranged from 0.0 ppm to 1.7 ppm, indicating very low volatile contaminant concentrations. No staining or odours were noted, with the exception of some minor black staining within fill material at BH17 (1.6 m depth, possible associated with traces of asphalt identified). Bore logs are included in Appendix D.

6.2 Soil analytical results

A total of 54 primary samples from 30 locations, with a minimum of at least two samples per borehole (except for shallow hand auger locations), were submitted for laboratory analysis for CoPC. The laboratory analytical results are presented in Appendix E and laboratory certificates of analysis are included in Appendix F.

A summary of the SAC exceedances is provided in Table 6.1 and a spatial distribution of soil analytical results is shown in Figure 6.1.

Asbestos was detected in fill material at one location (BH22_1.2), identified as chrysolite, commonly known as white asbestos.

Table 6.1 Summary of criteria exceedances

Analyte	Adopted criteria	Criteria value (mg/kg)	Sample ID (location_depth)	Material type	Concentration (mg/kg)
Benzo(a) pyrene	ASC NEPM Table 1B(6) ESLs for Industrial, Coarse Soil	0.7	BH21_0.2	Fill	3.3
Lead	ASC NEPM Table 1A(1) HILs Comm/Ind D Soil	1,500	BH17_1.6	Fill	2,000

Sample ID	Analyte	NEPM Criteria (mg/kg)	Concentration (mg/kg)
BH21_0.2	Benzo(a) pyrene	0.7	3.3

Sample ID	Analyte	NEPM Criteria (mg/kg)	Concentration (mg/kg)
BH17_1.6	Lead	1,500	2,000

Source: *EMM (2020); Nearmap (2020); DFSI (2017)*

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KEY

▭	Site boundary
—	Major road
—	Minor road
—	Watercourse/drainage line
▨	Waterbody

Soil results

●	Below adopted guidelines
●	Exceeds adopted NEPM guidelines
▲	Asbestos present

Soil analytical results

42-52 Raymond Avenue, Matraville NSW
Vendor due diligence detailed site investigation
Figure 6.1

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6.3 Field observations – groundwater

6.3.1 Groundwater level gauging

Results from groundwater well gauging completed prior to sampling are shown in Table 6.2.

Table 6.2 Groundwater well gauging

Well ID	**Total well Depth**	**Stabilised depth to water**	**Top of casing**	**Groundwater depth**	**PID well head reading**	**Well comments**
Units	*m bgl*	*m bgl*	*m AHD*	*m AHD*	*ppm*	-
MW01	5.400	3.282	5.750	2.468	0.2	Flush
MW02	5.350	3.286	5.615	2.239	1.9	Flush
MW03	5.380	3.130	5.630	2.500	0.4	Flush

Based on the well gauging results, groundwater appears to flow in a south-westerly direction towards Botany Bay. Inferred groundwater contours are shown on Figure 6.2.

6.3.2 Groundwater water quality parameters

Groundwater quality field parameters collected during the sampling event are shown in Table 6.3.

Table 6.3 Groundwater quality field parameters

Point ID	**Temperature °C**	**pH**	**EC µs/cm**	**DO mg/L**	**Corrected Redox Eh**
MW01	18.3	6.05	189.6	0.95	389.4
MW02	20.1	6.30	7686	0.10	59.3
MW03	18.5	5.86	226.9	1.39	51.3

Notes: EC – electrical conductivity, DO – dissolved oxygen, Redox – oxidation reduction potential (converted to Eh by +200 milliVolts based on equipment supplier specifications)

In MW01 and MW03, electrical conductivity results indicate freshwater, while in MW02 (the most down-gradient well) saline conditions were recorded. These results may indicate tidal influences on groundwater beneath the Site.

6.4 Groundwater analytical results

A total of three primary samples (one per location) and two duplicate samples were submitted for laboratory analysis for CoPC associated with the identified source of potential contamination (UPSS). The analytical results are presented in Appendix E and laboratory certificates of analysis are included in Appendix F.

No exceedances of the adopted criteria for groundwater assessment were recorded.

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Source: EMM (2020); Nearmap (2020); DFSI (2017)

KEY

- Site boundary
- Major road
- Minor road
- Watercourse/drainage line
- Waterbody
- XXX Groundwater level (metres Australian Height Datum)
- Inferred groundwater elevation contour
- Inferred groundwater flow direction

Groundwater results

- Below adopted guidelines

Groundwater analytical results

42-52 Raymond Avenue, Matraville NSW
Vendor due diligence detailed site investigation
Figure 6.2

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7 Conceptual site model

The CSM has been revised based on the findings of the DSI.

7.1 Source-pathway-receptor evaluation

7.1.1 Sources

Based on the findings of the DSI, the identified sources of contamination at the Site have been evaluated as follows.

Table 7.1 Contamination sources

Source and CoPC	Evaluation
UPSS TRH, BTEXN, PAHs, VOC, lead	Tanks were observed to contain oily product and possible leakage was observed in the adjacent stormwater channel wall. Observations during the soil and groundwater investigation and laboratory analytical results do not indicate the presence of widespread contamination (no analytical results were reported above the SAC or GAC). Due to access limitations for soil boring (ie the embankment was not safely accessible), sampling was not completed between the UPSS and the stormwater canal (inferred to be downgradient). It is possible that localised soil and/or groundwater impact associated with the on-site UPSS may be encountered in this area.
Substations/transformers PCBs, TRH	No evidence of contamination associated with the former and/or current substation/transformers was identified during the DSI.
ACM in buildings, utilities and pipework, and impacted soils Asbestos	ACM was visually identified in fill material at the Site, and chrysotile was positively identified by laboratory analysis in one sample of fill. The distribution of ACM was not confined to any particular fill type or location.
Former use of lead-based paint Lead	One sample of fill material reported a concentration of lead greater than the SAC for industrial land use. This sample was collected at 1.6 m bgl and is considered unlikely to be associated with the weathering of lead-based paint from buildings on the Site. Rather, it is considered likely to be attributable to inclusions in the fill material. The 95% upper confidence limit (UCL) for lead in fill material was less than the SAC, and lead was not reported in groundwater above the laboratory LOR, indicating that lead is not a contaminant of concern at the Site.
Potential application of pesticides OCP, OPP, metals	Trace concentrations of OCPs were reported in two samples (surface soil and fill). No SAC were available for the OCPs reported, however the concentrations reported are not considered to represent a significant risk to Site users in an industrial land use setting. All other OCP results, including groundwater, were reported to be less than the laboratory LOR.
Use of PFAS in fire suppression or paper manufacturing PFAS	Trace concentrations of PFOS and PFOA were reported in 11 soil samples and 4 soil samples, respectively, collected at a range of depths form both fill and natural soil. The reported concentrations were three to four orders of magnitude lower than the SAC and are PFAS not considered to represent an unacceptable risk to future Site users.
Former bulk chemical storage BTEX, TRH, PAH, VOC, metals, OCP, OPP	No evidence of contamination resulting from the bulk storage of chemicals at the Site was identified during this DSI. One concentration of B(a)P greater than the SAC was reported in a sample of fill, which was considered likely to be associated with the asphalt ground surface in this area and a concentration of lead greater than the SAC was attributed to inclusions in fill. No other CoPC were reported above the SAC or GAC.

Table 7.1 Contamination sources

Source and CoPC	Evaluation
Use/importation of fill TRH, BTEXN, PAH, VOC, metals, PCBs, asbestos, PFAS	Fill was identified across the Site ranging between 0.5 m and 2 m thickness. Fragments of potential ACM were observed within the fill at six locations across the Site and laboratory analysis confirmed chrysotile asbestos in one sample. Lead and B(a)P were also reported at concentrations exceeding the SAC in one sample each, although the 95% UCL for both contaminants was less than the SAC and neither CoPC was reported in groundwater above the laboratory LORs.

Based on the above, UPSS, asbestos in former buildings and fill materials (CoPC comprising asbestos only) are considered to be potential sources of contamination at the Site.

7.1.2 Pathways

The following transport mechanisms may apply at the Site:

- surface run-off of CoPC into surface water channels adjacent to the Site;
- excavation and re-location of soil/fill during future construction activities;
- vertical seepage of CoPC into the underlying soils and into the local groundwater system;
- migration of CoPC via groundwater transport, inferred to flow in a south-westerly direction;
- migration and infiltration of vapours from soil and/or groundwater beneath the Site; and
- atmospheric dispersion (aeolian transport) of dust or fibres, derived from contaminated soil or hazardous building materials (HBM), eg asbestos or lead.

Identified potential exposure pathways for the nominated CoPC include:

i) dermal contact and incidental ingestion of soil;

ii) inhalation of dust (including soil derived) or fibres;

iii) dermal contact and incidental ingestion of groundwater/surface water;

iv) inhalation of soil/groundwater/surface water vapours in outdoor air;

v) inhalation of soil/groundwater vapours within a trench;

vi) plant uptake and/or ingestion by animals; and

vii) uptake of CoPC from groundwater (stygofauna and microorganisms).

Based on the physical and chemical features of the CoPC associate with the confirmed sources of contamination, the exposure pathways that may be applicable at the Site are presented in Table 7.2.

Table 7.2 CoPC and applicable exposure pathways

CoPC	Applicable pathways
Asbestos	ii
TRH/BTEX	i, iii, iv, v, vi, vii
PAH	i, iii, vi, vii
VOCs	i, iii, iv, v, vi, vii

7.1.3 Potential receptors

Potential sensitive receptors at the Site, in the context of continued industrial land use, comprise:

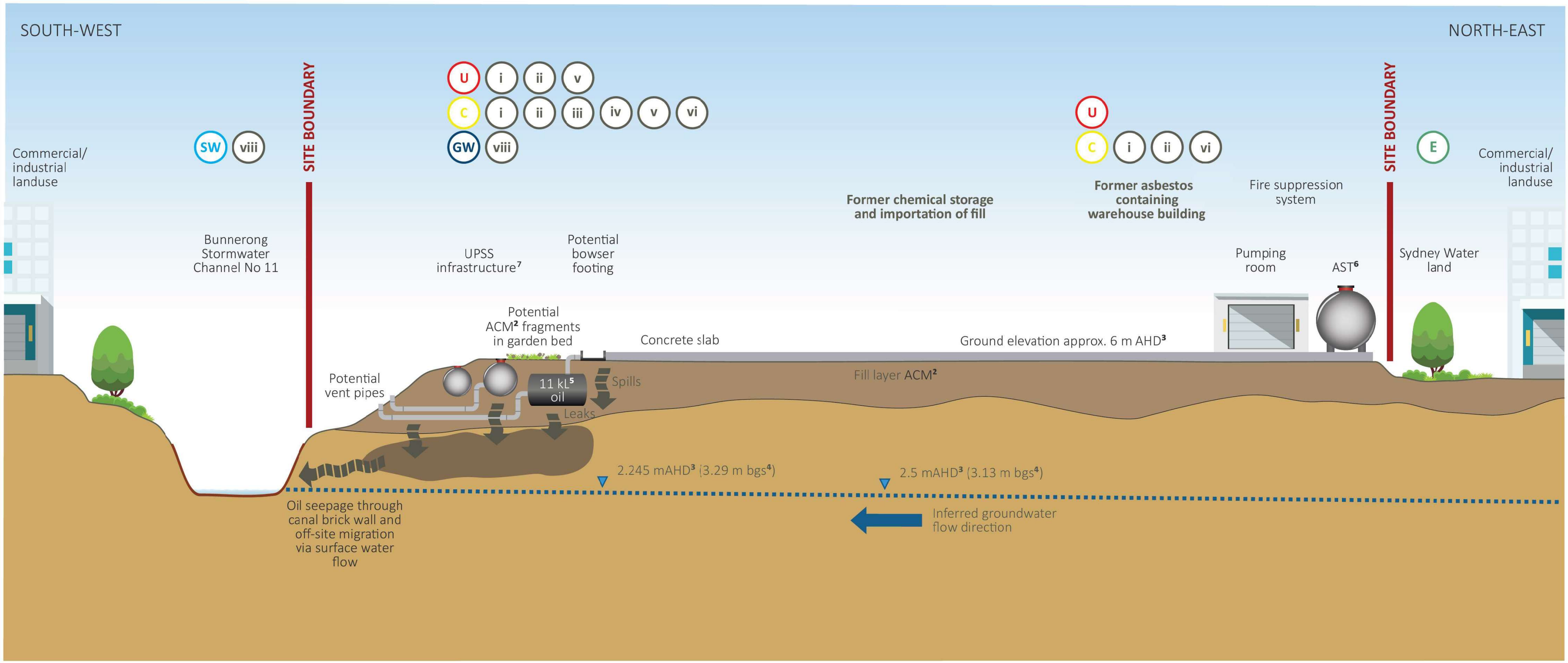
- current and future Site users;
- future construction workers involved in the development of the Site;
- users of adjacent properties;
- users of surface water downgradient from the Site (ie Penrhyn Estuary/Botany Bay); and
- surface water ecology.

7.1.4 Source-pathway-receptor model

Table 7.3 Source-pathway-receptor model

Source	Pathway	Receptor	Potentially complete S-P-R?
UPSS – USTs and ancillary underground infrastructure (eg pits and supply lines) - BTEX/TRH/PAHs/VOCs	Seepage into underlying soils and inhalation of soil vapour/dust in outdoor air or construction trench	• Future Site users • Future construction workers involved in the development of the Site	Potential – no laboratory results above SAC, possible localised impact on downgradient edge of UPSS
	Direct contact/ingestion of soils	• Future Site users • Future construction workers involved in the development of the Site	Potential – no laboratory results above SAC, possible localised impact on downgradient edge of UPSS where samples could not be collected
	Migration through surface water runoff, direct contact with impacted surface water	• Future construction workers involved in the development of the Site • Users of surface water • Downgradient surface water ecology	Potential - oil observed leaking through stormwater channel brickwork adjacent to southern and western boundaries (near on-site UPSS)
	Seepage through soil profile into groundwater and migration through groundwater flow – direct contact or incidental ingestion of groundwater or inhalation of vapours	• Future construction workers involved in the development of the Site • Adjoining land users/occupants • Groundwater ecosystems • Surface water ecosystems at point of groundwater discharge	Unlikely - CoPC identified in groundwater, but below the GAC. Investigations could not be completed directly downgradient of UPSS due to access constraints, however impacts likely to be localised. Groundwater would be managed during future construction (if required) and is unlikely to be abstracted surrounding the Site due to the GEEA. Other contaminants in the area and dilution effects suggests impacts to receiving surface waters attributable to the Site would be negligible
Potential ACM in former buildings, fragments on surface and potential asbestos impacted soil	Inhalation of dust and/or fibres through atmospheric dispersion	• Future construction workers involved in the development of the site • Future Site users	Yes, asbestos was observed and detected in soils
Use/importation of fill material Site wide - asbestos	Inhalation of dust and/or fibres through atmospheric dispersion	• Future Site users • Future construction workers involved in the development of the Site	Yes - asbestos was observed and detected in soil
	Direct contact/ingestion of soils	• On-Site future Site users • Future construction workers involved in the development of the Site	Unlikely, individual concentrations of CoPC(lead and BaP) exceeded g the SAC but the 95% UCL was less than the SAC

A schematic diagram of the conceptual site model is presented in Figure 7.1.



Key

- Groundwater level

[1] UST – Underground storage tank
[2] ACM – Asbestos containing material
[3] AHD – Australian Height Datum
[4] bgsl – below ground surface
[5] kL – kilolitre
[6] AST – Above ground storage tank
[7] UPSS – Underground petroleum storage system

Receptors

- C Construction workers
- E Terrestrial ecosystem
- GW Groundwater ecosystem
- SW Surface water and sediment ecology
- O Open space/recreational users
- U Future site users

Pathways

- i Dermal contact and incidental ingestion of soil
- ii Inhalation of dust from soil/fibres
- iii Dermal contact and incidental ingestion of surface water/groundwater/leachate
- iv Inhalation of soil/groundwater vapours in outdoor air
- v Inhalation of soil/groundwater vapours in outdoor air
- vi Inhalation of soil/groundwater vapours within a trench
- vii Plant uptake and/or ingestion by animals
- viii Uptake of CoPC from groundwater (stygofauna and microorganisms)

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creating opportunities

Conceptual site model

42–45 Raymond Ave, Matraville NSW
Detailed site investigation
Figure 7.1

8 Conclusions and recommendations

This DSI was undertaken to provide information on soil and groundwater contamination conditions within the Site, for the purpose of vendor's due diligence. EMM considers that the DSI has derived sufficient data to confirm the general characteristics of soil, fill and groundwater underlying the Site.

The results indicate that the Site is underlain by shallow fill material which contained concentrations of lead (at one location) and B(a)P (at another location) greater than the assessment criteria for commercial/industrial land use within the southern portion of the Site. The calculated 95% UCL for both CoPC was less than the SAC. Therefore, this contamination is not considered to be widespread or significant.

Asbestos was detected in fill material in the south-east corner of the Site and was observed at five other locations across the Site. It is considered possible that the asbestos observed could be associated with the former building on-site (which was reported to contain asbestos and has since been demolished) or could be attributable to imported fill materials. Given that most of the Site is covered by a concrete slab, the detection of asbestos in fill material is not considered to present a significant risk to future Site users, provided a management plan is in place for any future construction works where the slab may be penetrated. However, at the western Site boundary where exposed soils are present, a capping layer may need to be installed to prevent unintended exposure of ACM. EMM notes that a surface clearance was provided for asbestos on the western ground surfaces however, ACM fragments were observed during the DSI fieldwork.

UPSS was identified at the western boundary of the Site as described in Section 2.4. The potential for off-Site migration of CoPC from the identified UPSS source area was unable to be assessed due to access constraints on a steep embankment along the western boundary of the Site. Soil and groundwater investigation locations to the north, east and south of the UPSS did not identify significant contamination and therefore impacts, if present, are considered to be localised to the western (down-gradient) edge.

Development of a remediation strategy and associated environmental management measures is required for the redundant UPSS infrastructure under relevant legislation. EMM notes heritage considerations associated with the Bunnerong Stormwater Channel No 11 adjacent to the remediation area must be incorporated into the remedial strategy.

EMM recommends the following:

- preparation of a remediation action plan (RAP) detailing options for remediation and/or management and a recommended preferred strategy that will:
    - decommission redundant UPSS infrastructure in accordance with relevant standards and/or guidelines;
    - detail requirements for the appropriate treatment, management and offsite disposal of soils;
    - detail validation requirements to be implemented to demonstrate successful completion of the remedial works (including bulk excavation, if undertaken);
    - detail the requirement (if any) for future/ongoing monitoring or management; and
    - include a Construction Environmental Management Plan for the management of impacts (and any unexpected finds) during remediation works.

9 References

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Appendix A

Data quality objectives and assessment criteria

To ensure that data of adequate type and reliability are collected and assessed for the DSI, the seven-step Data Quality Objective (DQO) approach, endorsed in the NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme 3rd Edition, will be adopted. The DQOs have set quality assurance and quality control parameters for the field and laboratory programs to ensure data of appropriate reliability will be used to assess the environmental condition of the Site. The DQOs are presented in the following paragraphs.

A.1 Data quality objectives

A.1.1 Step 1 – State the problem

Epsom Enterprises seeks to undertake vendor's due diligence prior to the sale of the Site. The problem is that CoPC may be present in soil, fill and groundwater at the Site at concentrations which are not consistent with the proposed land use. Additionally, the presence of UPSS infrastructure was unknown.

The Stage 2 DSI to be carried out within the Site aims to:

- identify potential contamination issues that may impact the development and future use of the Site;
- evaluate the suitability of the Site for the intended land use; and
- assist with the development of a remediation strategy (if required).

A.1.2 Step 2 – Identification of the goals (decisions) of the study

The decisions to be made based on the results of the Stage 2 DSI are as follows:

1. Is the Site suitable for continued industrial/commercial land use?
2. Is remediation required within the Site to make it suitable for its intended land use?
3. Are further investigations required to assess the suitability of the Site or to assess the need for remediation?
4. Are the data reliable and adequate for decisions to be made about the future use of the Site?

A.1.3 Step 3 – Identify information inputs to the decision or goal of the study

The inputs required to make the above decisions listed in Step 2 are as follows:

1. existing data for the Site [from previous investigations including JBS&G (2019a,b)];
2. Site boundaries;
3. appropriate NSW EPA guideline documents;
4. appropriate assessment criteria;
5. appropriately experienced environmental consultants;
6. geological and geotechnical data and information relevant to subsurface structures;
7. hydrogeological data;
8. concentrations of CoPC in different sampled media (eg fill/soil types and groundwater);

9. observations regarding the presence of building materials or other waste materials including materials potentially containing ash, asbestos, staining, odours and discolouration of the soil media;

10. observation data for presence of light and dense non-aqueous phase liquids (LNAPL/DNAPL), odours and discolouration of the groundwater and surface water media;

11. distribution of identified contamination both laterally and vertically;

12. identification of potential contamination below permanent structures; and

13. QA/QC data.

A.1.4 Step 4 – Define the study boundaries

The boundaries of the investigation have been identified as follows:

1. Spatial boundaries – The lateral assessment is limited to the boundary of the Site as shown on Figure 2.1.

2. Vertical boundaries – The vertical study boundary will be limited to the deepest proposed depth required for the DSI which is anticipated to be 2 m below depth of groundwater (where groundwater monitoring wells are proposed to be installed).

3. Temporal boundaries – the temporal boundaries of the assessment have been determined based on application of current guidelines and that no new contamination sources arise at the Site that could cause significant contamination between the time of this investigation and the transfer of ownership of the property.

Step 5 – Develop a Decision Rule

The decision rules for this investigation are as follows:

1. If it is determined that data generated through this investigation are reliable and suitably characterise soil and groundwater contamination the data set will be compared against the adopted Site Assessment Criteria (SAC).

    a) If comparison of data generated through this investigation meets the adopted SAC, then the Site will be considered suitable for ongoing land use;

    b) If comparison of data generated through this investigation does not meet the adopted SAC, then further assessments or remediation may be recommended as a basis for making the Site suitable.

2. If it is determined that data generated through this investigation are not reliable and/or do not suitably characterise soil and groundwater contamination as required for determining land use suitability, then further investigations may be recommended prior to comparison against the SAC.

A.1.5 Step 6 – Specify performance or acceptance criteria that the data need to achieve

Acceptable limits on decision errors must be applied based on the Data Quality Indicators (DQIs) of precision, accuracy, representativeness, comparability and completeness (PARCC).

The tolerable limits on decision errors for data that EMM considers acceptable are:

1. Probability that 95% of data satisfied the DQIs, therefore the limit on the decision error is 5% that a conclusive statement may be incorrect.

2. In applying statistical analysis of a data set (where applicable/sufficient data set exists):

   a) No individual sample will report a concentration that exceeds 250% of the SAC.

   b) A normal distribution will only be used if the coefficient of variance is not greater than 1.2.

   c) The standard deviation of a sample population will not exceed 50% of the SAC.

3. A robust QA/QC program will be implemented and that appropriate sampling and analytical density for the purposes of the investigations and representative sampling is undertaken.

   The possible outcomes on making an error in the decision are:

   a) Basing decisions on unreliable data and consequently making incorrect decisions regarding land use suitability.

   b) Basing decisions on unreliable data and inappropriately defining a remedial or management strategy.

   This could result in the following outcomes:

      i) Confirmation that the Site is suitable for the proposed land uses when it is not (or vice versa).

      ii) Possible underestimation (or overestimation) of remediation extent required resulting in cost implications for the client.

      iii) Adoption of inappropriate remediation strategies for the identified contamination resulting in cost implications for the client.

Relevant performance and/or acceptance criteria were determined for QA/QC purposes and comparison of soil and groundwater analytical results to appropriate assessment criteria. The DQIs are described in Section A.2 below. The adopted SAC are described in Section 5.

A.1.6 Step 7 – Optimise the design

Based on the previous steps 1 to 6 of the DQO process, the design (ie scope of works or sample and analysis quality plan) for obtaining the required data (ie proposed field and laboratory programs) is presented in Section 4.

A.2 Selection of Site Assessment Criteria – soil

A.2.1 Health Investigation Levels (HILs)

The HILs described in the ASC NEPM (2013) are scientifically-based generic assessment criteria designed to be used in the first stage of an assessment of potential risks to human health from chronic exposure to contaminants. They are intentionally conservative and are based on a reasonable worst-case scenario for four generic land use settings, as summarised in Table A.1. It is understood that the site is zoned for industrial land use, with limited access to soil.

Table A.1 HIL summary

HIL	Land Use
HIL_A	Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake, (no poultry), also includes children's day care centres, preschools and primary schools.
HIL_B	Residential with minimal opportunities for soil access includes dwellings with fully and permanently paved yard space such as high-rise buildings and flats.
HIL_C	Public open space such as parks, playgrounds, playing fields (eg ovals), secondary schools and footpaths.
HIL_D	**Commercial/industrial such as shops, offices, factories and industrial sites.**

A.2.2 Health Screening Levels (HSLs)

The HSLs (presented in the ASC NEPM and Friebel and Nadebaum, 2011) for petroleum hydrocarbons in soil and groundwater were developed to be protective of human health by determining the reasonable maximum concentration from on-site sources for a range of situations commonly encountered on contaminated sites The HSLs also include consideration of soil texture and depth to source to determine the appropriate soil, groundwater and soil vapour criteria for the exposure scenario as summarised in Table A.2 below.

As above, selection of appropriate HSLs require identification of the soil type affected by contamination. Identifying the appropriate soil texture is important for volatile chemicals as saturation porosity (a factor of soil particulate size) will directly influence the rate of vapour transport and consequently determine the HSL value for vapour inhalation. The adopted soil description is based on the Unified Soil Classification System (USCS), which is determined by the ratio of sand, silt and clay particles in the soil.

Table A.2 Soil HSLs for vapour intrusion

HSL	Land use	Soil depths	Soil types (all land uses)
HSL_A	Refer to Appendix A	0 m to <1 m	Sand (including sand, sandy clay, sandy clay loam, sandy loam, loamy sand, loam, sandy silt and silty sand)
HSL_B		1 m to <2 m	
HSL_C		2 m to <4 m	Silt (including silt, silty clay and silty)
HSL_D		>4 m	

Friebel and Nadebaum (2011) included two key assumptions in the derivation of the HSLs that limit their use to assessing impacts from petroleum sources:

- An aliphatic: aromatic ratio of 80: 20 within each TPH fraction was adopted based on representative data for fresh petrol and diesel fuels typical of those available in Australia. CRC CARE states that *the HSLs may be applied to other fuel types (e.g. kerosene, aviation fuel and fuel oil); however, it should be confirmed that the aliphatic/aromatic speciation is similar to that assumed in the derivation of the HSLs (80:20)* (Friebel and Nadebaum, 2011).

- The soil saturation and water solubility limits used in the derivation of the HSLs were based on an assumed mixture composition. The HSLs are therefore not applicable to pure compound solvents, as solubility limits incorporated into the HSLs were derived based on typical petrol and diesel fuel mixtures.

On this basis, Friebel and Nadebaum (2011) states that 'HSLs cannot be applied to non-petroleum sources such as pure solvents or gasworks wastes, where the solubility limits may be much higher' but also states that 'HSLs for BTEX and naphthalene may be used to assess risk for contamination present from non-petroleum based activities such as gas manufacture subject to adopting the HSL values (which are not limited by theoretical solubility or saturation concentrations). EMM considers that a similar approach may be justified for TPH constituents, provided that the HSL values for the aromatic/aliphatic fractions are adopted rather than the weighted total fractions.

Where the HSL value is non-limiting (NL), the Friebel and Nadebaum (2011) direct contact values were adopted. Direct contact HSLs have been developed for the incidental soil ingestion, dermal and inhalation exposure pathways. The direct contact HSLs are generally not the risk drivers for further site assessment for the same contamination source as the HSLs for vapour intrusion. The HSLs for direct contact are summarised in Table A.3.

Table A.3 Soil HSLs for direct contact

HSL	Land Use
HSL_A	Refer to Appendix A
HSL_B	
HSL_C	
HSL_D	
Shallow Trench Worker	Utility/intrusive maintenance workers involved in shallow trenches (to a maximum depth of 1 m). It is noted that this is also considered to be appropriate for the assessment of exposure to intrusive maintenance workers in tunnel and dive structures > 1 m depth.

Note: Loam soils are not usually considered in Australian assessments.

As the future land use is anticipated to be industrial with minimal opportunities for residual soil access, and the soil type is variable across the investigation area, the following HSLs were adopted in the following hierarchy:

- HSL D for vapour intrusion, 0 to <1 m, sand;
- HSL D for direct contact; and
- HSL for intrusive maintenance worker direct contact.

A.2.3 Ecological Soil Assessment Criteria

i Ecological Investigation Levels (EILs)

The ASC NEPM provides ecological investigation levels (EILs) for the protection of terrestrial ecosystems. EILs have been derived for arsenic, copper, chromium (III), dichlorodiphenyltrichloroethane, naphthalene, nickel, lead and zinc and have been developed for the following three generic land use settings:

- national parks and areas of ecological significance;
- urban residential areas and public open space; and
- commercial and industrial land uses.

The EILs have been derived to protect soil, soil processes and terrestrial species using a risk-based approach. Toxicity data for each chemical was compiled and used to calculate an added contaminant limit (ACL) either using a species sensitivity distribution (SSD) or assessment factor (AF) approach depending upon the level of available toxicological data. It is noted that the EILs conservatively assume 100% bioavailability as this factor can be highly variable and dependent upon site-specific conditions.

The ASC NEPM outlines the effects of soil characteristics (specifically pH, cation exchange capacity (CEC) and clay content) on bioavailability and toxicity of contaminants to terrestrial and soil organisms. For contaminants where sufficient data is available with regard to the effects of soil characteristics on toxicity the ASC NEPM provides a method to enable ACL values to be adjusted based on site-specific soil properties. The ASC NEPM outlines that where there is insufficient data to support adjustment of EILs these chemicals cannot be adjusted based on Site-specific soil properties.

EILs apply principally to contaminants in the top 2 m of soil at the finished surface/ground level which corresponds to the root zone and habitation zone of many terrestrial species.

The EILs applicable to this investigation are those for industrial land use.

i Ecological Screening Levels (ESLs)

Ecological screening levels (ESLs) are provided in the ASC NEPM and are based on the review of Canadian guidance (derived by the Canadian Council for Ministers of the Environment (CCME)) for petroleum hydrocarbons in soils and comparison of the derivation methodology with Australian methodology. It was determined that the derivation of ecological screening values by the CCME was in accordance with Australian methodology and thus the CCME values for BTEX, B(a)P and F1 (carbon chain fractions C_6-C_{10}) and F2 (>C_{10}-C_{16}) were adopted in the ASC NEPM.

ESLs are provided for four TPH fractions (F1 to F4, [F3 >C_{16}-C_{34} and F4 >C_{34}-C_{40}]) and for coarse and fine-grained soil types. As per the EILs, the ESLs apply from the surface to 2 m depth below finished surface/ground level and apply to fresh petroleum contamination.

A.2.4 Aesthetics

In accordance with the ASC NEPM, the following are the type of findings that would trigger the requirement for assessment of aesthetic considerations where further assessment hasn't been triggered by an exceedance of an investigation or screening criteria:

- highly odorous soil or groundwater;
- hydrocarbon sheens on groundwater;
- discoloured soil or chemical deposits;
- large monolithic deposits of otherwise low risk material; and
- soils containing residue from animal or abattoir waste burial.

A.2.5 Management limits for petroleum hydrocarbons

Petroleum hydrocarbon management limits are screening levels from the ASC NEPM that are applicable following evaluation of human health and ecological risks and risks to groundwater resources. They are intended to assess other impacts that are not considered in the application of HSLs or ESLs, such as explosive or fire hazards, impacts to subsurface infrastructure and the formation of LNAPL.

They are applicable for operating sites where significant sub-surface leakage of petroleum compounds has occurred and when decommissioning industrial and commercial sites.

Soil analytical results for petroleum hydrocarbons were screened against the management limits for industrial land use. As the soil and fill conditions within the Site are variable, the limits for coarse textured soils have been adopted, which are most conservative.

A.3 Selection of Sie Assessment Criteria – Groundwater

9.1.2 Human health

i HSLs

Friebel, E. and Nadebaum, P. (2011) have been referred to for the assessment of petroleum hydrocarbon contamination, which are applicable for assessing vapour intrusion risks from contaminated groundwater. The HSLs are based on five specific land uses/receptors; three soil types and three depth ranges for groundwater, as summarised in Appendix A.

Table A.4 Groundwater HSL summary

HSL	Land use	Depth to groundwater	Soil types (all land uses)
A	Low density residential with direct access to soils	2 m to <4 m	Sand (sand, sandy clay, sandy clay loam, sandy loam, loamy sand, loam, sandy silt and silty sand)
B	High-density residential with limited direct access to soils	4 m to <8 m 8 m +	
C	Public open space including parklands and ovals		Silt (silt, silty clay and silty clay loam)
D	Commercial/Industrial land		
Shallow Trench Worker	Utility/intrusive maintenance workers involved in shallow tranches to a maximum depth of 1 m		Clay (clay, clay loam and silt loam)

ii Drinking water quality guidelines

For the assessment of drinking water, the ASC NEPM references the use of the *Australian Drinking Water Guidelines* which were most recently updated in 2018 (NHMRC, 2018). These guidelines have been developed for health and aesthetic quality levels for supplying good quality drinking water.

The Australian Drinking Water Guidelines (ADWG) do not present guideline values for TPH in drinking water. In the absence of other Australian guidance relating to drinking water standards, the World Health Organisation (WHO) Petroleum Products in Drinking Water (2008) have been adopted for the following reasons:

- the ADWG are based on the WHO drinking water guidelines; and
- the ASC NEPM notes that *Australia is a party to the WHO process and has incorporated their material in a variety of environmental health criteria*.

The drinking water quality guidelines are not considered applicable to the Site, based on the location of the Site within the Orica Botany Groundwater Extraction Exclusion Area (GEEA). Groundwater extraction is restricted within the GEEA and therefore, potential exposure pathways would be limited to vapour intrusion.

A.3.1 Ecological

The ANZG (2018) provide ‘trigger’ values for chemicals within the water, which represent the best current estimates of the concentration of chemicals that should have no significant adverse effects on the aquatic ecosystem. ANZG indicates that an exceedance of a trigger values does not necessarily imply that there is an inherent risk, rather that further assessment and monitoring may be required prior to implementing appropriate management actions. EMM notes that according to ANZG, low reliability trigger values are interim levels only because *“low reliability trigger values were derived, in the absence of a data set of sufficient quantity, using larger assessment factors to account for greater uncertainty”, and, “low reliability values should not be used as default guidelines”*.

Whilst ANZG provide an interim, low reliability trigger level of 7 µg/L for crude oil in water; there is no trigger level for TPH. EMM notes that current laboratory limits of reporting (LOR) cannot quantify TPH to this concentration. As a consequence, no assessment criteria for TPH have been adopted.

A.3.2 Rationale

The following rationale was applied in the selection of these human-health based GAC:

- HSL D for industrial land use with minimal opportunities for soil access has been adopted for human health assessment as this is the most sensitive proposed land use. Sand was selected as the soil type and shallowest presented groundwater depth (3.13 m) as a conservative measure to be protective of deeper groundwater. For the purpose of this assessment the Friebel and Nadebaum, (2011) extension model will not be applied for groundwater less than 2 m deep as it is unlikely that the value (for vapour intrusion) would be less than the drinking water guideline.

- ANZECC (2000) values for recreational primary contact due potential primary contact with site workers and future or off-site exposure to recreational receptors.

Based on review of available information and consideration of the Site location in accordance with Table 5 of Schedule B1 of the ASC NEPM, the groundwater environmental values to be adopted for this assessment include:

- ANZG (2018) 95% level of species protection trigger values for marine water ecosystems, given the location of Botany Bay <500 m downgradient of the site.

A.4 Data quality indicators

The project DQIs have been established to set acceptance limits on field and laboratory data collected as part of this investigation. For both field and laboratory procedures acceptance limits are set at different levels for different projects and by the laboratories. Non-compliances with acceptance limits are to be documented and discussed in the report. The DQIs are presented in Table A.5 below.

Table A.5 Data Quality Indicators

DQI	Field	Laboratory	Acceptability Limits
Completeness	• All critical locations sampled • All samples collected • SOPs appropriate and complied with • Experienced sampler • Documentation correct	• All critical samples analysed and for all CoPC • Appropriate methods implemented • Appropriate laboratory limits of reporting (LORs) • Sample documentation complete • Compliance with sample holding times	• As per ASC NEPM (2013) • < nominated criteria

Table A.5 Data Quality Indicators

DQI	Field	Laboratory	Acceptability Limits
Comparability	• Sample SOPs used on each occasion • Experienced sampler • Climatic conditions • Same types of samples collected	• Same analytical methods used (including clean-up) • Sample laboratory LORs (justify/quantify if different) • Same laboratories (NATA accredited) • Consistent reported units of measurement	• As per ASC NEPM (2013) • < nominated criteria
Representativeness	• Appropriate media sampled	• All critical samples analysed and for all CoPC as required for the project objectives	• Appropriate samples analysed
Precision	• SOPs appropriate and complied • Collection of blind and split duplicate • samples	• Analysis of: – Blind duplicate samples (1 in 20 samples) – Split duplicate samples (1 in 20 samples) • Laboratory duplicate sample	• RPD of < 30%(organics) and <50% (inorganics) • RPD of < 30% (organics) and <50% (inorganics) • RPD of < 50%
Accuracy	• SOPs appropriate and complied • Collection of rinsate blanks	• Analysis of: – Field/trip blanks (1/day) – Method blanks – Matrix spikes – Matrix spike duplicates – Surrogate spikes – Laboratory control samples – Laboratory prepared spikes – Reagent blank	 • Non-detect for CoPC • Non-detect for CoPC • 70 to 130% • RPD of <30% • 70 to 130% • 70 to 130 % • 70 to 130% • Non-detect for CoPC

All reporting must comply with NSW EPA (2020) *Guidelines for Consultants Reporting on Contaminated Land*, as applicable.

Appendix B

QA/QC report

Data quality assurance and quality control report

Project number:	J200432	**Matrix type:**	Water
Client:	Epsom Enterprises	**Samples collected:**	MW01, MW02, MW03, QC103, QC203, QC304, TB04, TS04.
Site(s):	42-52 Raymond Avenue, Matraville, Sydney	**Laboratory:**	ALS (primary) Envirolab (secondary)
Sampling event:	Groundwater sampling – 30 July 2020	**Lab reference:**	ES2026409 (ALS) 248214 (Envirolab)
Validation by:	Yik Cheong	**Date:**	12/08/2020
Verification by:	Alex Tennant	**Date:**	18/08/2020

Field QA/QC

Sampling personnel	Groundwater sampling was conducted by L Lewis and K Brodie on 30 July 2020.
Sampling methodology	Groundwater sampling was conducted with low flow sampling pump.
Chain of custody (COC)	Chain of custody documents were completed by EMM (L Lewis).
Analysis request	Laboratory analysis request and sample receipt notification reviewed and approved by EMM.
Field blanks	No field blanks were collected as part of this assessment.
Rinsate blanks *(QC304)*	Rinsate blank sample was collected at a frequency of one per day of sampling (one in total). The rinsate sample QC304 was collected from the interface probe. Concentrations reported below the LOR for all analytes tested.
Trip blanks *(TB04)*	One water trip blank was submitted to the laboratory for analysis. Concentrations were not detected above the LOR for all analytes tested, with the exception of TPH C6-C9 fraction which concentration was 20 µg/L. It is noted that this concentration is very low trace amount at the LOR value (<20 µg/L).
Trip spikes *(TS04)*	One water trip spike was submitted to the laboratory for analysis. Recoveries were within acceptable control limits.
Intra-laboratory duplicates *(QC103)* Interlaboratory duplicates *(QC203)*	Intra- and inter-laboratory field duplicate samples were collected at a frequency of one in three primary samples (one of each in total).
Handling and preservation	All samples were received at the laboratories in appropriate sample containers. Primary, duplicate and triplicate soil samples were received preserved and chilled at the laboratories. Water samples were received preserved with attempt to chill at ALS (primary laboratory) with a recorded temperature of 2.3°C. The triplicate water sample was received at Envirolab (secondary laboratory) at 11.7°C. These samples were received outside the recommended range (< 6°C). Attempt to chill was evident for all sample batches and the higher temperature is not expected to have a significant implication on data quality. Additionally, the samples were received appropriately preserved with seals intact and were extracted within holding times. It was noted that triplicate sample was labelled as "QC200", the label had been corrected to QC203 as stated on the COC.

Data quality assurance and quality control report

Project number:	J200432	**Matrix type:**	Water
Client:	Epsom Enterprises	**Samples collected:**	MW01, MW02, MW03, QC103, QC203, QC304, TB04, TS04.
Site(s):	42-52 Raymond Avenue, Matraville, Sydney	**Laboratory:**	ALS (primary) Envirolab (secondary)
Sampling event:	Groundwater sampling – 30 July 2020	**Lab reference:**	ES2026409 (ALS) 248214 (Envirolab)
Validation by:	Yik Cheong	**Date:**	12/08/2020
Verification by:	Alex Tennant	**Date:**	18/08/2020

Laboratory QA/QC	
Tests requested/reported	Samples were analysed and reported as requested on the COC.
Holding time compliance	Samples were extracted and analysed within recommended holding times.
Laboratory accreditation	The laboratory analysis was conducted by ALS Environmental Pty Ltd (primary lab) and Envirolab (secondary lab), both National Association of Testing Authorities (NATA) accredited laboratories.
Frequency of laboratory QC	The laboratories reported a sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, with the exception of: • ALS reported eleven outliers for frequency of quality control samples. There outliers are minimal in comparison to the dataset and are therefore not expected to have a material impact on the data quality. • Laboratory duplicates were not assessed for the triplicate sample submitted to Envirolab. The lack of assessment of laboratory duplicates for triplicate samples is not anticipated to affect the interpretation of the results.
Method blank	Method blank concentrations were not detected above the LOR for all analytes
Laboratory duplicate RPDs	Laboratory duplicate (LD) Relative Percentage Differences (RPD) (where reported) were within control limits for all analytes.
Laboratory control spike recovery	LCS recoveries were within control limits, with the exception of: ALS lab sample ID QC-3173546-002 where recoveries for the following analytes were less than the lower control limit: • 2.4-Dimethylphenol - 25.8% (limit 50.0-94.0%) • N-Nitrosodiethylamine - 56.0% (limit 60.6-113%) • Methapyrilene - 21.8% (limit 23.3-125%) • Nitrobenzene - 64.1% (limit 68.3-112%) • Bis(2-chloroethyl) ether - 55.7% (limit 69.1-112%) • Aniline - 45.7% (limit 50.0-104%) These exceptions are not expected to have a material impact on the data integrity.
Matrix spike recovery	ALS - Matrix spike (MS) recoveries (where reported) were within control limits.
Surrogate spike recovery	Surrogate spike recoveries were within control limits for all analytes with the exception of the following: • 2-Chlorophenol-D4 - 64.4 % (limit 66.0-122%) As all other surrogate spike recoveries met control limits, this exception is not expected to have a material impact on the data integrity.

Data quality assurance and quality control report

Project number:	J200432	**Matrix type:**	Water
Client:	Epsom Enterprises	**Samples collected:**	MW01, MW02, MW03, QC103, QC203, QC304, TB04, TS04.
Site(s):	42-52 Raymond Avenue, Matraville, Sydney	**Laboratory:**	ALS (primary) Envirolab (secondary)
Sampling event:	Groundwater sampling – 30 July 2020	**Lab reference:**	ES2026409 (ALS) 248214 (Envirolab)
Validation by:	Yik Cheong	**Date:**	12/08/2020
Verification by:	Alex Tennant	**Date:**	18/08/2020

Data validation

Comparison of field observations and laboratory results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random check of the laboratory results identified no anomalies between the electronic data, the laboratory reports, and tables generated by EMM.
Limits of reporting (LOR)	LORs were sufficiently low to enable assessment against adopted guideline criteria.
Intra-laboratory duplicate RPDs *(QC103, MW02_200730)*	Intra-laboratory duplicates RPDs were reported within control limits.
Inter-laboratory duplicate RPDs *(QC203, MW02_200730)*	Inter-laboratory duplicates RPDs were reported within control limits.

Chromatograms

N/A

Comments

Based on EMM's review, it is considered that an acceptable degree of QAQC information has been collected and reported in accordance with EMM and the laboratory internal standard operating procedures. The assessment of field and laboratory QA/QC data indicated that the reported analytical results are representative of the conditions at the sample locations analysed and that the overall quality of the data produced is considered to be acceptably reliable for the purpose of this investigation. Despite the minor variations/outliers summarised above, the laboratory data are considered to provide and appropriate level of confidence in the accuracy, comparability, completeness and precision of the analytical results, and are considered suitable for interpretive use.

Data quality assurance and quality control report

Project number:	J200432	**Matrix type:**	Soil
Client:	Epsom Enterprises	**Samples collected:**	BH01_0.4, BH02_0.5, BH03_0.9, BH04_0.9, BH05_0.5, BH06_0.3, BH06_1.3, BH06_3.9, BH07_0.3, BH07_1.0, BH07_3.5, BH08_0.3, BH08_2.7, BH09_0.3, BH09_1.5, BH10_0.3, BH10_0.8, BH10_2.7, BH11_0.5, BH11_3.9, BH11_5.5, BH12_0.5, BH12_1.6, BH14_0.3, BH14_0.8, BH14_3.9, BH15_0.3, BH15_3.9, BH16_0.9, BH16_1.7, BH17_0.3, BH17_1.6, BH17_2.1, BH17_3.9, BH18_0.3, BH18_1.6, BH18_3.3, BH18_5.5, BH19_1.0, BH19_1.8, BH19_3.9, BH20_0.3, BH20_0.9, BH20_1.6, BH21_0.2, BH21_1.3, BH22_1.2, BH22_3.9, BH23_0.9, BH23_1.5, BH24_0.3, BH24_1.4, BH24_2.7, BH25_0.3, BH25_0.9, BH26_0.1, BH26_1.0, BH26_1.8, BH26_4.4, BH27_0.5, BH27_2.0, BH27_2.7, BH28_0.3, BH28_1.0, BH29_0.3, BH29_2.6, BH30_0.3, BH30_0.9, BH30_2.7, BH13_0.3, BH13_1.5, QC100, QC101, QC102, QC200, QC201, QC202, QC300, QC301, QC302, QC303, TB01, TB02, TB03, TS01, TS02, TS03.
Site(s):	42-52 Raymond Avenue, Matraville, Sydney	**Laboratory:**	Envirolab (primary) ALS (secondary)
Sampling event:	Detailed Site Investigation	**Lab reference:**	247142, 247834 (Envirolab) ES2025385 (ALS)
Validation by:	Yik Cheong	**Date:**	11/08/2020
Verification by:	Alex Tennant	**Date:**	18/08/2020

Field QA/QC	
Sampling personnel	Soil sampling was conducted by L Lewis on 15 July and 22-24 July 2020. Epoca Environmental were engaged as the drilling subcontractor.
Sampling methodology	Soil sampling was conducted with hand auger and push tube
Chain of Custody (COC)	Chain of custody documents were completed by EMM (L Lewis).
Analysis request	Laboratory analysis request and sample receipt notification reviewed and approved by EMM.
Field blanks	No field blanks were collected as part of this assessment.
Rinsate blanks *(QC300, QC301, QC302, QC303)*	Rinsate blank samples were collected at a frequency of one per day of sampling (four in total). The rinsate sample QC300 was collected from the hand auger and QC301, QC302, and QC303 were collected from the hand trowel. Concentrations reported below the LOR for all analytes tested.
Trip blanks *(TB01, TB02, TB03)*	Trip blanks were included at a frequency of one per cooler (three in total). Concentrations were not detected above the LOR for all analytes tested.
Trip spikes *(TS01, TS02, TS03)*	Trip spikes were included at a frequency of one per cooler (three in total). Recoveries were within acceptable control limits.
Intra-laboratory duplicates *(QC100, QC101, QC102)* Interlaboratory duplicates *(QC200, QC201, QC202)*	Intra- and inter-laboratory field duplicate samples were collected at a frequency of one in twenty primary samples (three of each in total).

Data quality assurance and quality control report

Project number:	J200432	**Matrix type:**	Soil
Client:	Epsom Enterprises	**Samples collected:**	BH01_0.4, BH02_0.5, BH03_0.9, BH04_0.9, BH05_0.5, BH06_0.3, BH06_1.3, BH06_3.9, BH07_0.3, BH07_1.0, BH07_3.5, BH08_0.3, BH08_2.7, BH09_0.3, BH09_1.5, BH10_0.3, BH10_0.8, BH10_2.7, BH11_0.5, BH11_3.9, BH11_5.5, BH12_0.5, BH12_1.6, BH14_0.3, BH14_0.8, BH14_3.9, BH15_0.3, BH15_3.9, BH16_0.9, BH16_1.7, BH17_0.3, BH17_1.6, BH17_2.1, BH17_3.9, BH18_0.3, BH18_1.6, BH18_3.3, BH18_5.5, BH19_1.0, BH19_1.8, BH19_3.9, BH20_0.3, BH20_0.9, BH20_1.6, BH21_0.2, BH21_1.3, BH22_1.2, BH22_3.9, BH23_0.9, BH23_1.5, BH24_0.3, BH24_1.4, BH24_2.7, BH25_0.3, BH25_0.9, BH26_0.1, BH26_1.0, BH26_1.8, BH26_4.4, BH27_0.5, BH27_2.0, BH27_2.7, BH28_0.3, BH28_1.0, BH29_0.3, BH29_2.6, BH30_0.3, BH30_0.9, BH30_2.7, BH13_0.3, BH13_1.5, QC100, QC101, QC102, QC200, QC201, QC202, QC300, QC301, QC302, QC303, TB01, TB02, TB03, TS01, TS02, TS03.
Site(s):	42-52 Raymond Avenue, Matraville, Sydney	**Laboratory:**	Envirolab (primary) ALS (secondary)
Sampling event:	Detailed Site Investigation	**Lab reference:**	247142, 247834 (Envirolab) ES2025385 (ALS)
Validation by:	Yik Cheong	**Date:**	11/08/2020
Verification by:	Alex Tennant	**Date:**	18/08/2020

Handling and preservation	All samples were received at the laboratories in appropriate sample containers. Primary, duplicate and triplicate soil samples were received preserved and chilled at the laboratories. First batch of primary samples were received preserved with attempt to chill at Envirolab (primary laboratory) with a recorded temperature of 8.2°C which is outside the recommended range (< 6°C). However, it is noted a slightly elevated temperature is not expected to have a significant implication on data quality. Additionally, the samples were received appropriately preserved with seals intact and were extracted within holding times. Second batch of primary samples was received at 1.5°C at Envirolab. The triplicate sample was received at ALS (secondary laboratory) at 4°C. These samples were received within the recommended temperature range (< 6°C).

Laboratory QA/QC

Tests requested/reported	Samples were analysed and reported as requested on the COC, with the exception of BH29_2.6_200724 which was reported missing.
Holding time compliance	Samples were extracted and analysed within recommended holding times.
Laboratory Accreditation	The laboratory analysis was conducted by Envirolab (primary lab) and ALS Environmental Pty Ltd (secondary lab), both National Association of Testing Authorities (NATA) accredited laboratories.
Frequency of laboratory QC	The laboratories reported a sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision.
Method Blank	Method blank concentrations were not detected above the LOR for all analytes

Data quality assurance and quality control report

Project number:	J200432	**Matrix type:**	Soil
Client:	Epsom Enterprises	**Samples collected:**	BH01_0.4, BH02_0.5, BH03_0.9, BH04_0.9, BH05_0.5, BH06_0.3, BH06_1.3, BH06_3.9, BH07_0.3, BH07_1.0, BH07_3.5, BH08_0.3, BH08_2.7, BH09_0.3, BH09_1.5, BH10_0.3, BH10_0.8, BH10_2.7, BH11_0.5, BH11_3.9, BH11_5.5, BH12_0.5, BH12_1.6, BH14_0.3, BH14_0.8, BH14_3.9, BH15_0.3, BH15_3.9, BH16_0.9, BH16_1.7, BH17_0.3, BH17_1.6, BH17_2.1, BH17_3.9, BH18_0.3, BH18_1.6, BH18_3.3, BH18_5.5, BH19_1.0, BH19_1.8, BH19_3.9, BH20_0.3, BH20_0.9, BH20_1.6, BH21_0.2, BH21_1.3, BH22_1.2, BH22_3.9, BH23_0.9, BH23_1.5, BH24_0.3, BH24_1.4, BH24_2.7, BH25_0.3, BH25_0.9, BH26_0.1, BH26_1.0, BH26_1.8, BH26_4.4, BH27_0.5, BH27_2.0, BH27_2.7, BH28_0.3, BH28_1.0, BH29_0.3, BH29_2.6, BH30_0.3, BH30_0.9, BH30_2.7, BH13_0.3, BH13_1.5, QC100, QC101, QC102, QC200, QC201, QC202, QC300, QC301, QC302, QC303, TB01, TB02, TB03, TS01, TS02, TS03.
Site(s):	42-52 Raymond Avenue, Matraville, Sydney	**Laboratory:**	Envirolab (primary) ALS (secondary)
Sampling event:	Detailed Site Investigation	**Lab reference:**	247142, 247834 (Envirolab) ES2025385 (ALS)
Validation by:	Yik Cheong	**Date:**	11/08/2020
Verification by:	Alex Tennant	**Date:**	18/08/2020

Laboratory duplicate RPDs	Laboratory duplicate (LD) Relative Percentage Differences (RPD) were within control limits for all analytes, with the exception of the following: • Envirolab - The laboratory RPD acceptance criteria had been exceeded for sample BH04_0.9_200715 (Lab ID 247142-4) for Hg; • Envirolab - The laboratory RPD acceptance criteria had been exceeded for sample BH17_1.6_200723 (Lab ID247834-27) for Pb & Zn; • Envirolab - The laboratory RPD acceptance criteria had been exceeded for sample BH21_0.2_200723 (Lab ID 247834-40) for Pb. Therefore, a triplicate result has been issued as BH21_0.2_200723-[TRIPLICATE] (Lab ID 247834-76). Triplicate results were issue by the laboratory for these samples (BH04_0.9_200715-[TRIPLICATE], BH17_1.6_200723-[TRIPLICATE], BH21_0.2_200723-[TRIPLICATE], respectively). Triplicate samples were within the control limits for all acid extractable metals.
Laboratory control spike recovery	LCS recoveries were within control limits.
Matrix spike recovery	ALS - Matrix spike (MS) recoveries (where reported) were within control limits, with the exception of Perfluoropentanoic acid (PFPeA) (Lab ID ES2025385-002) which had a recovery of 139%, 7% above the acceptance limit of 69-132%.
Surrogate spike recovery	Surrogate spike recoveries were within control limits.
Data Validation	
Comparison of field observations and laboratory results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random check of the laboratory results identified no anomalies between the electronic data, the laboratory reports, and tables generated by EMM.
Limits of reporting (LOR)	LORs were sufficiently low to enable assessment against adopted guideline criteria.

Data quality assurance and quality control report

Project number:	J200432	**Matrix type:**	Soil
Client:	Epsom Enterprises	**Samples collected:**	BH01_0.4, BH02_0.5, BH03_0.9, BH04_0.9, BH05_0.5, BH06_0.3, BH06_1.3, BH06_3.9, BH07_0.3, BH07_1.0, BH07_3.5, BH08_0.3, BH08_2.7, BH09_0.3, BH09_1.5, BH10_0.3, BH10_0.8, BH10_2.7, BH11_0.5, BH11_3.9, BH11_5.5, BH12_0.5, BH12_1.6, BH14_0.3, BH14_0.8, BH14_3.9, BH15_0.3, BH15_3.9, BH16_0.9, BH16_1.7, BH17_0.3, BH17_1.6, BH17_2.1, BH17_3.9, BH18_0.3, BH18_1.6, BH18_3.3, BH18_5.5, BH19_1.0, BH19_1.8, BH19_3.9, BH20_0.3, BH20_0.9, BH20_1.6, BH21_0.2, BH21_1.3, BH22_1.2, BH22_3.9, BH23_0.9, BH23_1.5, BH24_0.3, BH24_1.4, BH24_2.7, BH25_0.3, BH25_0.9, BH26_0.1, BH26_1.0, BH26_1.8, BH26_4.4, BH27_0.5, BH27_2.0, BH27_2.7, BH28_0.3, BH28_1.0, BH29_0.3, BH29_2.6, BH30_0.3, BH30_0.9, BH30_2.7, BH13_0.3, BH13_1.5, QC100, QC101, QC102, QC200, QC201, QC202, QC300, QC301, QC302, QC303, TB01, TB02, TB03, TS01, TS02, TS03.
Site(s):	42-52 Raymond Avenue, Matraville, Sydney	**Laboratory:**	Envirolab (primary) ALS (secondary)
Sampling event:	Detailed Site Investigation	**Lab reference:**	247142, 247834 (Envirolab) ES2025385 (ALS)
Validation by:	Yik Cheong	**Date:**	11/08/2020
Verification by:	Alex Tennant	**Date:**	18/08/2020

Intra-laboratory duplicate RPDs

(QC100, BH03_0.9_200715)

(QC101, BH26_1_200724)

(QC102, BH27_2_200724)

Intra-laboratory duplicates RPDs were reported within control limits, with the exception of the following:

- QC100 (primary sample: BH03_0.9_200715): lead (108%) and zinc (55%);
- QC101 (primary sample: BH26_1_200724): copper (100%) and zinc (51%);
- QC102 (primary sample: BH27_2_200724): zinc (32%).

Exceedances of the RPD are likely attributed to soil heterogeneity. For RPD exceedances in QC100, QC101 and QC102, concentrations of lead, zinc and copper were below the adopted assessment criteria by 2-3 order of magnitudes, confirming the absence of significant impacts. As a conservative measure, the highest reported concentrations have been used in the assessment.

Inter-laboratory duplicate RPDs

(QC200, BH17_1.6_200723)

(QC201, BH19_1.8_200723)

(QC202, BH29_0.3_200724)

Inter-laboratory duplicates RPDs were reported within control limits, with the exception of the following:

- QC200 (primary sample: BH17_1.6_200723): C10-C40 (Sum of total) (131%), C16-C34 (82%), copper (99%), lead (160%) and zinc (103%);
- QC202 (primary sample: BH29_0.3_200724): lead (67%) and zinc (55%).

Exceedances of the RPD are attributed to soil heterogeneity. For RPD exceedances in QC200, concentrations of C16-C34, zinc and copper were below the adopted assessment criteria by 1-2 order of magnitudes. For RPD exceedances in QC202, concentrations of lead and zine were below the adopted assessment criteria by 2-3 order of magnitudes. These RPD exceedances will have insignificant impacts to the assessment.

For RPD exceedances of lead in QC200, its' concentration in the primary sample BH17_1.6 was above the adopted assessment criteria. It is noted that for all compounds, with the exception of zinc, concentrations were higher in the results reported by the primary laboratory than those reported by the secondary laboratory. This indicates that concentrations reported by the primary laboratory are conservative. As a conservative measure, the highest reported concentrations have been used in the assessment.

Data quality assurance and quality control report

Project number:	J200432	**Matrix type:**	Soil
Client:	Epsom Enterprises	**Samples collected:**	BH01_0.4, BH02_0.5, BH03_0.9, BH04_0.9, BH05_0.5, BH06_0.3, BH06_1.3, BH06_3.9, BH07_0.3, BH07_1.0, BH07_3.5, BH08_0.3, BH08_2.7, BH09_0.3, BH09_1.5, BH10_0.3, BH10_0.8, BH10_2.7, BH11_0.5, BH11_3.9, BH11_5.5, BH12_0.5, BH12_1.6, BH14_0.3, BH14_0.8, BH14_3.9, BH15_0.3, BH15_3.9, BH16_0.9, BH16_1.7, BH17_0.3, BH17_1.6, BH17_2.1, BH17_3.9, BH18_0.3, BH18_1.6, BH18_3.3, BH18_5.5, BH19_1.0, BH19_1.8, BH19_3.9, BH20_0.3, BH20_0.9, BH20_1.6, BH21_0.2, BH21_1.3, BH22_1.2, BH22_3.9, BH23_0.9, BH23_1.5, BH24_0.3, BH24_1.4, BH24_2.7, BH25_0.3, BH25_0.9, BH26_0.1, BH26_1.0, BH26_1.8, BH26_4.4, BH27_0.5, BH27_2.0, BH27_2.7, BH28_0.3, BH28_1.0, BH29_0.3, BH29_2.6, BH30_0.3, BH30_0.9, BH30_2.7, BH13_0.3, BH13_1.5, QC100, QC101, QC102, QC200, QC201, QC202, QC300, QC301, QC302, QC303, TB01, TB02, TB03, TS01, TS02, TS03.
Site(s):	42-52 Raymond Avenue, Matraville, Sydney	**Laboratory:**	Envirolab (primary) ALS (secondary)
Sampling event:	Detailed Site Investigation	**Lab reference:**	247142, 247834 (Envirolab) ES2025385 (ALS)
Validation by:	Yik Cheong	**Date:**	11/08/2020
Verification by:	Alex Tennant	**Date:**	18/08/2020

Chromatograms

N/A

Comments

Based on EMM’s review, it is considered that an acceptable degree of QAQC information has been collected and reported in accordance with EMM and the laboratory internal standard operating procedures. The assessment of field and laboratory QA/QC data indicated that the reported analytical results are representative of the conditions at the sample locations analysed and that the overall quality of the data produced is considered to be acceptably reliable for the purpose of this investigation. Despite the minor variations/outliers summarised above, the laboratory data are considered to provide and appropriate level of confidence in the accuracy, comparability, completeness and precision of the analytical results, and are considered suitable for interpretive use.

Appendix C

Calibration certificates

Certificate of Service and Calibration

Interface Meter

Heron H.Oil

Company Name	WAM Scientific
Office Address	16 Lawn Avenue, Clemton Park NSW 2206
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	Heron H.Oil Interface Meter (30m)
Serial Number	01-7876
Client Name	Lachlan Lewis (EMM Consulting)
Project Number	J200432 w26

Instrument Check

Item	Test	Test Passed	Comments
9V Battery	Klein Tools MM300 Multimeter	✓	Battery voltage reading above 7.9V
Battery Box	Check	✓	No damage
Face and Back Plates	Check	✓	No damage
Thumb Screws	Check	✓	Rubber ends intact
Tape Hangar/Protector	Check	✓	No damage
On/Off Button	Operation	✓	Button is functional
Buzzer	Operation	✓	Intermittent tone in H_2O, solid tone in product
LED Signal Light	Operation	✓	LED light functional – green and red
Probe	Operation/Check	✓	Decontaminated, cleaned and tested
Tape	Condition/Check	✓	Decontaminated and cleaned, no damage
Connection	Check	✓	Probe and link connected correctly and tightly
PCB	Operation	✓	Unit is fully functional
Electronics Panel	Orientation	✓	Correctly aligned

Instrument Readings

Product	Buzzer	LED Light
H_2O	Intermittent	Blinking – Red
Petroleum	Solid	Steady – Red

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The interface meter was decontaminated, cleaned and tested with a mixture of tap water and petrol, shielded from ambient light.

Checked By	William Pak
Calibration Date	28/07/2020
Calibration Due	28/07/2021

Certificate of Service and Calibration

Water Quality Meter

YSI Professional Plus

Company Name	WAM Scientific
Office Address	16 Lawn Avenue, Clemton Park NSW 2206
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	YSI Professional Plus Water Quality Meter w/ 1m Quatro Cable
Serial Number	20D101036
Client Name	Lachlan Lewis (EMM Consulting)
Project Number	J200432 w26
Comments	-

Instrument Check

Item	Test	Test Passed	Comments
2 x Alkaline C-size Batteries	Klein Tools MM300 Multimeter	✓	Both batteries reading above 2.9V
Battery Saver Function	Operation	✓	Automatically turns off after 60 minutes if idle
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Connection Port and Cable	Condition/Check	✓	Clean, no damage
Monitor Housing	Condition/Check	✓	No damage
Firmware	Version	✓	4.0.0
pH Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
pH millivolts for pH 7.00	Calibration	✓	pH 7.00 calibration range between 0 mV ± 50 mV
pH millivolts for pH 4.00	Calibration	✓	pH 4 mV range +165 to +180 from 7 buffer mV value
pH slope	Calibration	✓	Range between 55 to 60 mV/pH (ideal value 59 mV)
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
ORP Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
ORP Reading	Calibration	✓	Within ± 80 mV of reference Zobell Reading
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
Conductivity/Temp Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
Conductivity Cell	Calibration	✓	Conductivity cell constant 5.0 ± 1.0 in GLP file
Clean Sensor Readings	Calibration	✓	Clean sensor reads less than 3 uS/cm in dry air
Dissolved Oxygen Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
DO Cap	Condition/Calibration	✓	1.25 mil PE membrane (yellow membrane)
DO Sensor in Use	Condition	✓	Polarographic DO sensor
DO Sensor Value	Calibration	✓	(min 4.31 uA - max 8.00 uA) Avg 6.15 uA

Instrument Readings

Parameter	Standard Used	Reference No.	Calibration Value	Observed	Actual	Units
Temperature	Centre 370 Thermometer	Room Temp.	17.7	17.7	17.7	°C
pH	pH 4.00	336722	4.01	4.01	4.01	pH
pH	pH 7.00	329744	7.00	7.03	7.00	pH
Conductivity	2760 µs/cm at 25°C	332208	2760	2745	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	340526/340529	241.6	235.2	241.6	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	5928	0.0	0.3	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	106.2	100.0	%

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using solutions of known values.

Calibrated By	William Pak
Calibration Date	20/07/2020
Calibration Due	20/01/2021

Certificate of Service and Calibration

Gas Detector

MiniRAE 3000

Company Name	WAM Scientific
Office Address	16 Lawn Avenue, Clemton Park NSW 2206
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	MiniRAE 3000 (PGM 7320)
Serial Number	592-908350
Client Name	Lachlan Lewis (EMM Consulting)
Project Number	J200432 w26

Instrument Check

Item	Test	Test Passed	Comments
Li-Ion Rechargeable Battery	Battery Charge and Drain	✓	Unit runs for > 8 hours on a full charge
Charger and Power Supply	Operation/Check	✓	No damage
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Pump	Flow Check	✓	Flow rate > 0.5 L/min
Monitor Housing	Condition/Check	✓	No damage
Rubber Boot	Check	✓	Clean, no damage
Flexi Probe	Condition/Check	✓	No leaks, no damage
Water Trap Filter	Visual Check	✓	Clean
Alarms	Audible, Visual, Vibration Check	✓	All modes of alarms are functional
Data Logger	Operation	✓	Unit records data, default set at 60 seconds
Lamp and Sensor	Clean and Calibration	✓	Lamp and PID sensor cleaned and calibrated
PCB	Operation	✓	Unit is fully functional
Firmware	Version	✓	v2.20A

Instrument Readings

Parameter	Calibration Gas	Concentration	Reference No.	Zero Reading	Span Reading
PID (10.6eV)	Isobutylene	100 ppm	980514	0 ppm	100.3 ppm

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using gases of known concentrations.

Calibrated By	William Pak
Calibration Date	09/05/2020
Calibration Due	09/11/2020

Certificate of Service and Calibration

Peristaltic Pump

Geotech Geopump 2

Company Name	WAM Scientific
Office Address	16 Lawn Avenue, Clemton Park NSW 2206
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	Geotech Geopump Peristaltic Pump
Cable Length	4.5m
Serial Number	Pump: 5810
Serial Number	Head: -
Client Name	Lachlan Lewis (EMM Consulting)
Project Number	J200432 w26

Instrument Check

Item	Test	Test Passed	Comments
2 x 12V Batteries	Klein Tools MM300 Multimeter	✓	Both batteries reading above 12V
Battery Terminals	Check	✓	No damage
Charger	Condition/Check	✓	Functioning
Cabling	Check	✓	No damage
Alligator Clips	Check	✓	Protected, no damage
Casing	Check	✓	Clean, no damage
Handle	Check	✓	No damage
Pump Head	Check	✓	EZ2 Head, no damage
Pump Condition	Decontamination	✓	Decontaminated
Pump Operation	Operation	✓	Peristaltic pump functional
Pump Tubing	Replacement	✓	New 0.5m ¼” OD LDPE silicon tubing
Pump Speed	Operation	✓	Speed knob functional

Inclusions

2 x Sealed lead acid 12V batteries included
1x Carry case for 12V batteries included
1x Intrinsically safe charger (clips) included

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer’s standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The pump has been decontaminated and cleaned upon return from the previous hire and is in good working order.

Checked By	William Pak
Calibration Date	28/07/2020
Calibration Due	28/01/2021

Appendix D

Borelogs

Environmental borehole log BH01

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 15/07/2020
DRILLING CONTRACTOR N/A
DRILLING METHOD Hand auger
LOCATION Garden bed, far southeast corner

COORDINATES 33°57'43.9"S 151°13'15.4"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Hand auger					▨	FILL	FILL: SAND; medium to coarse grain, grey to brown, minor organics (wood), loose to medium dense, moist, no odour or staining.
		1.2	BH01_0.4	Y	▨		
	0.5						End of investigation at 0.5 m (target).
	1						

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Environmental borehole log BH02

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 15/07/2020
DRILLING CONTRACTOR N/A
DRILLING METHOD Hand auger
LOCATION Garden bed, near USTs

COORDINATES 33�57'42.8"S 151�13'16.6"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Hand auger					▨	FILL	FILL: Gravelly SAND; medium grain, grey to brown, with organics (fibrous roots, ~30%), angular asphalt and concrete gravels, trace glass, brick and potential ACM fragments, loose to medium dense, dry to moist, no odour or staining.
	0.5	0.6	BH02_0.5	Y	▨		
							End of investigation at 0.6 m (target).
	1						

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Environmental borehole log BH03

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 15/07/2020
DRILLING CONTRACTOR N/A
DRILLING METHOD Hand auger
LOCATION Garden bed, northeast of USTs

COORDINATES 33�57'41.9"S 151�13'17.6"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Hand auger					▨	FILL	FILL: SAND; medium grain, grey, minor gravels (angular, asphaltic concrete, <20%), minor organics (fibrous roots, <20%), loose, dry to moist, no odour or staining.
		0.3			▨		FILL: GRAVEL; angular, dark grey, with asphaltic concrete inclusions, with medium grain sand (~20%), loose, dry to moist, no odour or staining.
					▨		FILL: SAND; medium grain, brown, trace gravels, loose to medium dense, dry to moist, no odour or staining.
					▨		Fibrous roots (<30%) from 0.4 to 0.6 m.
	0.5				▨		
		0.5	BH03_0.9 QC100	Y	▨		
	1						End of investigation at 1.0 m (target).

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Environmental borehole log BH04

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 15/07/2020
DRILLING CONTRACTOR N/A
DRILLING METHOD Hand auger
LOCATION Garden bed, near northwest boundary

COORDINATES 33�57'41.0"S 151�13'18.6"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	**Depth (m)**	**PID (ppm)**	**Samples**	**Analysed?**	**Graphic log**	**USCS**	**Material description**
Hand auger	0.5	0.1			▨	FILL	FILL: SAND; medium to coarse grain, grey, minor gravels (concrete), trace asphalt and potential ACM fragments on surface, loose, moist, no odour or staining.
		0.2	BH04_0.9	Y	▨		
	1						End of investigation at 1.0 m (target).

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Environmental borehole log BH05

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 15/07/2020
DRILLING CONTRACTOR N/A
DRILLING METHOD Hand auger
LOCATION Garden bed, northern corner of site

COORDINATES 33�57'40.1"S 151�13'19.6"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Hand auger					▨	FILL	FILL: SAND; medium to coarse grain, grey, minor gravels (angular, <20%), loose to medium dense, moist, no odour or staining.
					▨		Colour change to light grey and trace gravels from 0.3 m
	0.5	0.2	BH05_0.5		▨		Colour change to yellow-brown, no gravels
							End of investigation at 0.6 m (target).
	1						

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Environmental borehole log BH06

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 22/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Northern portion of site

COORDINATES 33�57'41.3"S 151�13'19.8"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 150 mm.
Hand auger	0.5	0.2	BH06_0.3	Y	▨	FILL	FILL: SAND; medium grain, grey, trace gravels (sub-rounded, <30 mm), loose, dry, no odour or staining.
	1				▨		Colour change to dark brown, increased gravels from 0.9 m.
Push tube	1.5	0.1	BH06_1.3	Y	░	SP	SAND; medium grain, grey to brown, loose, dry to moist, no odour or staining.
	2 2.5 3				░		Colour change to yellow-brown and moist from 2.0 m.
	3.5				░		▽ Wet from 3.3 m.
		0.1	BH06_3.9	N	░		
	4						End of investigation at 3.9 m (target).

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Environmental borehole log BH07

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 22/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Central portion of site

COORDINATES 33�57'42.3"S 151�13'19.5"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core						FILL	CONCRETE; 150 mm.
Hand auger		0.2	BH07_0.3	Y		FILL	FILL: SAND; medium grain, grey, trace gravels (sub-rounded, <30 mm), loose, dry, no odour or staining.
	0.5						Colour change to dark brown, minor peat inclusions from 0.6 to 0.7 m.
Push tube	1	0	BH07_1.0	N		SP	SAND; medium grain, brown, loose, dry to moist, no odour or staining.
	1.5						Colour change to yellow-brown and moist from 1.6 m.
	2						
	2.5						
	3						
	3.5	0.1	BH07_3.5	Y			▽ Wet from 3.4 m.
	4						End of investigation at 3.9 m (target).

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Environmental borehole log BH08

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 22/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Central/eastern portion of site

COORDINATES 33�57'43.3"S 151�13'20.2"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 130 mm.
Hand auger		0.1	BH08_0.3	Y	▦	FILL	FILL: SAND; medium grain, brown, minor peat inclusions (dark brown, very dense), trace gravels, loose, dry, no odour or staining.
	0.5	0			░	SP	SAND; medium grain, brown, loose, dry, no odour or staining.
	1				░		
Push tube	1.5				░		Colour change to yellow-brown and dry to moist from 1.5 m.
	2				░		
	2.5				░		
		0.1	BH08_2.7	N	░		
							End of investigation at 2.7 m (target).
	3						

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Environmental borehole log BH09

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 22/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Southeastern boundary

COORDINATES 33�57'44.1"S 151�13'19.8"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 130 mm.
Hand auger		0.3	BH09_0.3	Y	▨	FILL	FILL: Gravelly SAND; medium grain, dark grey, asphaltic concrete gravels (sub-angular), loose, dry to moist, no odour or staining.
	0.5	0			▨	FILL	FILL: SAND; medium grain, light grey, trace gravels, loose, dry, no odour or staining.
	1	0.1			░	SM	SAND; very fine to medium grain, brown, with peat inclusions (~30%, very dense, dark brown), medium dense to loose, dry, no odour or staining.
Push tube	1.5 2 2.5	0.2 0.1	BH09_1.5	Y	░	SP	SAND; medium grain, yellow-brown, loose, dry to moist, no odour or staining.
	3						End of investigation at 2.7 m (target).

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Environmental borehole log BH10

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 22/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Central/southern portion of site

COORDINATES 33�57'43.8"S 151�13'18.5"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 130 mm.
Hand auger	0.5	0.1	BH10_0.3	Y	▨	FILL	FILL: SAND; medium grain, brown, trace gravels, trace terracotta fragments, loose, dry to moist, no odour or staining.
Push tube	1 1.5 2 2.5	0.1	BH10_0.8	Y	░	SP	SAND; medium grain, yellow-brown, very loose, dry, no odour or staining.
		0.1	BH10_2.7	N	░		
	3						End of investigation at 2.7 m (target).

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Environmental borehole log BH12

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 22/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Central/southern portion of site

COORDINATES 33�57'42.5"S 151�13'17.8"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 150 mm.
Hand auger					▨	FILL	FILL: Gravelly SAND; medium grain, grey, trace concrete cobbles (<70 mm), trace clay (medium plasticity, brown), loose to medium dense, dry to moist, no odour or staining.
	0.5	0.1	BH12_0.5	Y	▨		Potential ACM fragment at 0.5 m.
	1				░	SP	SAND; medium grain, light grey, loose, dry, no odour or staining.
Push tube					░		
	1.5	0.4	BH12_1.6	Y	░	SM	SAND; very fine to medium grain sand, dark brown, minor peat inclusions (dense), dry to moist, no odour or staining.
					░	SP	SAND; medium grain, yellow-brown, loose, dry to moist, no odour or staining.
	2				░		
	2.5	0			░		
							End of investigation at 2.7 m (target).
	3						

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Environmental borehole log BH13

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 24/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Near northwestern boundary

COORDINATES 33�57'41.1"S 151�13'18.9"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 210 mm.
Hand auger	0.5 1	0.1	BH13_0.3	Y	▩	FILL	FILL: SAND; medium grain, brown, minor gravels (<20 mm, sub-angular), trace asphalt, loose, dry to moist, no odour or staining. Potential ACM fragment at 0.2 m.
Push tube	1.5	0.3	BH13_1.5	Y	▩		
	2						End of investigation at 1.5 m (refusal on concrete)

Environmental borehole log BH14

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 22/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Northern corner of the site

COORDINATES 33�57'39.8"S 151�13'20.0"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 160 mm.
Hand auger		0.1	BH14_0.3	Y	▩	FILL	FILL: SAND; medium grain, grey, minor gravels (<10 mm, sub-angular), trace glass fragments, loose, dry to moist, no odour or staining.
	0.5				▩		
		0.1	BH14_0.8	N	░	SP	SAND; medium grain, light grey to brown, loose to medium dense, dry to moist, no odour or staining.
	1				░		
					░		Colour change to yellow-brown from 1.1 m.
Push tube	1.5				░		
	2				░		
	2.5				░		
	3				░		
					░		∇ Moist-wet from 3.2 m.
	3.5				░		
		0.2	BH14_3.9	Y	░		
	4						End of investigation at 3.9 m (target).

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Environmental borehole log BH15

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Southern corner of the site

COORDINATES 33�57'45.4"S 151�13'17.5"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 160 mm.
Hand auger	0.5	0.1	BH15_0.3	Y	▩	FILL	FILL: Gravelly SAND; medium grain, dark grey, sub-angular <50 mm gravels and cobbles, loose, dry, no odour or staining.
Push tube	1				░	SP	SAND; medium grain, grey to brown, loose to medium dense, dry, no odour or staining.
	1.5 2 2.5 3				░		Colour change to dark brown with minor peat inclusions from 1.1 to 1.3 m. Dry to moist from 1.3 m.
	3.5				░		∇ Moist to wet from 3.5 m.
		0.1	BH15_3.9	Y	░		
	4						End of investigation at 3.9 m (target).

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Environmental borehole log BH16

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Southern site boundary

COORDINATES 33�57'45.0"S 151�13'16.4"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 130 mm.
Hand auger	0.5	0.1			▨	FILL	FILL: Gravelly SAND; medium grain, dark grey, sub-angular <50 mm gravels and cobbles, loose, dry, no odour or staining.
Push tube	1 1.5	0.5	BH16_0.9	Y	░	SP	SAND; medium grain, light grey to brown, loose to medium dense, dry to moist, no odour or staining.
		0.5	BH16_1.7	Y	░	SM	SAND; very fine to medium grain, dark brown, peat inclusions, medium dense, dry to moist, no odour or staining.
	2 2.5				░	SM	SAND; medium grain, yellow-brown, medium dense to loose, dry to moist, no odour or staining.
	3						End of investigation at 2.7 m (target).

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Environmental borehole log BH17

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Southwestern corner of site

COORDINATES 33�57'45.0"S 151�13'16.4"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 200 mm.
Hand auger	0.5	0.1	BH17_0.3	Y	▨	FILL	FILL: SAND; medium grain, dark grey, minor sub-angular <50 mm gravels, trace cobbles (<60 mm), medium dense to loose, dry to moist, no odour or staining.
	1				▨	FILL	FILL: SAND; medium grain, light grey to brown, loose to medium dense, dry to moist, no odour or staining.
Push tube	1.5				▨		
		0.9	BH17_1.6 QC200	Y	▨	FILL	FILL: Sandy GRAVEL; sub-angular, dark grey, medium grain grey sand, trace asphalt, medium dense to loose, moist, no odour, very slight black staining.
	2 2.5 3	0.3	BH17_2.1	N	░	SP	SAND; medium grain, yellow-brown, medium dense, moist, no odour or staining.
	3.5				░		▽ Moist to wet from 3.5 m.
		0.3	BH17_3.9	N	░		
	4						End of investigation at 3.9 m (target).

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Environmental borehole log BH19

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Southwestern corner of site

COORDINATES 33�57'44.1"S 151�13'16.4"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▧	FILL	CONCRETE; 150 mm.
Hand auger	0.5	0.1			▦	FILL	FILL: Sandy GRAVEL; conglomerate <20 mm, sub-angular, dark grey, minor cobbles (<60 mm), minor asphalt, loose, dry to moist, no odour or staining.
	1	0.7	BH19_1.0	Y	▦	FILL	FILL: Gravelly SAND; medium grain, grey, angular <10 mm gravels, medium dense to loose, dry to moist, no odour or staining.
Push tube	1.5				░	SP	SAND; medium grain, grey, loose, moist, no odour or staining.
	2	0.5	BH19_1.8 QC201	Y	░		Consistency change to dense, colour change to dark brown-black from 1.8 to 2m. Colour change to dark brown, loose-medium dense from 2 to 2.7 m.
	2.5 3				░		Colour change to yellow-brown from 2.7 to 3.2 m.
	3.5	0.3	BH19_3.9	N	░		∇ Colour change to light grey and moist to wet from 3.5 m.
	4						End of investigation at 3.9 m (target).

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Environmental borehole log BH20

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Southern portion of site

COORDINATES 33°57'44.3"S 151°13'17.5"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 130 mm.
Hand auger		0.1	BH20_0.3	Y	▨	SP	SAND; medium grain, light grey, very loose to loose, dry, no odour or staining.
	0.5						
Push tube		0.1	BH20_0.9	N	▨	PEAT	Sandy PEAT; fine to medium grain sand, dark brown, stiff to hard peat, loose to medium dense sand, dry, no odour or staining.
	1						
	1.5				▨	SP	SAND; medium grain, yellow-brown to light grey, loose to medium dense, dry to moist, no odour or staining.
		0.2	BH20_1.6	Y			
	2						
	2.5						moist
							End of investigation at 2.7 m (target).
	3						

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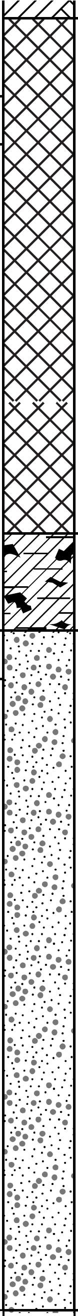
Environmental borehole log BH21

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Southern portion of site

COORDINATES 33�57'44.7"S 151�13'18.4"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core						FILL	Asphaltic CONCRETE; 40 mm.
Hand auger	0.5 1	0.4	BH21_0.2	Y		FILL	FILL: Gravelly SAND; grey-brown, trace of glass, ceramic and paint flakes, <20mm angular gravels, medium grain sand, dry to moist, no odour, minor blue staining from paint flakes on gravel
						PEAT	Sandy PEAT; fine to medium grain sand, dark brown, stiff to hard peat, loose to medium dense sand, dry, no odour or staining.
Push tube	1.5 2 2.5	0	BH21_1.3	Y		SP	SAND; yellow-brown, medium grain, dry to moist, medium dense to loose, no odour or staining.
	3						End of investigation at 2.7 m (target).

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Environmental borehole log BH22

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Fire shed

COORDINATES 33�57'45.1"S 151�13'19.0"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Solid stem						FILL	Asphaltic CONCRETE; 40 mm.
						FILL	FILL: Gravelly SAND; brown-grey, medium grain, <30mm gravels, trace of ceramic, asphalt fragments, potential ACM fragment, loose, medium density, no odour or staining
Hand auger		0.1					colour change to black from 0.2-0.3m
	0.5						
							colour change to light grey, minor gravels (<15%) from 0.8m
Push tube	1						
		0.3	BH22_1.2	Y			potential ACM fragments at 1.2m
	1.5						
	2	0.1				PEAT	Sandy PEAT; fine to medium grain sand, dark brown, stiff to hard peat, loose to medium dense sand, dry, no odour or staining.
	2.5					SP	SAND; yellow-brown, medium grain, dry to moist, medium dense to loose, no odour or staining.
	3						
	3.5						▽ moist to wet from 3.5m
		0.2	BH22_3.9	Y			
	4						End of investigation at 3.9 m (target).

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Environmental borehole log BH23

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Driveway - eastern site boundary

COORDINATES 33�57'43.1"S 151�13'21.1"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core						FILL	Asphaltic CONCRETE; 50 mm.
Hand auger		0.1				FILL	FILL: Sand GRAVEL; dark grey, angular, <20mm gravels, minor concrete fragments, trace of brick fragments, trace of asphalt, loose, dry to moist, no odour or staining
	0.5						
		0.1	BH23_0.9	Y		FILL	FILL: Gravelly SAND; medium grain, grey, <10mm gravels, moist, no odour or staining, medium dense to loose
	1						
Push tube						PEAT	Sandy PEAT; fine to medium grain sand, dark brown, stiff to hard peat, loose to medium dense sand, dry, no odour or staining.
						SP	SAND; yellow-brown, medium grain, dry to moist, medium dense to loose, no odour or staining.
	1.5	1.5	BH23_1.5	Y			
	2						
	2.5						colour change to light grey to yellow-brown from 2.5m
	3						
	3.5						
							∇ moist to wet from 3.6m
	4						End of investigation at 3.9 m (target).

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Environmental borehole log BH24

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Northern portiion of site

COORDINATES 33�57'40.5"S 151�13'20.5"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 140 mm.
Hand auger					▨	FILL	FILL: Gravelly SAND; medium grain, grey, angular gravels <20mm, minor concrete, ceramic, brick and potential ACM fragment inclusions, dry to moist, loose, no odour or staining.
		0.4	BH24_0.3	Y			
	0.5						
							increased gravels (40%) and colour change to dark grey from 0.7m
Push tube							
	1						
					▨	FILL	Asphalt and gravels; black, dry to moist, shiny, <15mm gravels, medium dense, no odour or staining
					░	SP	SAND; medium grain, brown, loose to medium dense, moist, no odour or staining.
		0.4	BH24_1.4	N			
	1.5						colour change to yellow-brown to light grey from 1.5m
	2						
	2.5						
		0.3	BH24_2.7	Y			
							End of investigation at 2.7 m (target).
	3						

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Environmental borehole log BH25

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 23/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Northeast boundary

COORDINATES 33�57'40.8"S 151�13'21.3"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 150 mm.
Hand auger					▨	FILL	FILL: Gravelly SAND; medium grain, <20mm sub-angular gravels, medium dense, grey, dry to moist, no odour or staining
		0.1	BH25_0.3	Y	▨		
	0.5				▨		
					▨	PEAT	Sandy PEAT; fine to medium grain sand, dark brown, stiff to hard peat, loose to medium dense sand, dry, no odour or staining.
					░	SP	SAND; medium grain, grey-brown, loose, dry to moist, no odour or staining.
		0.1	BH25_0.9	Y	░		
	1				░		
		0.1			░		
Push tube					░		colour change to yellow-brown to light grey from 1.2m
	1.5				░		
	2				░		
	2.5				░		
							End of investigation at 2.7 m (target).
	3						

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Environmental borehole log BH27

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 24/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Hand auger only
LOCATION Between T3 and HT

COORDINATES 33�57'42.7"S 151�13'16.8"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Hand auger only						TOPSO SM	Silty SAND (topsoil); fine to medium grain sand, grey-brown, minor roots (grass) < 20%, minor sub-angular gravels < 20%, dry, loose, no odour or staining
						FILL	FILL: Asphalt gravels; dark grey to black, medium dense, moist, no odour or staining
	0.5	0.4	BH27_0.5	Y		SP	SAND; medium grain, grey-brown, trace roots, moist, medium dense to loose, no odour or staining.
	1						minor sandy peat inclusions, 0.8-1m
	1.5						colour change to light grey from 1.2m
							colour change to brown from 1.7m
	2	1.7	BH27_2.0 QC102	Y			colour change to yellow-brown from 2.0m
	2.5	0.9	BH27_2.7	N			
	3						End of investigation at 2.7 m (target).

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Environmental borehole log BH28

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 24/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Northeast corner of site

COORDINATES 33�57'41.6"S 151�13'22.3"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 150 mm.
Hand auger		0.2	BH28_0.3	Y	░	SM	SAND; brown, fine to medium grain, with sandy peat inclusions (<30%), stiff to hard peat, dry to moist, medium dense to loose, no odour or staining
	0.5				░		
	1	0.1	BH28_1.0	Y	░	SP	SAND; medium grain, yellow-brown, loose, dry to moist, no odour or staining.
Push tube	1.5				░		
	2				░		change to medium dense, moist from 2.0m
	2.5	0.1					End of investigation at 2.5 m (refusal on very compact sand).
	3						

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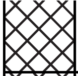
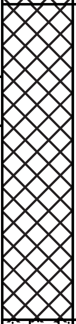
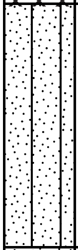
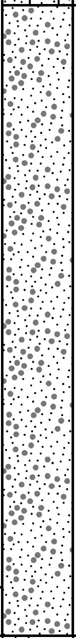
Environmental borehole log BH29

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 24/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Northeast corner of site

COORDINATES 33�57'41.9"S 151�13'21.2"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core						FILL	CONCRETE; 150 mm.
Hand auger	0.5	0.7	BH29_0.3	Y		FILL	FILL: SAND; medium grain, grey-brown, minor gravels sub-angular (<15%), trace of charcoal, trace of asphaltic concrete fragments, loose, dry to moist, no odour or staining
	1	0.2				SM	SAND; brown, fine to medium grain, with peat (<20%), medium dense to very stiff peat, dry to moist, no odour or staining
Push tube	1.5 2 2.5	0.2	BH29_2.6	Y		SP	SAND; medium grain, light grey to yellow-brown, medium dense, moist, no odour or staining.
	3						End of investigation at 2.6 m (refusal on compact sand).

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Environmental borehole log BH30

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

DRILLING DATE 24/07/2020
DRILLING CONTRACTOR Epoca Environmental
DRILLING METHOD Push tube
LOCATION Central portion of site

COORDINATES 33�57'42.2"S 151�13'20.4"E
LOGGED BY L Lewis
CHECKED BY S Dillon

COMMENTS

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core					▨	FILL	CONCRETE; 140 mm.
Hand auger					▨	FILL	FILL: Gravelly SAND; medium grain, brown, minor concrete fragment inclusions (<70mm gravels), trace of potential ACM fragments, loose, dry to moist, no odour or staining
		0.3	BH30_0.3	Y	▨		
	0.5				▨		
Push tube					░	SP	SAND; medium grain, brown, minor medium dense to stiff peat inclusions (<20%), dry to moist, medium dense to loose, no odour or staining
		0.2	BH30_0.9	N	░		
	1				░		
	1.5				░		colour change to light grey to brown-yellow and no peat inclusions from 1.5m
	2				░		
	2.5				░		moist from 2.5m
		0.2	BH30_2.7	Y	░		
							End of investigation at 2.7 m (target)
	3						

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Monitoring well log MW01/BH26

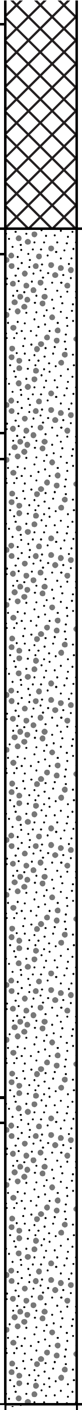
PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence DSI
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

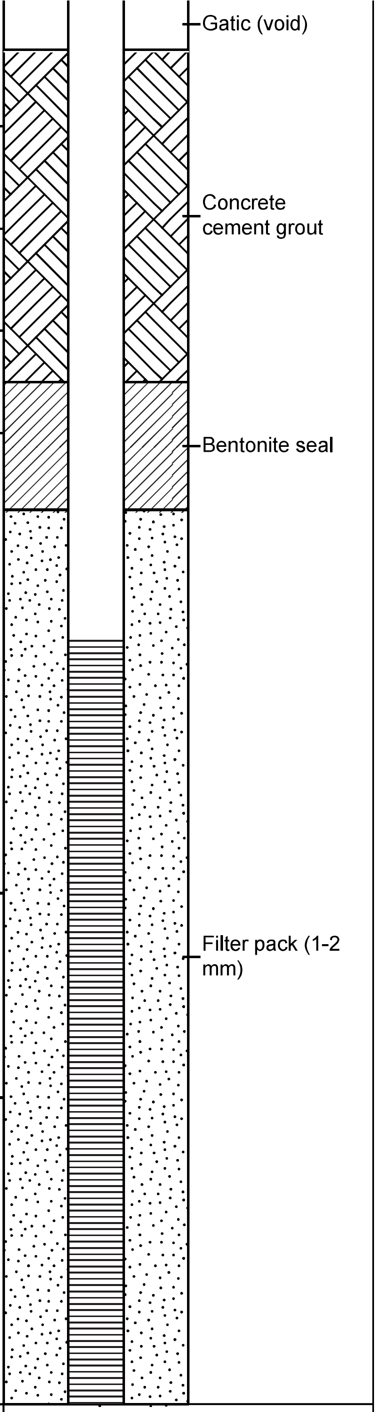
DRILLING DATE 24/07/2020
DRILLING METHOD Solid stem auger
DRILLING CONTRACTOR Epoca Environmental
DIAMETER 50 mm
CASING uPVC, 5.75 m AHD

COORDINATES 335673.5, 6240662.8
LOGGED BY L Lewis
CHECKED BY S Dillon
SCREEN uPVC Factory Slotted, 2.5 to 5.5 m bgs

COMMENTS Located within garden bed immediately northeast of UST area along western site boundary

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description	Well diagram
Hand auger		0	BH26_0.1	N		FILL	FILL: Gravelly SAND; medium grain, grey to brown, sub-angular gravels (<15 mm), trace organics (roots), trace concrete and asphalt, trace cobbles <50 mm, loose, dry to moist, no odour or staining.	
	0.5						Reduced gravels (<20%) from 0.5 to 0.9 m.	
	1	1.0	BH26_1.0 QC101	Y		SP	SAND; medium grain, light grey, loose, dry to moist, no odour or staining.	
Solid stem auger							Colour change to yellow-brown from 1.3 m.	
	1.5							
		0.7	BH26_1.8	N			Minor sandy peat from 1.7 to 2.0 m.	
	2						Moist from 2.0 m.	
	2.5							
	3							
	3.5						Wet from 3.5 m.	
Hollow flight auger	4							
							Slight sulphur odour from 4.3 m.	
		0.5	BH26_4.4	Y				
	4.5							
	5							
	5.5						End of investigation at 5.5 m (target).	





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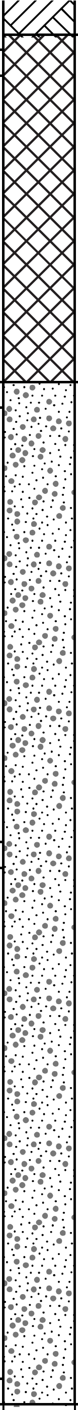
Monitoring well log MW02/BH18

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence DSI
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

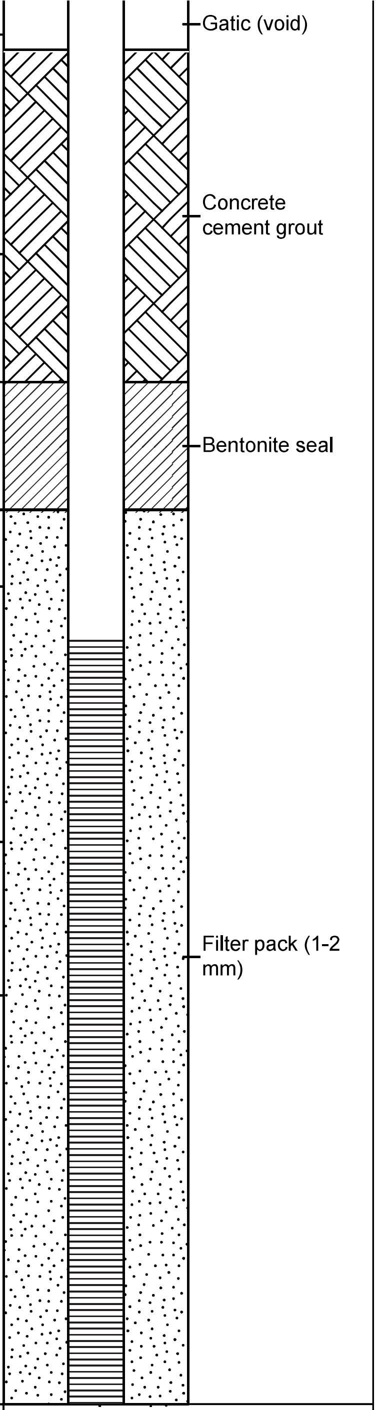
DRILLING DATE 23/07/2020 - 24/07/2020
DRILLING METHOD Solid stem auger
DRILLING CONTRACTOR Epoca Environmental
DIAMETER 50 mm
CASING uPVC, 5.615 m AHD

COORDINATES 335649.0, 6240629.1
LOGGED BY L Lewis
CHECKED BY S Dillon
SCREEN uPVC Factory Slotted, 2.5 to 5.5 m bgs

COMMENTS South of UST area in southwest corner of site. Note bore relocated at 3.9 m depth to new position 1 m north for hollow flight auger groundwater monitoring well installation.

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core						FILL	CONCRETE; 140 mm.
Hand auger		0.1	BH18_0.3	Y		FILL	FILL: SAND; medium grain, grey to brown, trace gravels, trace clay (medium plasticity, orange), very loose, dry, no odour or staining.
	0.5						
	1						Increased gravels, colour change to dark grey and dry to moist from 1 to 1.5 m.
Push tube							
	1.5	0.1	BH18_1.6	N		SP	SAND; medium grain, light grey, loose, dry to moist, no odour or staining.
	2						Minor sandy peat and colour change to dark brown from 2 to 2.3 m.
	2.5						Colour change to yellow-brown from 2.3 m.
	3						
		1.6	BH18_3.3	N			∇ Moist to wet from 3.3 m.
	3.5						
Hollow flight auger	4						Note bore relocated at 3.9 m depth to new position 1 m north for hollow flight auger groundwater monitoring well installation.
	4.5						
	5						
	5.5	1.4	BH18_5.5	Y			
							End of investigation at 5.5 m (target).

Well diagram



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Monitoring well log MW03/BH11

PROJECT NUMBER J200432
PROJECT NAME Matraville due dilligence DSI
CLIENT Epsom Enterprises
ADDRESS 42-52 Raymond Ave, Matraville NSW

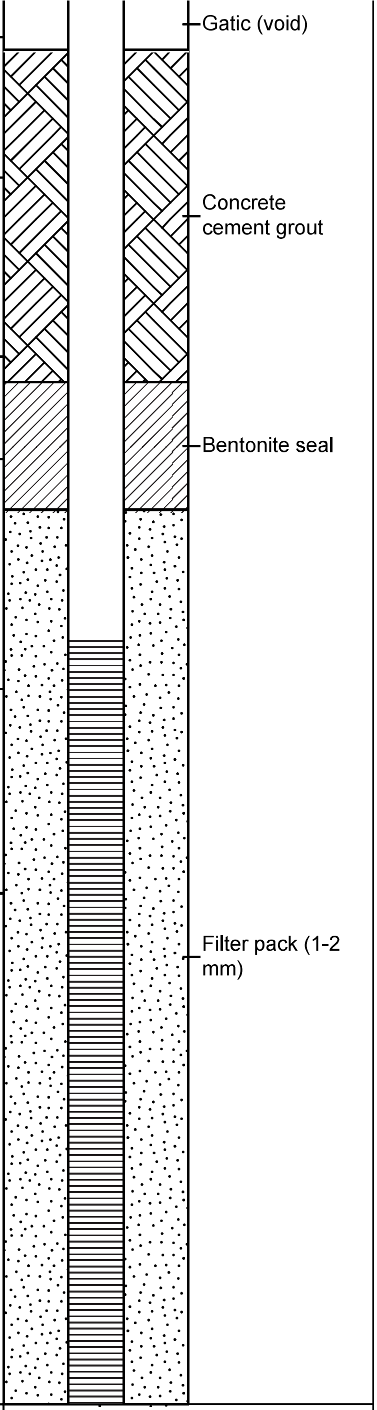
DRILLING DATE 22/07/2020 - 24/07/2020
DRILLING METHOD Solid stem auger
DRILLING CONTRACTOR Epoca Environmental
DIAMETER 50 mm
CASING uPVC, 5.63 m AHD

COORDINATES 335684.0, 6240637.2
LOGGED BY L Lewis
CHECKED BY S Dillon
SCREEN uPVC Factory Slotted, 2.5 to 5.5 m bgs

COMMENTS Located within garden bed immediately northeast of UST area along western site boundary

Method	Depth (m)	PID (ppm)	Samples	Analysed?	Graphic log	USCS	Material description
Core						FILL	CONCRETE; 150 mm.
Hand auger		0				FILL	FILL: SAND; medium grain, grey, trace gravels, trace organics (roots), trace metal fragments, very loose, dry, no odour or staining.
	0.5	0.5	BH11_0.5	Y			
Push tube		0				SP	SAND; medium grain, light grey, loose, dry, no odour or staining.
	1						
							Colour change to dark brown from 1.4 to 1.8 m.
	1.5						
							Colour change to yellow-brown from 1.8 m.
	2						
	2.5						
							Moist from 2.7 m.
	3						
	3.5						▽ Wet from 3.5 m.
		0.1	BH11_3.9	N			
Hollow flight auger	4						
	4.5						
	5						
	5.5	0.2	BH11_5.5	Y			
							End of investigation at 5.5 m (target).

Well diagram



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Appendix E

Analytical result tables

			Asbestos	Inorganics		Metals																					
			Asbestos fibres	Moisture Content	Moisture Content	Cadmium	Arsenic	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanesulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)
			Detect	%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg	µg/kg	mg/kg	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	µg/kg	µg/kg	µg/kg
EQL				1	0.1	0.4	4	1	1	1	0.1	1	1	0.2	0.1	0.0001	0.0002	1	0.2	5	1	0.2	0.001	0.0001	0.2	0.2	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						900	3,000	3,600	240,000	1,500	730	6,000	400,000														
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
0-1m																											
1-2m																											
2-4m																											
>=4m																											
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind							160																				
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																											
0-2m																											
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																											
PFAS NEMP 2020 Industrial/ commercial (HIL D)																											
Location ID	Field ID	Date																									
BH01	BH01_0.4_200715	15/07/2020	0		7.8	<0.4	<4	2	2	3	<0.1	8	13														
BH02	BH02_0.5_200715	15/07/2020	0		5.2	<0.4	<4	3	20	18	<0.1	17	39														
BH03	BH03_0.9_200715	15/07/2020	0		3.4	<0.4	<4	1	3	3	<0.1	1	8														
	QC100_200715	15/07/2020			4.5	<0.4	<4	2	5	10	<0.1	2	14														
BH04	BH04_0.9_200715	15/07/2020	0		19	<0.4	<4	4	25	47	0.7	22	38	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	BH04_0.9_200715 - [TRIPLICATE]	15/07/2020				<0.4	<4	5	29	49	0.8	24	36														
BH05	BH05_0.5_200715	15/07/2020	0		8.9	<0.4	<4	1	2	8	<0.1	2	17														
BH06	BH06_0.3_200722	22/07/2020	0		10	<0.4	12	26	15	23	<0.1	15	41	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	BH06_1.3_200722	22/07/2020			6.7	<0.4	<4	3	<1	3	<0.1	<1	2														
BH07	BH07_0.3_200722	22/07/2020	0		3.4	<0.4	<4	<1	<1	<1	<0.1	<1	<1														
	BH07_3.5_200722	22/07/2020			13	<0.4	<4	1	<1	<1	<0.1	<1	1	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
BH08	BH08_0.3_200722	22/07/2020	0		4.3	<0.4	<4	2	<1	<1	<0.1	<1	8														
	BH08_2.7_200722	22/07/2020			4.3	<0.4	<4	1	<1	<1	<0.1	<1	2														
BH09	BH09_0.3_200722	22/07/2020			11	<0.4	<4	1	5	7	<0.1	6	18														
	BH09_1.5_200722	22/07/2020	0		5.3	<0.4	<4	1	<1	<1	<0.1	<1	<1	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
BH10	BH10_0.3_200722	22/07/2020	0		4.1	<0.4	<4	4	<1	2	<0.1	2	3														
	BH10_0.8_200722	22/07/2020			12	<0.4	<4	1	<1	<1	<0.1	<1	<1														
BH11	BH11_0.5_200722	22/07/2020	0		<0.1	<0.4	<4	<1	2	4	<0.1	1	13														
	BH11_5.5_200724	24/07/2020			12	<0.4	<4	1	<1	<1	<0.1	<1	3	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
BH12	BH12_0.5_200722	22/07/2020	0		6.5	<0.4	<4	2	3	12	<0.1	2	120														
	BH12_1.6_200722	22/07/2020			5.2	<0.4	<4	2	<1	1	<0.1	<1	10														
BH13	BH13_0.3_200724	24/07/2020			8.5	<0.4	<4	1	<1	3	<0.1	<1	5														
	BH13_1.5_200724	24/07/2020	0		5	<0.4	<4	<1	<1	1	<0.1	<1	9	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
BH14	BH14_0.3_200722	22/07/2020	0		5.9	<0.4	<4	1	2	7	<0.1	1	11														
	BH14_3.9_200722	22/07/2020			15	<0.4	<4	1	<1	<1	<0.1	<1	6	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
BH15	BH15_0.3_200723	23/07/2020	0		5.3	<0.4	<4	7	30	35	0.2	20	55														
	BH15_3.9_200723	23/07/2020			20	<0.4	<4	1	<1	<1	<0.1	<1	1														
BH16	BH16_0.9_200723	23/07/2020	0		2.2	<0.4	<4	<1	<1	<1	<0.1	<1	1	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	BH16_1.7_200723	23/07/2020			4.4	<0.4	<4	2	<1	1	<0.1	<1	2														
BH17	BH17_0.3_200723	23/07/2020			5	<0.4	<4	1	4	6	<0.1	2	13														
	BH17_1.6_200723	23/07/2020	0		16	<0.4	10	5	790	2,000	0.2	8	190														
	QC200_200723	23/07/2020		18.8		<1	7	3	267	221	0.4	5	591														
	BH17_1.6_200723 - [TRIPLICATE]	23/07/2020				0.5	11	7	480	630	0.3	10	340														
BH18	BH18_0.3_200723	23/07/2020	0		2.9	<0.4	<4	<1	4	5	<0.1	1	13														
	BH18_5.5_200724	24/07/2020			13	<0.4	<4	<1	<1	<1	<0.1	<1	5	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
BH19	BH19_1.8_200723	23/07/2020			6.2	<0.4	<4	2	<1	3	<0.1	<1	3	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	QC201_200723	23/07/2020		7.5		<1	<5	2	<5	<5	<0.1	<2	<5	<0.5	<0.5	<0.0005	<0.0005							<0.0002	<1		
	BH19_1_200723	23/07/2020	0		5.4	<0.4	<4	<1	3	2	<0.1	<1	6														
BH20	BH20_0.3_200723	23/07/2020	0		1.2	<0.4	<4	<1	<1	2	<0.1	<1	2														
	BH20_1.6_200723	23/07/2020			3.1	<0.4	<4	<1	<1	<1	<0.1	<1	<1														
BH21	BH21_0.2_200723	23/07/2020	0		12	<0.4	<4	10	12	430	<0.1	47	29	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	BH21_0.2_200723 - [TRIPLICATE]	23/07/2020				<0.4	<4	7	16	82	<0.1	36	33														
	BH21_1.3_200723	23/07/2020			2.8	<0.4	<4	<1	<1	1	<0.1	<1	<1														
BH22	BH22_1.2_200723	23/07/2020	1		2.2	<0.4	<4	<1	<1	<1	<0.1	<1	3	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	BH22_3.9_200723	23/07/2020			17	<0.4	<4	2	<1	<1	<0.1	<1	3														
BH23	BH23_0.9_200723	23/07/2020	0		28	<0.4	<4	<1	<1	<1	<0.1	1	3														
	BH23_1.5_200723	23/07/2020			9.9	<0.4	<4	1	<1	<1	<0.1	<1	1														
BH24	BH24_0.3_200723	23/07/2020	0		37	<0.4	<4	6	25	41	<0.1	36	53														
	BH24_2.7_200723	23/07/2020			13	<0.4	<4	<1	<1	1	<0.1	<1	3														
BH25	BH25_0.3_200723	23/07/2020	0		4.7	<0.4	<4	<1	1	2	<0.1	<1	4	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	BH25_0.9_200723	23/07/2020			2.2	<0.4	<4	<1	1	1	<0.1	1	2														
BH26	BH26_1_200724	24/07/2020	0		5.2	<0.4	<4	<1	1	2	<0.1	1	13	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	QC101_200724	24/07/2020			4.9	<0.4	<4	<1	3	4	<0.1	2	22			<0.0001	<0.0002										
	BH26_4.4_200724	24/07/2020			19	<0.4	<4	1	<1	<1	<0.1	<1	2														
BH27	BH27_0.5_200724	24/07/2020	0		6.3	<0.4	<4	3	26	10	<0.1	10	25														
	BH27_2_200724	24/07/2020			7.6	<0.4	<4	1	4	2	<0.1	6	43	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	QC102_200724	24/07/2020			11	<0.4	<4	1	3	1	<0.1	5	31			<0.0001	<0.0002										
BH28	BH28_0.3_200724	24/07/2020	0		5.7	<0.4	<4	2	1	4	<0.1	5	14	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	BH28_1_200724	24/07/2020	0		7.8	<0.4	<4	1	<1	<1	<0.1	<1	4														
BH29	BH29_0.3_200724	24/07/2020	0		43	<0.4	<4	4	6	26	<0.1	4	30														
	QC202_200724	23/07/2020		4.2		<1	<5	2	<5	13	<0.1	2	17														
BH30	BH30_0.3_200724	24/07/2020	0		8.2	<0.4	<4	5	4	4	<0.1	6	10														
	BH30_2.7_200724	24/07/2020			23	<0.4	<4	1	<1	1	<0.1	<1	1	<0.2	<0.1	<0.0001	<0.0002	<1	<0.2	<5	<1	<0.2	<0.001	<0.0001	<0.2	<0.2	<0.5
	TB01_200715	15/07/2020																									
	TB02_200724	24/07/2020																									
	TB03_200724	24/07/2020																									

Environmental Standards
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

			PFOS/PFOA																							
			Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexane sulfonic acid (PFHxS)		Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*	Naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene
			µg/kg	µg/kg	µg/kg	µg/kg	µg/L	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.1	0.1	0.1	0.01	0.1	0.1	1	0.0001	0.0001	0.1	0.2	5	0.5	0.5	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																											
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
0-1m																											
1-2m																											
2-4m																											
>=4m																											
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																							370					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																											
0-2m																												0.7
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																											
PFAS NEMP 2020 Industrial/ commercial (HIL D)											50									20,000							
Location ID	Field ID	Date																									
BH01	BH01_0.4_200715	15/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH02	BH02_0.5_200715	15/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH03	BH03_0.9_200715	15/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	QC100_200715	15/07/2020																				<1					
BH04	BH04_0.9_200715	15/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	0.0027	0.0002	<0.1	<0.2	<5	<0.5	<0.5	2.9		2.7	2.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH04_0.9_200715 - [TRIPLICATE]	15/07/2020																									
BH05	BH05_0.5_200715	15/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH06	BH06_0.3_200722	22/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	<0.0001	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH06_1.3_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH07	BH07_0.3_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH07_3.5_200722	22/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	0.0004	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	0.4		0.4	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH08	BH08_0.3_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH08_2.7_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH09	BH09_0.3_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH09_1.5_200722	22/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	<0.0001	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH10	BH10_0.3_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH10_0.8_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH11	BH11_0.5_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH11_5.5_200724	24/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	<0.0001	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH12	BH12_0.5_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH12_1.6_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH13	BH13_0.3_200724	24/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH13_1.5_200724	24/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	<0.0001	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH14	BH14_0.3_200722	22/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH14_3.9_200722	22/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	0.0009	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	0.9		0.9	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH15	BH15_0.3_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH15_3.9_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH16	BH16_0.9_200723	23/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	0.0005	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	0.5		0.5	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH16_1.7_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH17	BH17_0.3_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH17_1.6_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	0.7	0.5
	QC200_200723	23/07/2020																				<1					
	BH17_1.6_200723 - [TRIPLICATE]	23/07/2020																									
BH18	BH18_0.3_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH18_5.5_200724	24/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	<0.0001	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH19	BH19_1.8_200723	23/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	<0.0001	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	QC201_200723	23/07/2020			<0.2	<0.2		<0.2			<0.0002	<0.0002		<0.2					<0.2	<0.2		<1					
	BH19_1_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH20	BH20_0.3_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH20_1.6_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH21	BH21_0.2_200723	23/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	<0.0001	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	<0.1		<0.1	<0.1	<0.1	0.7	<0.1	1.4	3.6	3.3
	BH21_0.2_200723 - [TRIPLICATE]	23/07/2020																									
	BH21_1.3_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH22	BH22_1.2_200723	23/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	0.0002	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	0.2		0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH22_3.9_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH23	BH23_0.9_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH23_1.5_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH24	BH24_0.3_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	0.1	0.06
	BH24_2.7_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH25	BH25_0.3_200723	23/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	0.0011	0.0001	<0.1	<0.2	<5	<0.5	<0.5	1.2		1.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH25_0.9_200723	23/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH26	BH26_1_200724	24/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	0.0031	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	3.1		3.1	3.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	QC101_200724	24/07/2020				<0.1					0.0032	<0.0001						3.2		3.2	3.2	<1					
	BH26_4.4_200724	24/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH27	BH27_0.5_200724	24/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH27_2_200724	24/07/2020	<0.5	0.3	<0.1	<0.1		<0.1	<0.1	<1	0.016	0.0027	<0.1	<0.2	<5	<0.5	<0.5	19		16	19	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	QC102_200724	24/07/2020				0.1					0.016	0.0031						19		16	19	<1					
BH28	BH28_0.3_200724	24/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	<0.0001	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH28_1_200724	24/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
BH29	BH29_0.3_200724	24/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	QC202_200724	23/07/2020																				<1					
BH30	BH30_0.3_200724	24/07/2020																				<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	BH30_2.7_200724	24/07/2020	<0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<1	0.0004	<0.0001	<0.1	<0.2	<5	<0.5	<0.5	0.4		0.4	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
	TB01_200715	15/07/2020																				<1					
	TB02_200724	24/07/2020																				<1					
	TB03_200724	24/07/2020																				<1					

Environmental Standards
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

			PAH													TPH					TRH						
			Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	PAHs (Sum of positives)	Phenanthrene	Pyrene	+C10-C36 (Sum of total)	C10-C14	C15-C28	C29-C36	C6-C9	C10-C16	C10-C16 (F2 minus Naphthalene)	C10-C40 (Sum of total)	C16-C34	C34-C40	C6-C10	C6-C10 (F1 minus BTEX)
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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			0.5	0.5	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.1	50	50	100	100	10	50	50	50	100	100	10	10
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			40	40	40																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
0-1m																											260
1-2m																											370
2-4m																											630
>=4m																											
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																											
0-2m																						170		1,700	3,300		215
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																					1,000			3,500	10,000	700	
PFAS NEMP 2020 Industrial/ commercial (HIL D)																											
Location ID	Field ID	Date																									
BH01	BH01_0.4_200715	15/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH02	BH02_0.5_200715	15/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	420	660	<25	<50	<50	1,500	930	610	<25	<25
BH03	BH03_0.9_200715	15/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	270	300	<25	<50	<50	630	510	120	<25	<25
	QC100_200715	15/07/2020															<50	210	290	<25	<50	<50	620	450	180	<25	<25
BH04	BH04_0.9_200715	15/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH04_0.9_200715 - [TRIPLICATE]	15/07/2020																									
BH05	BH05_0.5_200715	15/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH06	BH06_0.3_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH06_1.3_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH07	BH07_0.3_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH07_3.5_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH08	BH08_0.3_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH08_2.7_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH09	BH09_0.3_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.3	<0.1	0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH09_1.5_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH10	BH10_0.3_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH10_0.8_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH11	BH11_0.5_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH11_5.5_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH12	BH12_0.5_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH12_1.6_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH13	BH13_0.3_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH13_1.5_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH14	BH14_0.3_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH14_3.9_200722	22/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH15	BH15_0.3_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH15_3.9_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH16	BH16_0.9_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH16_1.7_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH17	BH17_0.3_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH17_1.6_200723	23/07/2020	0.8	0.7	0.7	1	0.2	0.7	<0.1	1.1	<0.1	0.2	5.7	0.6	0.8		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	QC200_200723	23/07/2020														280	<50	140	140	<10	<50	<50	240	240	<100	<10	<10
	BH17_1.6_200723 - [TRIPLICATE]	23/07/2020																									
BH18	BH18_0.3_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH18_5.5_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH19	BH19_1.8_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	QC201_200723	23/07/2020														<50	<50	<100	<100	<10	<50	<50	<50	<100	<100	<10	<10
	BH19_1_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH20	BH20_0.3_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH20_1.6_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH21	BH21_0.2_200723	23/07/2020	4.4	4.4	4.4	3.9	1.5	3.9	0.3	6	0.3	0.9	39	4.1	9.4		<50	180	<100	<25	<50	<50	230	230	<100	<25	<25
	BH21_0.2_200723 - [TRIPLICATE]	23/07/2020																									
	BH21_1.3_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH22	BH22_1.2_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH22_3.9_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH23	BH23_0.9_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH23_1.5_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH24	BH24_0.3_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	0.2	<0.1	0.2	<0.1	<0.1	1.1	0.3	0.2		<50	120	<100	<25	<50	<50	200	200	<100	<25	<25
	BH24_2.7_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH25	BH25_0.3_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH25_0.9_200723	23/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH26	BH26_1_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	QC101_200724	24/07/2020															<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH26_4.4_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH27	BH27_0.5_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH27_2_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	QC102_200724	24/07/2020															<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH28	BH28_0.3_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH28_1_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
BH29	BH29_0.3_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	QC202_200724	23/07/2020														<50	<50	<100	<100	<10	<50	<50	<50	<100	<100	<10	<10
BH30	BH30_0.3_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	BH30_2.7_200724	24/07/2020	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1		<50	<100	<100	<25	<50	<50	<50	<100	<100	<25	<25
	TB01_200715	15/07/2020																		<25						<25	<25
	TB02_200724	24/07/2020																		<25						<25	<25
	TB03_200724	24/07/2020																		<25						<25	<25

Environmental Standards
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

			BTEX							PCBs																	
			Total BTEX	Xylene Total	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2-dichloroethane	1,2-dichloropropane	Bromodichloromethane	Bromoform	Carbon tetrachloride
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.2	0.5	0.2	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	1	1	1	1	1	1	1	1	1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																	7										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
0-1m				230	3																						
1-2m					3																						
2-4m					3																						
>=4m					3																						
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																											
0-2m				180	75	165	135																				
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																											
PFAS NEMP 2020 Industrial/ commercial (HIL D)																											
Location ID	**Field ID**	**Date**																									
BH01	**BH01_0.4_200715**	**15/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	**BH02_0.5_200715**	**15/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH03	**BH03_0.9_200715**	**15/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	QC100_200715	**15/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH04	**BH04_0.9_200715**	**15/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH04_0.9_200715 - [TRIPLICATE]	**15/07/2020**																									
BH05	**BH05_0.5_200715**	**15/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH06	**BH06_0.3_200722**	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH06_1.3_200722	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH07	**BH07_0.3_200722**	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH07_3.5_200722	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH08	**BH08_0.3_200722**	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH08_2.7_200722	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH09	**BH09_0.3_200722**	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH09_1.5_200722	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH10	**BH10_0.3_200722**	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH10_0.8_200722	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH11	**BH11_0.5_200722**	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH11_5.5_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH12	**BH12_0.5_200722**	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH12_1.6_200722	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH13	**BH13_0.3_200724**	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH13_1.5_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH14	**BH14_0.3_200722**	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1										
	BH14_3.9_200722	**22/07/2020**		<3	<0.2	<1	<0.5	<2	<1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH15	**BH15_0.3_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH15_3.9_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH16	**BH16_0.9_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH16_1.7_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH17	**BH17_0.3_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH17_1.6_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	QC200_200723	**23/07/2020**	<0.2	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5																		
	BH17_1.6_200723 - [TRIPLICATE]	**23/07/2020**																									
BH18	**BH18_0.3_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH18_5.5_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH19	**BH19_1.8_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	QC201_200723	**23/07/2020**	<0.2	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5																		
	BH19_1_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH20	**BH20_0.3_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH20_1.6_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH21	**BH21_0.2_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH21_0.2_200723 - [TRIPLICATE]	**23/07/2020**																									
	BH21_1.3_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH22	**BH22_1.2_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH22_3.9_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH23	**BH23_0.9_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH23_1.5_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH24	**BH24_0.3_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH24_2.7_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH25	**BH25_0.3_200723**	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH25_0.9_200723	**23/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH26	**BH26_1_200724**	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	QC101_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH26_4.4_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH27	**BH27_0.5_200724**	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH27_2_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	QC102_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH28	**BH28_0.3_200724**	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	BH28_1_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
BH29	**BH29_0.3_200724**	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	QC202_200724	**23/07/2020**	<0.2	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5																		
BH30	**BH30_0.3_200724**	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	BH30_2.7_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	TB01_200715	**15/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	TB02_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		
	TB03_200724	**24/07/2020**		<3	<0.2	<1	<0.5	<2	<1																		

Environmental Standards
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

			Chlorinated Hydrocarbons																				Halogenate				
			Chlorodibromomethane	Chloroethane	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Chloroform	Hexachlorobutadiene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl chloride	1,1,1,2-tetrachloroethane	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Dibromomethane	Hexachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.1	1	1	1	1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																							80				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
0-1m																											
1-2m																											
2-4m																											
>=4m																											
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																											
0-2m																											
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																											
PFAS NEMP 2020 Industrial/ commercial (HIL D)																											
Location ID	**Field ID**	**Date**																									
BH01	BH01_0.4_200715	15/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH02	BH02_0.5_200715	15/07/2020																									
BH03	BH03_0.9_200715	15/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	QC100_200715	15/07/2020																									
BH04	BH04_0.9_200715	15/07/2020																									
	BH04_0.9_200715 - [TRIPLICATE]	15/07/2020																									
BH05	BH05_0.5_200715	15/07/2020																									
BH06	BH06_0.3_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH06_1.3_200722	22/07/2020																									
BH07	BH07_0.3_200722	22/07/2020																									
	BH07_3.5_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH08	BH08_0.3_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH08_2.7_200722	22/07/2020																									
BH09	BH09_0.3_200722	22/07/2020																									
	BH09_1.5_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH10	BH10_0.3_200722	22/07/2020																									
	BH10_0.8_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH11	BH11_0.5_200722	22/07/2020																									
	BH11_5.5_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH12	BH12_0.5_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH12_1.6_200722	22/07/2020																									
BH13	BH13_0.3_200724	24/07/2020																									
	BH13_1.5_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH14	BH14_0.3_200722	22/07/2020																					<0.1				
	BH14_3.9_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1
BH15	BH15_0.3_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH15_3.9_200723	23/07/2020																									
BH16	BH16_0.9_200723	23/07/2020																									
	BH16_1.7_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH17	BH17_0.3_200723	23/07/2020																									
	BH17_1.6_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	QC200_200723	23/07/2020																									
	BH17_1.6_200723 - [TRIPLICATE]	23/07/2020																									
BH18	BH18_0.3_200723	23/07/2020																									
	BH18_5.5_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH19	BH19_1.8_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	QC201_200723	23/07/2020																									
	BH19_1_200723	23/07/2020																									
BH20	BH20_0.3_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH20_1.6_200723	23/07/2020																									
BH21	BH21_0.2_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH21_0.2_200723 - [TRIPLICATE]	23/07/2020																									
	BH21_1.3_200723	23/07/2020																									
BH22	BH22_1.2_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH22_3.9_200723	23/07/2020																									
BH23	BH23_0.9_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH23_1.5_200723	23/07/2020																									
BH24	BH24_0.3_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH24_2.7_200723	23/07/2020																									
BH25	BH25_0.3_200723	23/07/2020																									
	BH25_0.9_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH26	BH26_1_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	QC101_200724	24/07/2020																									
	BH26_4.4_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
BH27	BH27_0.5_200724	24/07/2020																									
	BH27_2_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	QC102_200724	24/07/2020																									
BH28	BH28_0.3_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	BH28_1_200724	24/07/2020																									
BH29	BH29_0.3_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
	QC202_200724	23/07/2020																									
BH30	BH30_0.3_200724	24/07/2020																									
	BH30_2.7_200724	24/07/2020																									
	TB01_200715	15/07/2020																									
	TB02_200724	24/07/2020																									
	TB03_200724	24/07/2020																									

Environmental Standards
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

			d Benzenes					Halogenated Hydrocarbons				Organochlorine Pesticides															
			Chlorobenzene	1,2,3-trichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	4,4-DDE	Heptachlor epoxide	Chlordane (cis)	a-BHC	Aldrin	b-BHC	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endrin aldehyde	Endosulfan II	Endosulfan sulphate
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.1	0.1	0.1	0.1	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(1) HILs Comm/Ind D Soil																						3,600					
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
0-1m																											
1-2m																											
2-4m																											
>=4m																											
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																					640						
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																											
0-2m																											
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																											
PFAS NEMP 2020 Industrial/ commercial (HIL D)																											
Location ID	Field ID	Date																									
BH01	BH01_0.4_200715	15/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH02	BH02_0.5_200715	15/07/2020																									
BH03	BH03_0.9_200715	15/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC100_200715	15/07/2020																									
BH04	BH04_0.9_200715	15/07/2020																									
	BH04_0.9_200715 - [TRIPLICATE]	15/07/2020																									
BH05	BH05_0.5_200715	15/07/2020																									
BH06	BH06_0.3_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH06_1.3_200722	22/07/2020																									
BH07	BH07_0.3_200722	22/07/2020																									
	BH07_3.5_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH08	BH08_0.3_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH08_2.7_200722	22/07/2020																									
BH09	BH09_0.3_200722	22/07/2020																									
	BH09_1.5_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH10	BH10_0.3_200722	22/07/2020																									
	BH10_0.8_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH11	BH11_0.5_200722	22/07/2020																									
	BH11_5.5_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH12	BH12_0.5_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH12_1.6_200722	22/07/2020																									
BH13	BH13_0.3_200724	24/07/2020																									
	BH13_1.5_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH14	BH14_0.3_200722	22/07/2020										<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH14_3.9_200722	22/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1																
BH15	BH15_0.3_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH15_3.9_200723	23/07/2020																									
BH16	BH16_0.9_200723	23/07/2020																									
	BH16_1.7_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH17	BH17_0.3_200723	23/07/2020																									
	BH17_1.6_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC200_200723	23/07/2020																									
	BH17_1.6_200723 - [TRIPLICATE]	23/07/2020																									
BH18	BH18_0.3_200723	23/07/2020																									
	BH18_5.5_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH19	BH19_1.8_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC201_200723	23/07/2020																									
	BH19_1_200723	23/07/2020																									
BH20	BH20_0.3_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	**0.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1	<0.1
	BH20_1.6_200723	23/07/2020																									
BH21	BH21_0.2_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH21_0.2_200723 - [TRIPLICATE]	23/07/2020																									
	BH21_1.3_200723	23/07/2020																									
BH22	BH22_1.2_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH22_3.9_200723	23/07/2020																									
BH23	BH23_0.9_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH23_1.5_200723	23/07/2020																									
BH24	BH24_0.3_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH24_2.7_200723	23/07/2020																									
BH25	BH25_0.3_200723	23/07/2020																									
	BH25_0.9_200723	23/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH26	BH26_1_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC101_200724	24/07/2020																									
	BH26_4.4_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH27	BH27_0.5_200724	24/07/2020																									
	BH27_2_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC102_200724	24/07/2020																									
BH28	BH28_0.3_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH28_1_200724	24/07/2020																									
BH29	BH29_0.3_200724	24/07/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC202_200724	23/07/2020																									
BH30	BH30_0.3_200724	24/07/2020																									
	BH30_2.7_200724	24/07/2020																									
	TB01_200715	15/07/2020																									
	TB02_200724	24/07/2020																									
	TB03_200724	24/07/2020																									

Environmental Standards
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

							Organophosphorous Pesticides										Pesticides
			Methoxychlor	Endrin	g-BHC (Lindane)	Heptachlor	Chlorpyrifos-methyl	Dichlorvos	Ethion	Fenitrothion	Malathion	Ronnel	Azinophos methyl	Chlorpyrifos	Bromophos-ethyl	Diazinon	Dimethoate	Parathion
			mg/kg	mg/kg	mg/kg	mg/kg	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
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			2,500	100		50								2,000				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
0-1m																		
1-2m																		
2-4m																		
>=4m																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																		
0-2m																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
PFAS NEMP 2020 Industrial/ commercial (HIL D)																		
Location ID	**Field ID**	**Date**																
BH01	**BH01_0.4_200715**	**15/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH02	**BH02_0.5_200715**	**15/07/2020**																
BH03	**BH03_0.9_200715**	**15/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC100_200715	**15/07/2020**																
BH04	**BH04_0.9_200715**	**15/07/2020**																
	BH04_0.9_200715 - [TRIPLICATE]	**15/07/2020**																
BH05	**BH05_0.5_200715**	**15/07/2020**																
BH06	**BH06_0.3_200722**	**22/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH06_1.3_200722	**22/07/2020**																
BH07	**BH07_0.3_200722**	**22/07/2020**																
	BH07_3.5_200722	**22/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH08	**BH08_0.3_200722**	**22/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH08_2.7_200722	**22/07/2020**																
BH09	**BH09_0.3_200722**	**22/07/2020**																
	BH09_1.5_200722	**22/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH10	**BH10_0.3_200722**	**22/07/2020**																
	BH10_0.8_200722	**22/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH11	**BH11_0.5_200722**	**22/07/2020**																
	BH11_5.5_200724	**24/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH12	**BH12_0.5_200722**	**22/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH12_1.6_200722	**22/07/2020**																
BH13	**BH13_0.3_200724**	**24/07/2020**																
	BH13_1.5_200724	**24/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH14	**BH14_0.3_200722**	**22/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH14_3.9_200722	**22/07/2020**																
BH15	**BH15_0.3_200723**	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH15_3.9_200723	**23/07/2020**																
BH16	**BH16_0.9_200723**	**23/07/2020**																
	BH16_1.7_200723	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH17	**BH17_0.3_200723**	**23/07/2020**																
	BH17_1.6_200723	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC200_200723	**23/07/2020**																
	BH17_1.6_200723 - [TRIPLICATE]	**23/07/2020**																
BH18	**BH18_0.3_200723**	**23/07/2020**																
	BH18_5.5_200724	**24/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH19	**BH19_1.8_200723**	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC201_200723	**23/07/2020**																
	BH19_1_200723	**23/07/2020**																
BH20	**BH20_0.3_200723**	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH20_1.6_200723	**23/07/2020**																
BH21	**BH21_0.2_200723**	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH21_0.2_200723 - [TRIPLICATE]	**23/07/2020**																
	BH21_1.3_200723	**23/07/2020**																
BH22	**BH22_1.2_200723**	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH22_3.9_200723	**23/07/2020**																
BH23	**BH23_0.9_200723**	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH23_1.5_200723	**23/07/2020**																
BH24	**BH24_0.3_200723**	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH24_2.7_200723	**23/07/2020**																
BH25	**BH25_0.3_200723**	**23/07/2020**																
	BH25_0.9_200723	**23/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH26	**BH26_1_200724**	**24/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC101_200724	**24/07/2020**																
	BH26_4.4_200724	**24/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH27	**BH27_0.5_200724**	**24/07/2020**																
	BH27_2_200724	**24/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC102_200724	**24/07/2020**																
BH28	**BH28_0.3_200724**	**24/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	BH28_1_200724	**24/07/2020**																
BH29	**BH29_0.3_200724**	**24/07/2020**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	QC202_200724	**23/07/2020**																
BH30	**BH30_0.3_200724**	**24/07/2020**																
	BH30_2.7_200724	**24/07/2020**																
	TB01_200715	**15/07/2020**																
	TB02_200724	**24/07/2020**																
	TB03_200724	**24/07/2020**																

Environmental Standards
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

			BTEX							Metals										
			Total BTEX	Xylene Total	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Cadmium (filtered)	Arsenic (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	Perfluorohexane sulfonic acid (PFHxS)
			µg/L	µg/L	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	mg/L	µg/L
EQL			1	2	1	1	1	2	1	0.0001	0.001	0.001	0.001	0.001	0.00005	0.001	0.001	0.00001	0.00002	0.01
ANZG (2018) Marine water 95% toxicant DGVs					700					0.0055			0.0013	0.0044	0.0004	0.07	0.015			
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand					5,000															
2-4m					5,000															
NEPM 2013 Table 1C GILs, Marine Waters					500					0.0007			0.0013	0.0044	0.0001	0.007	0.015			
Location ID	**Field ID**	**Date**																		
MW01	**MW01_200730**	**30/07/2020**	<1	<2	<1	<2	<2	<2	<2	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	**0.011**			
MW02	**MW02_200730**	**30/07/2020**	**3**	<2	**3**	<2	<2	<2	<2	<0.0001	**0.006**	**0.002**	<0.001	<0.001	<0.0001	<0.001	<0.005			
MW02	**QC103_200730**	**30/07/2020**	**3**	<2	**3**	<2	<2	<2	<2	<0.0001	**0.005**	**0.002**	<0.001	<0.001	<0.0001	<0.001	**0.005**			
	QC203_200730	**30/07/2020**			**3**	<1	<1	<2	<1	<0.0001	**0.006**	**0.002**	<0.001	<0.001	**0.0001**	**0.001**	**0.008**			
MW03	**MW03_200730**	**30/07/2020**	<1	<2	<1	<2	<2	<2	<2	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005			
	QC300_200715	**15/07/2020**			<1	<1	<1	<2	<1	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.00005	<0.001	<0.001			
	QC301_200722	**22/07/2020**			<1	<1	<1	<2	<1	<0.01	<0.05	<0.01	<0.01	<0.03	<0.0005	<0.02	<0.02	<0.00001	<0.00002	<0.01
	QC302_200723	**23/07/2020**			<1	<1	<1	<2	<1	<0.01	<0.05	<0.01	<0.01	<0.03	<0.0005	<0.02	<0.02	<0.00001	<0.00002	<0.01
	QC303_200724	**24/07/2020**			<1	<1	<1	<2	<1	<0.01	<0.05	<0.01	<0.01	<0.03	<0.0005	<0.02	<0.02	<0.00001	<0.00002	<0.01
	QC304_200730	**30/07/2020**	<1	<2	<1	<2	<2	<2	<2	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005			
	TB04_200730	**30/07/2020**	<1	<2	<1	<2	<2	<2	<2											

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

			PFOS/PFOA					MAH												
			Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Sum of PFAS	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Styrene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	Naphthalene	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene
			mg/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
EQL			0.00001	0.00001	0.01	0.01	0.01	5	5	5	5	5	5	5	5	5	1	2	2	2
ANZG (2018) Marine water 95% toxicant DGVs																	70			
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m																				
NEPM 2013 Table 1C GILs, Marine Waters																	50			
Location ID	**Field ID**	**Date**																		
MW01	**MW01_200730**	**30/07/2020**						<5	<5	<5	<5	<5	<5	<5	<5	<5	<1.0	<2	<2	<2
MW02	**MW02_200730**	**30/07/2020**						<5	<5	<5	<5	<5	<5	<5	<5	<5	<1.0	<2	<2	<2
MW02	**QC103_200730**	**30/07/2020**															<5			
	QC203_200730	**30/07/2020**															<1			
MW03	**MW03_200730**	**30/07/2020**						<5	<5	<5	<5	<5	<5	<5	<5	<5	<1.0	<2	<2	<2
	QC300_200715	**15/07/2020**															<1			
	QC301_200722	**22/07/2020**	<0.00001	<0.00001	<0.01	<0.01	<0.01										<1			
	QC302_200723	**23/07/2020**	<0.00001	<0.00001	<0.01	<0.01	<0.01										<1			
	QC303_200724	**24/07/2020**	<0.00001	<0.00001	<0.01	<0.01	<0.01										<1			
	QC304_200730	**30/07/2020**															<5			
	TB04_200730	**30/07/2020**															<5			

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

			PAH																	
			7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ calc (Zero)	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	PAHs (Sum of total)	Phenanthrene	Pyrene
			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	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			2	1	1	1	1	0.5	0.0005	0.001	1	1	1	1	1	1	1	0.5	1	1
ANZG (2018) Marine water 95% toxicant DGVs																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m																				
NEPM 2013 Table 1C GILs, Marine Waters																				
Location ID	**Field ID**	**Date**																		
MW01	MW01_200730	30/07/2020	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0005	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0
MW02	MW02_200730	30/07/2020	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0005	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0
MW02	QC103_200730	30/07/2020																		
	QC203_200730	30/07/2020																		
MW03	MW03_200730	30/07/2020	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0005	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0
	QC300_200715	15/07/2020																		
	QC301_200722	22/07/2020																		
	QC302_200723	23/07/2020																		
	QC303_200724	24/07/2020																		
	QC304_200730	30/07/2020																		
	TB04_200730	30/07/2020																		

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

			TPH					TRH							Phe					
			+C10-C36 (Sum of total)	C10-C14	C15-C28	C29-C36	C6-C9	C10-C16	C10-C16 (F2 minus Naphthalene)	C10-C40 (Sum of total)	C16-C34	C34-C40	C6-C10	C6-C10 (F1 minus BTEX)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol
			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			50	50	100	50	10	50	50	100	100	100	10	10	2	2	2	2	2	2
ANZG (2018) Marine water 95% toxicant DGVs																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m														6,000						
NEPM 2013 Table 1C GILs, Marine Waters																				
Location ID	**Field ID**	**Date**																		
MW01	**MW01_200730**	**30/07/2020**	<50	<50	<100	<50	<20	<100	<100	<100	<100	<100	<20	<20	<2	<2	<2	<2	<2	<2
MW02	**MW02_200730**	**30/07/2020**	<50	<50	<100	<50	**20**	<100	<100	<100	<100	<100	**20**	<20	<2	<2	<2	<2	<2	<2
MW02	**QC103_200730**	**30/07/2020**	<50	<50	<100	<50	**40**	<100	<100	<100	<100	<100	**40**	**40**						
	QC203_200730	**30/07/2020**		<50	<100	<100	**11**	<50	<50		<100	<100	**12**	<10						
MW03	**MW03_200730**	**30/07/2020**	<50	<50	<100	<50	<20	<100	<100	<100	<100	<100	<20	<20	<2	<2	<2	<2	<2	<2
	QC300_200715	**15/07/2020**		<50	<100	<100	<10	<50	<50		<100	<100	<10	<10						
	QC301_200722	**22/07/2020**		<50	<100	<100	<10	<50	<50		<100	<100	<10	<10						
	QC302_200723	**23/07/2020**		<50	<100	<100	<10	<50	<50		<100	<100	<10	<10						
	QC303_200724	**24/07/2020**		<50	<100	<100	<10	<50	<50		<100	<100	<10	<10						
	QC304_200730	**30/07/2020**	<50	<50	<100	<50	<20	<100	<100	<100	<100	<100	<20	<20						
	TB04_200730	**30/07/2020**					**20**						<20	<20						

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

			nols						Amino Aliphatics				Amino Aromatics		Anilines					
			2-Methylphenol	2-Nitrophenol	3&4-Methylphenol (m&p-cresol)	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	1-naphthylamine	N-Nitrosodiphenyl & Diphenylamine	2-methyl-5-nitroaniline	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	Aniline
			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			2	2	4	2	4	2	2	2	2	2	2	4	2	4	4	2	2	2
ANZG (2018) Marine water 95% toxicant DGVs							22	400												
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m																				
NEPM 2013 Table 1C GILs, Marine Waters							11	400												
Location ID	**Field ID**	**Date**																		
MW01	**MW01_200730**	**30/07/2020**	<2	<2	<4	<2	<4	<2	<2	<2	<2	<2	<2	<4	<2	<4	<4	<2	<2	<2
MW02	**MW02_200730**	**30/07/2020**	<2	<2	<4	<2	<4	<2	<2	<2	<2	<2	<2	**13**	<2	<4	<4	<2	<2	<2
MW02	**QC103_200730**	**30/07/2020**																		
	QC203_200730	**30/07/2020**																		
MW03	**MW03_200730**	**30/07/2020**	<2	<2	<4	<2	<4	<2	<2	<2	<2	<2	<2	<4	<2	<4	<4	<2	<2	<2
	QC300_200715	**15/07/2020**																		
	QC301_200722	**22/07/2020**																		
	QC302_200723	**23/07/2020**																		
	QC303_200724	**24/07/2020**																		
	QC304_200730	**30/07/2020**																		
	TB04_200730	**30/07/2020**																		

Environmental Standards
ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

			Chlorinated Hydrocarbons																	
			1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2-dichloroethane	1,2-dichloropropane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Chloroform	Hexachlorobutadiene	Tetrachloroethene
			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	5	5	5	5	50	50	5	5	5	2	5
ANZG (2018) Marine water 95% toxicant DGVs					1,900															
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m																				
NEPM 2013 Table 1C GILs, Marine Waters					1,900															
Location ID	**Field ID**	**Date**																		
MW01	**MW01_200730**	**30/07/2020**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5	<5	<5	<2	<5
MW02	**MW02_200730**	**30/07/2020**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	**7**	<5	<5	<2	<5
MW02	**QC103_200730**	**30/07/2020**																		
	QC203_200730	**30/07/2020**																		
MW03	**MW03_200730**	**30/07/2020**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5	<5	<5	<2	<5
	QC300_200715	**15/07/2020**																		
	QC301_200722	**22/07/2020**																		
	QC302_200723	**23/07/2020**																		
	QC303_200724	**24/07/2020**																		
	QC304_200730	**30/07/2020**																		
	TB04_200730	**30/07/2020**																		

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

																Halo				
			trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl chloride	1,1,1,2-tetrachloroethane	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,3-dichloropropane	2,2-dichloropropane	Dibromomethane	Hexachlorocyclopentadiene	Hexachloroethane	Hexachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene
			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	50	5	5	5	5	5	5	5	10	2	4	2	2	2	2
ANZG (2018) Marine water 95% toxicant DGVs																	80			
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m																				
NEPM 2013 Table 1C GILs, Marine Waters																	20			
Location ID	**Field ID**	**Date**																		
MW01	**MW01_200730**	**30/07/2020**	<5	<5	<5	<50	<5	<5	<5	<5	<5	<5	<5	<10	<2	<4	<2	<2	<2	<2
MW02	**MW02_200730**	**30/07/2020**	<5	<5	<5	<50	<5	<5	<5	<5	<5	<5	<5	<10	<2	<4	<2	<2	<2	<2
MW02	**QC103_200730**	**30/07/2020**																		
	QC203_200730	**30/07/2020**																		
MW03	**MW03_200730**	**30/07/2020**	<5	<5	<5	<50	<5	<5	<5	<5	<5	<5	<5	<10	<2	<4	<2	<2	<2	<2
	QC300_200715	**15/07/2020**																		
	QC301_200722	**22/07/2020**																		
	QC302_200723	**23/07/2020**																		
	QC303_200724	**24/07/2020**																		
	QC304_200730	**30/07/2020**																		
	TB04_200730	**30/07/2020**																		

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

			genated Benzenes						Halogenated Hydrocarbons					Herbicides	Nitroaromatics			Pesticides		
			Chlorobenzene	1,2,3-trichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Pentachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	Iodomethane	Pronamide	2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene	Carbazole	Chlorobenzilate	Pirimphos-ethyl
			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	2	5	50	50	50	5	2	2	2	2	2	2	2
ANZG (2018) Marine water 95% toxicant DGVs																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m																				
NEPM 2013 Table 1C GILs, Marine Waters																				
Location ID	**Field ID**	**Date**																		
MW01	**MW01_200730**	**30/07/2020**	<5	<5	<5	<5	<5	<2	<5	<50	<50	<50	<5	<2	<2	<2	<2	<2	<2	<2
MW02	**MW02_200730**	**30/07/2020**	<5	<5	<5	<5	<5	<2	<5	<50	<50	<50	<5	<2	<2	<2	<2	<2	<2	<2
MW02	**QC103_200730**	**30/07/2020**																		
	QC203_200730	**30/07/2020**																		
MW03	**MW03_200730**	**30/07/2020**	<5	<5	<5	<5	<5	<2	<5	<50	<50	<50	<5	<2	<2	<2	<2	<2	<2	<2
	QC300_200715	**15/07/2020**																		
	QC301_200722	**22/07/2020**																		
	QC302_200723	**23/07/2020**																		
	QC303_200724	**24/07/2020**																		
	QC304_200730	**30/07/2020**																		
	TB04_200730	**30/07/2020**																		

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

			Organochlorine Pesticides																	
			4,4-DDE	Heptachlor epoxide	a-BHC	Aldrin	d-BHC	b-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	g-BHC (Lindane)	Heptachlor	Aldrin + Dieldrin	Chlorpyrifos-methyl
			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	mg/L
EQL			2	2	2	2	2	2	2	4	4	2	2	2	2	2	2	2	4	0.002
ANZG (2018) Marine water 95% toxicant DGVs																0.008				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m																				
NEPM 2013 Table 1C GILs, Marine Waters																0.004				
Location ID	Field ID	Date																		
MW01	MW01_200730	30/07/2020	<2	<2	<2	<2	<2	<2	<2	<4	<4	<2	<2	<2	<2	<2	<2	<2	<4	<0.002
MW02	MW02_200730	30/07/2020	<2	<2	<2	<2	<2	<2	<2	<4	<4	<2	<2	<2	<2	<2	<2	<2	<4	<0.002
MW02	QC103_200730	30/07/2020																		
	QC203_200730	30/07/2020																		
MW03	MW03_200730	30/07/2020	<2	<2	<2	<2	<2	<2	<2	<4	<4	<2	<2	<2	<2	<2	<2	<2	<4	<0.002
	QC300_200715	15/07/2020																		
	QC301_200722	22/07/2020																		
	QC302_200723	23/07/2020																		
	QC303_200724	24/07/2020																		
	QC304_200730	30/07/2020																		
	TB04_200730	30/07/2020																		

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

			Organophosphorous Pesticides									Explosives				Phthalates				
			Dichlorvos	Ethion	Malathion	Chlorpyrifos	Diazinon	Dimethoate	Chlorfenvinphos	Fenthion	Prothiofos	1,3,5-Trinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate
			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	µg/L	µg/L	µg/L
EQL			2	2	2	2	2	2	2	2	2	0.002	4	4	2	10	2	2	2	2
ANZG (2018) Marine water 95% toxicant DGVs						0.009														
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m																				
NEPM 2013 Table 1C GILs, Marine Waters						0.009														
Location ID	**Field ID**	**Date**																		
MW01	**MW01_200730**	**30/07/2020**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<4	<4	<2	<10	<2	<2	<2	<2
MW02	**MW02_200730**	**30/07/2020**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<4	<4	<2	<10	<2	<2	<2	<2
MW02	**QC103_200730**	**30/07/2020**																		
	QC203_200730	**30/07/2020**																		
MW03	**MW03_200730**	**30/07/2020**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<4	<4	<2	<10	<2	<2	<2	<2
	QC300_200715	**15/07/2020**																		
	QC301_200722	**22/07/2020**																		
	QC302_200723	**23/07/2020**																		
	QC303_200724	**24/07/2020**																		
	QC304_200730	**30/07/2020**																		
	TB04_200730	**30/07/2020**																		

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

				Solvents						Other	VOCs									
			Di-n-octyl phthalate	Methyl Ethyl Ketone	Vinyl acetate	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Isophorone	Acetophenone	cis-1,4-Dichloro-2-butene	Pentachloroethane	trans-1,4-Dichloro-2-butene	2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene
			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			2	50	50	50	50	5	2	2	5	5	5	2	2	2	2	2	2	2
ANZG (2018) Marine water 95% toxicant DGVs																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m																				
NEPM 2013 Table 1C GILs, Marine Waters																				
Location ID	**Field ID**	**Date**																		
MW01	**MW01_200730**	**30/07/2020**	<2	<50	<50	<50	<50	<5	<2	<2	<5	<5	<5	<2	<2	<2	<2	<2	<2	<2
MW02	**MW02_200730**	**30/07/2020**	<2	<50	<50	<50	<50	<5	<2	<2	<5	<5	<5	<2	<2	<2	<2	<2	<2	<2
MW02	**QC103_200730**	**30/07/2020**																		
	QC203_200730	**30/07/2020**																		
MW03	**MW03_200730**	**30/07/2020**	<2	<50	<50	<50	<50	<5	<2	<2	<5	<5	<5	<2	<2	<2	<2	<2	<2	<2
	QC300_200715	**15/07/2020**																		
	QC301_200722	**22/07/2020**																		
	QC302_200723	**23/07/2020**																		
	QC303_200724	**24/07/2020**																		
	QC304_200730	**30/07/2020**																		
	TB04_200730	**30/07/2020**																		

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

			SVOCs								
			Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Dibenzofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			2	2	2	2	2	2	2	4	2
ANZG (2018) Marine water 95% toxicant DGVs											
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand 2-4m											
NEPM 2013 Table 1C GILs, Marine Waters											
Location ID	**Field ID**	**Date**									
MW01	**MW01_200730**	**30/07/2020**	<2	<2	<2	<2	<2	<2	<2	<4	<2
MW02	**MW02_200730**	**30/07/2020**	<2	<2	<2	<2	<2	<2	<2	<4	<2
MW02	**QC103_200730**	**30/07/2020**									
	QC203_200730	**30/07/2020**									
MW03	**MW03_200730**	**30/07/2020**	<2	<2	<2	<2	<2	<2	<2	<4	<2
	QC300_200715	**15/07/2020**									
	QC301_200722	**22/07/2020**									
	QC302_200723	**23/07/2020**									
	QC303_200724	**24/07/2020**									
	QC304_200730	**30/07/2020**									
	TB04_200730	**30/07/2020**									

Environmental Standards

ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs

		BTEX													PFOS/PFOA						
		Total BTEX	Xylene Total		Benzene		Ethylbenzene		Toluene		Xylene (m & p)		Xylene (o)	Xylene (o)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Sum of PFAS	Sum of PFHxS and PFOS
		µg/L	mg/kg	µg/L	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	mg/L	mg/L	µg/L	mg/L	mg/L	µg/L	µg/L
EQL		1	3	2	1	0.2	1	1	1	0.5	2	2	1	1	0.00001	0.00002	0.01	0.00001	0.00001	0.01	0.01
Field ID	**Date**																				
QC300_200715	**15/07/2020**				<1		<1		<1		<2		<1								
QC301_200722	**22/07/2020**				<1		<1		<1		<2		<1		<0.00001	<0.00002	<0.01	<0.00001	<0.00001	<0.01	<0.01
QC302_200723	**23/07/2020**				<1		<1		<1		<2		<1		<0.00001	<0.00002	<0.01	<0.00001	<0.00001	<0.01	<0.01
QC303_200724	**24/07/2020**				<1		<1		<1		<2		<1		<0.00001	<0.00002	<0.01	<0.00001	<0.00001	<0.01	<0.01
QC304_200730	**30/07/2020**	<1		<2	<1		<2		<2		<2		<2								
TB01_200715	**15/07/2020**		<3			<0.2		<1		<0.5		<2		<1							
TB02_200724	**24/07/2020**		<3			<0.2		<1		<0.5		<2		<1							
TB03_200724	**24/07/2020**		<3			<0.2		<1		<0.5		<2		<1							
TB04_200730	**30/07/2020**	<1		<2	<1		<2		<2		<2		<2								

			TRH									Metals								PAH	
		Sum of US EPA PFAS (PFOS + PFOA)*	C10-C16	C10-C16 (F2 minus Naphthalene)	C10-C40 (Sum of total)	C16-C34	C34-C40	C6-C10		C6-C10 (F1 minus BTEX)	C6-C10 (F1 minus BTEX)	Cadmium (filtered)	Arsenic (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	Naphthalene	Naphthalene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	µg/L	mg/kg	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/kg
EQL		0.01	50	50	100	100	100	10	25	10	25	0.0001	0.001	0.001	0.001	0.001	0.00005	0.001	0.001	1	1
Field ID	**Date**																				
QC300_200715	**15/07/2020**		<50	<50		<100	<100	<10		<10		<0.0001	<0.001	<0.001	<0.001	<0.001	<0.00005	<0.001	<0.001	<1	
QC301_200722	**22/07/2020**	<0.01	<50	<50		<100	<100	<10		<10		<0.01	<0.05	<0.01	<0.01	<0.03	<0.0005	<0.02	<0.02	<1	
QC302_200723	**23/07/2020**	<0.01	<50	<50		<100	<100	<10		<10		<0.01	<0.05	<0.01	<0.01	<0.03	<0.0005	<0.02	<0.02	<1	
QC303_200724	**24/07/2020**	<0.01	<50	<50		<100	<100	<10		<10		<0.01	<0.05	<0.01	<0.01	<0.03	<0.0005	<0.02	<0.02	<1	
QC304_200730	**30/07/2020**		<100	<100	<100	<100	<100	<20		<20		<0.0001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<5	
TB01_200715	**15/07/2020**								<25		<25										<1
TB02_200724	**24/07/2020**								<25		<25										<1
TB03_200724	**24/07/2020**								<25		<25										<1
TB04_200730	**30/07/2020**							<20		<20										<5	

		TPH					
		+C10-C36 (Sum of total)	C10-C14	C15-C28	C29-C36	C6-C9	C6-C9
		µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg
EQL		50	50	100	50	10	25
Field ID	**Date**						
QC300_200715	**15/07/2020**		<50	<100	<100	<10	
QC301_200722	**22/07/2020**		<50	<100	<100	<10	
QC302_200723	**23/07/2020**		<50	<100	<100	<10	
QC303_200724	**24/07/2020**		<50	<100	<100	<10	
QC304_200730	**30/07/2020**	<50	<50	<100	<50	<20	
TB01_200715	**15/07/2020**						<25
TB02_200724	**24/07/2020**						<25
TB03_200724	**24/07/2020**						<25
TB04_200730	**30/07/2020**					**20**	

Trip Spikes

Lab Report Number	Sample Type	Matrix Type	Field ID	Sampled Date/Time	Chem Name	Trip Spike Result	Trip Spike Control	LCL	UCL	Result Units	Spike Recovery %	Method Name	Sample Code
247142	Trip_S	soil	TS01_200715	15/07/2020	Ethylbenzene	NA	NA			NA	98	Org-023 - BTEX and C6-C10 alkanes in soil & water	247142-8
247142	Trip_S	soil	TS01_200715	15/07/2020	Xylene (m & p)	NA	NA			NA	97	Org-023 - BTEX and C6-C10 alkanes in soil & water	247142-8
247142	Trip_S	soil	TS01_200715	15/07/2020	Toluene	NA	NA			NA	100	Org-023 - BTEX and C6-C10 alkanes in soil & water	247142-8
247142	Trip_S	soil	TS01_200715	15/07/2020	Benzene	NA	NA			NA	100	Org-023 - BTEX and C6-C10 alkanes in soil & water	247142-8
247142	Trip_S	soil	TS01_200715	15/07/2020	Xylene (o)	NA	NA			NA	96	Org-023 - BTEX and C6-C10 alkanes in soil & water	247142-8
247834	Trip_S	soil	TS02_200724	24/07/2020	Ethylbenzene	NA	NA			NA	81	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-72
247834	Trip_S	soil	TS02_200724	24/07/2020	Xylene (m & p)	NA	NA			NA	81	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-72
247834	Trip_S	soil	TS02_200724	24/07/2020	Toluene	NA	NA			NA	84	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-72
247834	Trip_S	soil	TS02_200724	24/07/2020	Benzene	NA	NA			NA	81	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-72
247834	Trip_S	soil	TS02_200724	24/07/2020	Xylene (o)	NA	NA			NA	81	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-72
247834	Trip_S	soil	TS03_200724	24/07/2020	Ethylbenzene	NA	NA			NA	94	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74
247834	Trip_S	soil	TS03_200724	24/07/2020	Xylene (m & p)	NA	NA			NA	93	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74
247834	Trip_S	soil	TS03_200724	24/07/2020	Toluene	NA	NA			NA	95	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74
247834	Trip_S	soil	TS03_200724	24/07/2020	Benzene	NA	NA			NA	92	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74
247834	Trip_S	soil	TS03_200724	24/07/2020	Xylene (o)	NA	NA			NA	93	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74
ES2026409	Trip_S	water	TS04_200730	30/07/2020	Ethylbenzene	NA	NA			NA	85	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74
ES2026409	Trip_S	water	TS04_200730	30/07/2020	Xylene (m & p)	NA	NA			NA	85	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74
ES2026409	Trip_S	water	TS04_200730	30/07/2020	Toluene	NA	NA			NA	90	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74
ES2026409	Trip_S	water	TS04_200730	30/07/2020	Benzene	NA	NA			NA	110	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74
ES2026409	Trip_S	water	TS04_200730	30/07/2020	Xylene (o)	NA	NA			NA	90	Org-023 - BTEX and C6-C10 alkanes in soil & water	247834-74

Trip Spike Recoveries. Where no lab LCL and UCL is available, user defined limits between 30% and 150% have been adopted for non-compliance.

			Lab Report Number	ES2026409	ES2026409		ES2026409	248214	
			Field ID	MW02_200730	QC103_200730		MW02_200730	QC203_200730	
			Matrix Type	water	water		water	water	
			Date	30/07/2020	30/07/2020	RPD	30/07/2020	30/07/2020	RPD
	Unit	EQL							
BTEX									
Total BTEX	µg/L	1		**3**	**3**	0	**3**		
Xylene Total	µg/L	2		<2	<2	0	<2		
Benzene	µg/L	1		**3**	**3**	0	**3**	**3**	0
Ethylbenzene	µg/L	1		<2	<2	0	<2	<1	0
Toluene	µg/L	1		<2	<2	0	<2	<1	0
Xylene (m & p)	µg/L	2		<2	<2	0	<2	<2	0
Xylene (o)	µg/L	1		<2	<2	0	<2	<1	0
Phenols									
2,4,5-Trichlorophenol	µg/L	2		<2			<2		
2,4,6-Trichlorophenol	µg/L	2		<2			<2		
2,4-Dichlorophenol	µg/L	2		<2			<2		
2,4-Dimethylphenol	µg/L	2		<2			<2		
2,6-Dichlorophenol	µg/L	2		<2			<2		
2-Chlorophenol	µg/L	2		<2			<2		
2-Methylphenol	µg/L	2		<2			<2		
2-Nitrophenol	µg/L	2		<2			<2		
3&4-Methylphenol (m&p-cresol)	µg/L	4		<4			<4		
4-chloro-3-methylphenol	µg/L	2		<2			<2		
Pentachlorophenol	µg/L	4		<4			<4		
Phenol	µg/L	2		<2			<2		
TRH									
C10-C16	µg/L	50		<100	<100	0	<100	<50	0
C10-C16 (F2 minus Naphthalene)	µg/L	50		<100	<100	0	<100	<50	0
C10-C40 (Sum of total)	µg/L	100		<100	<100	0	<100		
C16-C34	µg/L	100		<100	<100	0	<100	<100	0
C34-C40	µg/L	100		<100	<100	0	<100	<100	0
C6-C10	µg/L	10		**20**	**40**	67	**20**	**12**	50
C6-C10 (F1 minus BTEX)	µg/L	10		<20	**40**	67	<20	<10	0
Amino Aliphatics									
N-nitrosodiethylamine	µg/L	2		<2			<2		
N-nitrosodi-n-butylamine	µg/L	2		<2			<2		
N-nitrosodi-n-propylamine	µg/L	2		<2			<2		
N-Nitrosomethylethylamine	µg/L	2		<2			<2		
Amino Aromatics									
1-naphthylamine	µg/L	2		<2			<2		
N-Nitrosodiphenyl & Diphenylamine	µg/L	4		**13**			**13**		
Anilines									
2-methyl-5-nitroaniline	µg/L	2		<2			<2		
2-nitroaniline	µg/L	4		<4			<4		
3-nitroaniline	µg/L	4		<4			<4		
4-chloroaniline	µg/L	2		<2			<2		
4-nitroaniline	µg/L	2		<2			<2		
Aniline	µg/L	2		<2			<2		
Chlorinated Hydrocarbons									
1,1,1-trichloroethane	µg/L	5		<5			<5		
1,1,2,2-tetrachloroethane	µg/L	5		<5			<5		
1,1,2-trichloroethane	µg/L	5		<5			<5		
1,1-dichloroethane	µg/L	5		<5			<5		
1,1-dichloroethene	µg/L	5		<5			<5		
1,2-dichloroethane	µg/L	5		<5			<5		
1,2-dichloropropane	µg/L	5		<5			<5		
Bromodichloromethane	µg/L	5		<5			<5		
Bromoform	µg/L	5		<5			<5		
Carbon tetrachloride	µg/L	5		<5			<5		
Chlorodibromomethane	µg/L	5		<5			<5		
Chloroethane	µg/L	50		<50			<50		
Chloromethane	µg/L	50		<50			<50		
cis-1,2-dichloroethene	µg/L	5		**7**			**7**		
cis-1,3-dichloropropene	µg/L	5		<5			<5		
Chloroform	µg/L	5		<5			<5		
Hexachlorobutadiene	µg/L	2		<2			<2		
Tetrachloroethene	µg/L	5		<5			<5		
trans-1,2-dichloroethene	µg/L	5		<5			<5		
trans-1,3-dichloropropene	µg/L	5		<5			<5		
Trichloroethene	µg/L	5		<5			<5		
Vinyl chloride	µg/L	50		<50			<50		
1,1,1,2-tetrachloroethane	µg/L	5		<5			<5		
1,1-dichloropropene	µg/L	5		<5			<5		
1,2,3-trichloropropane	µg/L	5		<5			<5		
1,2-dibromo-3-chloropropane	µg/L	5		<5			<5		
1,3-dichloropropane	µg/L	5		<5			<5		
2,2-dichloropropane	µg/L	5		<5			<5		
Dibromomethane	µg/L	5		<5			<5		
Hexachlorocyclopentadiene	µg/L	10		<10			<10		
Hexachloroethane	µg/L	2		<2			<2		
Explosives									
1,3,5-Trinitrobenzene	mg/L	0.002		<0.002			<0.002		
2,4-Dinitrotoluene	µg/L	4		<4			<4		
2,6-dinitrotoluene	µg/L	4		<4			<4		
Nitrobenzene	µg/L	2		<2			<2		
Halogenated Benzenes									
Hexachlorobenzene	µg/L	4		<4			<4		
1,2,4-trichlorobenzene	µg/L	2		<2			<2		
1,2-dichlorobenzene	µg/L	2		<2			<2		
1,3-dichlorobenzene	µg/L	2		<2			<2		
1,4-dichlorobenzene	µg/L	2		<2			<2		
Chlorobenzene	µg/L	5		<5			<5		
1,2,3-trichlorobenzene	µg/L	5		<5			<5		
2-chlorotoluene	µg/L	5		<5			<5		
4-chlorotoluene	µg/L	5		<5			<5		
Bromobenzene	µg/L	5		<5			<5		
Pentachlorobenzene	µg/L	2		<2			<2		
Halogenated Hydrocarbons									

			Lab Report Number	ES2026409	ES2026409		ES2026409	248214	
			Field ID	MW02_200730	QC103_200730		MW02_200730	QC203_200730	
			Matrix Type	water	water		water	water	
			Date	30/07/2020	30/07/2020	RPD	30/07/2020	30/07/2020	RPD
	Unit	EQL							
1,2-dibromoethane	µg/L	5		<5			<5		
Bromomethane	µg/L	50		<50			<50		
Dichlorodifluoromethane	µg/L	50		<50			<50		
Trichlorofluoromethane	µg/L	50		<50			<50		
Iodomethane	µg/L	5		<5			<5		
Herbicides									
Pronamide	µg/L	2		<2			<2		
MAH									
1,2,4-trimethylbenzene	µg/L	5		<5			<5		
1,3,5-trimethylbenzene	µg/L	5		<5			<5		
Styrene	µg/L	5		<5			<5		
Isopropylbenzene	µg/L	5		<5			<5		
n-butylbenzene	µg/L	5		<5			<5		
n-propylbenzene	µg/L	5		<5			<5		
p-isopropyltoluene	µg/L	5		<5			<5		
sec-butylbenzene	µg/L	5		<5			<5		
tert-butylbenzene	µg/L	5		<5			<5		
Metals									
Cadmium (filtered)	mg/L	0.0001		<0.0001	<0.0001	0	<0.0001	<0.0001	0
Arsenic (filtered)	mg/L	0.001		**0.006**	**0.005**	18	**0.006**	**0.006**	0
Chromium (III+VI) (filtered)	mg/L	0.001		**0.002**	**0.002**	0	**0.002**	**0.002**	0
Copper (filtered)	mg/L	0.001		<0.001	<0.001	0	<0.001	<0.001	0
Lead (filtered)	mg/L	0.001		<0.001	<0.001	0	<0.001	<0.001	0
Mercury (filtered)	mg/L	0.00005		<0.0001	<0.0001	0	<0.0001	**0.0001**	0
Nickel (filtered)	mg/L	0.001		<0.001	<0.001	0	<0.001	**0.001**	0
Zinc (filtered)	mg/L	0.001		<0.005	**0.005**	0	<0.005	**0.008**	46
Nitroaromatics									
2-Picoline	µg/L	2		<2			<2		
4-aminobiphenyl	µg/L	2		<2			<2		
Pentachloronitrobenzene	µg/L	2		<2			<2		
Organochlorine Pesticides									
4,4-DDE	µg/L	2		<2			<2		
Heptachlor epoxide	µg/L	2		<2			<2		
a-BHC	µg/L	2		<2			<2		
Aldrin	µg/L	2		<2			<2		
d-BHC	µg/L	2		<2			<2		
b-BHC	µg/L	2		<2			<2		
DDD	µg/L	2		<2			<2		
DDT	µg/L	4		<4			<4		
DDT+DDE+DDD	µg/L	4		<4			<4		
Dieldrin	µg/L	2		<2			<2		
Endosulfan I	µg/L	2		<2			<2		
Endosulfan II	µg/L	2		<2			<2		
Endosulfan sulphate	µg/L	2		<2			<2		
Endrin	µg/L	2		<2			<2		
g-BHC (Lindane)	µg/L	2		<2			<2		
Heptachlor	µg/L	2		<2			<2		
Aldrin + Dieldrin	µg/L	4		<4			<4		
Organophosphorous Pesticides									
Chlorpyrifos-methyl	mg/L	0.002		<0.002			<0.002		
Dichlorvos	µg/L	2		<2			<2		
Ethion	µg/L	2		<2			<2		
Malathion	µg/L	2		<2			<2		
Chlorpyrifos	µg/L	2		<2			<2		
Diazinon	µg/L	2		<2			<2		
Dimethoate	µg/L	2		<2			<2		
Chlorfenvinphos	µg/L	2		<2			<2		
Fenthion	µg/L	2		<2			<2		
Prothiofos	µg/L	2		<2			<2		
Other									
Acetophenone	µg/L	2		<2			<2		
PAH									
Naphthalene	µg/L	1		<1.0	<5	0	<1.0	<1	0
2-chloronaphthalene	µg/L	2		<2			<2		
2-methylnaphthalene	µg/L	2		<2			<2		
3-methylcholanthrene	µg/L	2		<2			<2		
7,12-dimethylbenz(a)anthracene	µg/L	2		<2			<2		
Acenaphthene	µg/L	1		<1.0			<1.0		
Acenaphthylene	µg/L	1		<1.0			<1.0		
Anthracene	µg/L	1		<1.0			<1.0		
Benz(a)anthracene	µg/L	1		<1.0			<1.0		
Benzo(a) pyrene	µg/L	0.5		<0.5			<0.5		
Benzo(a)pyrene TEQ calc (Zero)	mg/L	0.0005		<0.0005			<0.0005		
Benzo(b+j)fluoranthene	mg/L	0.001		<0.0010			<0.0010		
Benzo(g,h,i)perylene	µg/L	1		<1.0			<1.0		
Benzo(k)fluoranthene	µg/L	1		<1.0			<1.0		
Chrysene	µg/L	1		<1.0			<1.0		
Dibenz(a,h)anthracene	µg/L	1		<1.0			<1.0		
Fluoranthene	µg/L	1		<1.0			<1.0		
Fluorene	µg/L	1		<1.0			<1.0		
Indeno(1,2,3-c,d)pyrene	µg/L	1		<1.0			<1.0		
PAHs (Sum of total)	µg/L	0.5		<0.5			<0.5		
Phenanthrene	µg/L	1		<1.0			<1.0		
Pyrene	µg/L	1		<1.0			<1.0		
Pesticides									
Carbazole	µg/L	2		<2			<2		
Chlorobenzilate	µg/L	2		<2			<2		
Pirimphos-ethyl	µg/L	2		<2			<2		
Phthalates									
Bis(2-ethylhexyl) phthalate	µg/L	10		<10			<10		
Butyl benzyl phthalate	µg/L	2		<2			<2		
Diethylphthalate	µg/L	2		<2			<2		
Dimethyl phthalate	µg/L	2		<2			<2		
Di-n-butyl phthalate	µg/L	2		<2			<2		
Di-n-octyl phthalate	µg/L	2		<2			<2		

Lab Report Number			ES2026409	ES2026409		ES2026409	248214	
Field ID			MW02_200730	QC103_200730		MW02_200730	QC203_200730	
Matrix Type			water	water		water	water	
Date			30/07/2020	30/07/2020	RPD	30/07/2020	30/07/2020	RPD
	Unit	EQL						
Solvents								
2-hexanone (MBK)	**µg/L**	50	<50			<50		
Methyl Ethyl Ketone	**µg/L**	50	<50			<50		
Vinyl acetate	**µg/L**	50	<50			<50		
4-Methyl-2-pentanone	**µg/L**	50	<50			<50		
Carbon disulfide	**µg/L**	5	<5			<5		
Isophorone	**µg/L**	2	<2			<2		
SVOCs								
2-(acetylamino) fluorene	**µg/L**	2	<2			<2		
3,3-Dichlorobenzidine	**µg/L**	2	<2			<2		
4-(dimethylamino) azobenzene	**µg/L**	2	<2			<2		
4-bromophenyl phenyl ether	**µg/L**	2	<2			<2		
4-chlorophenyl phenyl ether	**µg/L**	2	<2			<2		
4-Nitroquinoline-N-oxide	**µg/L**	2	<2			<2		
Azobenzene	**µg/L**	2	<2			<2		
Bis(2-chloroethoxy) methane	**µg/L**	2	<2			<2		
Bis(2-chloroethyl)ether	**µg/L**	2	<2			<2		
Dibenzofuran	**µg/L**	2	<2			<2		
Hexachloropropene	**µg/L**	2	<2			<2		
Methapyrilene	**µg/L**	2	<2			<2		
N-nitrosomorpholine	**µg/L**	2	<2			<2		
N-nitrosopiperidine	**µg/L**	2	<2			<2		
N-nitrosopyrrolidine	**µg/L**	4	<4			<4		
Phenacetin	**µg/L**	2	<2			<2		
TPH								
+C10-C36 (Sum of total)	**µg/L**	50	<50	<50	0	<50		
C10-C14	**µg/L**	50	<50	<50	0	<50	<50	0
C15-C28	**µg/L**	100	<100	<100	0	<100	<100	0
C29-C36	**µg/L**	50	<50	<50	0	<50	<100	0
C6-C9	**µg/L**	10	**20**	**40**	67	**20**	**11**	58
VOCs								
cis-1,4-Dichloro-2-butene	**µg/L**	5	<5			<5		
Pentachloroethane	**µg/L**	5	<5			<5		
trans-1,4-Dichloro-2-butene	**µg/L**	5	<5			<5		

***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: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 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**

			Lab Report Number	247142	247142		247834	247834		247834	247834		247834	ES2025385		247834	ES2025385		247834	ES2025385	
			Field ID	BH03_0.9_200715	QC100_200715		BH26_1_200724	QC101_200724		BH27_2_200724	QC102_200724		BH17_1.6_200723	QC200_200723		BH19_1.8_200723	QC201_200723		BH29_0.3_200724	QC202_200724	
			Matrix Type	soil	soil		soil	soil		soil	soil		soil	soil		soil	soil		soil	soil	
			Date	15/07/2020	15/07/2020	RPD	24/07/2020	24/07/2020	RPD	24/07/2020	24/07/2020	RPD	23/07/2020	23/07/2020	RPD	23/07/2020	23/07/2020	RPD	24/07/2020	23/07/2020	RPD
	Unit	EQL																			
Asbestos																					
Asbestos fibres	Detect			0			0						0						0		
NA																					
Moisture Content	%	1												18.8			7.5			4.2	
BTEX																					
Total BTEX	mg/kg	0.2												<0.2			<0.2			<0.2	
Xylene Total	mg/kg	0.5		<3	<3	0	<3	<3	0	<3	<3	0	<3	<0.5	0	<3	<0.5	0	<3	<0.5	0
Benzene	mg/kg	0.2		<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
Ethylbenzene	mg/kg	0.5		<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.5	0	<1	<0.5	0	<1	<0.5	0
Toluene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Xylene (m & p)	mg/kg	0.5		<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.5	0	<2	<0.5	0	<2	<0.5	0
Xylene (o)	mg/kg	0.5		<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.5	0	<1	<0.5	0	<1	<0.5	0
PFOS/PFOA																					
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/kg	0.2					<0.2			<0.2						<0.2	<0.5	0			
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/kg	0.1					<0.1			<0.1						<0.1	<0.5	0			
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0001					<0.0001	<0.0001	0	<0.0001	<0.0001	0				<0.0001	<0.0005	0			
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002					<0.0002	<0.0002	0	<0.0002	<0.0002	0				<0.0002	<0.0005	0			
N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	µg/kg	1					<1			<1						<1					
N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	µg/kg	0.2					<0.2			<0.2						<0.2					
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	µg/kg	5					<5			<5						<5					
N-Methyl perfluorooctane sulfonamide (NMeFOSA)	µg/kg	1					<1			<1						<1					
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	µg/kg	0.2					<0.2			<0.2						<0.2					
N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	mg/kg	0.001					<0.001			<0.001						<0.001					
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001					<0.0001			<0.0001						<0.0001	<0.0002	0			
Perfluorobutanoic acid (PFBA)	µg/kg	0.2					<0.2			<0.2						<0.2	<1	0			
Perfluorodecanesulfonic acid (PFDS)	µg/kg	0.2					<0.2			<0.2						<0.2					
Perfluorodecanoic acid (PFDA)	µg/kg	0.5					<0.5			<0.5						<0.5					
Perfluorododecanoic acid (PFDoDA)	µg/kg	0.5					<0.5			<0.5						<0.5					
Perfluoroheptane sulfonic acid (PFHpS)	µg/kg	0.1					<0.1			0.3						<0.1					
Perfluoroheptanoic acid (PFHpA)	µg/kg	0.1					<0.1			<0.1						<0.1	<0.2	0			
Perfluorohexane sulfonic acid (PFHxS)	µg/kg	0.1					<0.1	<0.1	0	<0.1	0.1	0				<0.1	<0.2	0			
Perfluorohexanoic acid (PFHxA)	µg/kg	0.1					<0.1			<0.1						<0.1	<0.2	0			
Perfluorononanoic acid (PFNA)	µg/kg	0.1					<0.1			<0.1						<0.1					
Perfluorooctane sulfonamide (PFOSA)	µg/kg	1					<1			<1						<1					
Perfluorooctanesulfonic acid (PFOS)	mg/kg	0.0001					0.0031	0.0032	3	0.016	0.016	0				<0.0001	<0.0002	0			
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001					<0.0001	<0.0001	0	0.0027	0.0031	14				<0.0001	<0.0002	0			
Perfluoropentane sulfonic acid (PFPeS)	µg/kg	0.1					<0.1			<0.1						<0.1					
Perfluoropentanoic acid (PFPeA)	µg/kg	0.2					<0.2			<0.2						<0.2	<0.2	0			
Perfluorotetradecanoic acid (PFTeDA)	µg/kg	5					<5			<5						<5					
Perfluorotridecanoic acid (PFTrDA)	µg/kg	0.5					<0.5			<0.5						<0.5					
Perfluoroundecanoic acid (PFUnDA)	µg/kg	0.5					<0.5			<0.5						<0.5					
Sum of PFAS	µg/kg	0.1					3.1	3.2	3	19	19	0				<0.1					
Sum of PFAS (WA DER List)	µg/kg	0.2															<0.2				
Sum of PFHxS and PFOS	µg/kg	0.1					3.1	3.2	3	16	16	0				<0.1	<0.2	0			
Sum of US EPA PFAS (PFOS + PFOA)*	µg/kg	0.1					3.1	3.2	3	19	19	0				<0.1					
TRH																					
C10-C16	mg/kg	50		<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
C10-C16 (F2 minus Naphthalene)	mg/kg	50		<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
C10-C40 (Sum of total)	mg/kg	50		630	620	2	<50	<50	0	<50	<50	0	<50	240	131	<50	<50	0	<50	<50	0
C16-C34	mg/kg	100		510	450	12	<100	<100	0	<100	<100	0	<100	240	82	<100	<100	0	<100	<100	0
C34-C40	mg/kg	100		120	180	40	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
C6-C10	mg/kg	10		<25	<25	0	<25	<25	0	<25	<25	0	<25	<10	0	<25	<10	0	<25	<10	0
C6-C10 (F1 minus BTEX)	mg/kg	10		<25	<25	0	<25	<25	0	<25	<25	0	<25	<10	0	<25	<10	0	<25	<10	0
Chlorinated Hydrocarbons																					
1,1,1-trichloroethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,1,2,2-tetrachloroethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,1,2-trichloroethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,1-dichloroethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,1-dichloroethene	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,2-dichloroethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,2-dichloropropane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Bromodichloromethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Bromoform	mg/kg	1		<1			<1			<1			<1			<1			<1		
Carbon tetrachloride	mg/kg	1		<1			<1			<1			<1			<1			<1		
Chlorodibromomethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Chloroethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Chloromethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
cis-1,2-dichloroethene	mg/kg	1		<1			<1			<1			<1			<1			<1		
cis-1,3-dichloropropene	mg/kg	1		<1			<1			<1			<1			<1			<1		
Chloroform	mg/kg	1		<1			<1			<1			<1			<1			<1		
Hexachlorobutadiene	mg/kg	1		<1			<1			<1			<1			<1			<1		
Tetrachloroethene	mg/kg	1		<1			<1			<1			<1			<1			<1		
trans-1,2-dichloroethene	mg/kg	1		<1			<1			<1			<1			<1			<1		
trans-1,3-dichloropropene	mg/kg	1		<1			<1			<1			<1			<1			<1		
Trichloroethene	mg/kg	1		<1			<1			<1			<1			<1			<1		
Vinyl chloride	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,1,1,2-tetrachloroethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,1-dichloropropene	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,2,3-trichloropropane	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,2-dibromo-3-chloropropane	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,3-dichloropropane	mg/kg	1		<1			<1			<1			<1			<1			<1		
2,2-dichloropropane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Bromochloromethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Dibromomethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Halogenated Benzenes																					
Hexachlorobenzene	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
1,2,4-trichlorobenzene	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,2-dichlorobenzene	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,3-dichlorobenzene	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,4-dichlorobenzene	mg/kg	1		<1			<1			<1			<1			<1			<1		
Chlorobenzene	mg/kg	1		<1			<1			<1			<1			<1			<1		
1,2,3-trichlorobenzene	mg/kg	1		<1			<1			<1			<1			<1			<1		
2-chlorotoluene	mg/kg	1		<1			<1			<1			<1			<1			<1		
4-chlorotoluene	mg/kg	1		<1			<1			<1			<1			<1			<1		
Bromobenzene	mg/kg	1		<1			<1			<1			<1			<1			<1		
Halogenated Hydrocarbons																					
1,2-dibromoethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Bromomethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Dichlorodifluoromethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Trichlorofluoromethane	mg/kg	1		<1			<1			<1			<1			<1			<1		
Inorganics																					
Moisture	%	0.1		3.4	4.5	28	5.2	4.9	6	7.6	11	37	16			6.2			43		
Metals																					
Cadmium	mg/kg	0.4		<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<1	0	<0.4	<1	0	<0.4	<1	0
Arsenic	mg/kg	4		<4	<4	0	<4	<4	0	<4	<4	0	10	7	35	<4	<5	0	<4	<5	0
Chromium (III+VI)	mg/kg	1		1	2	67	<1	<1	0	1	1	0	5	3	50	2	2	0	4	2	67
Copper	mg/kg	1		3	5	50	1	3	100	4	3	29	790	267	99	<1	<5	0	6	<5	18
Lead	mg/kg	1		3	10	108	2	4	67	2	1	67	2,000	221	160	3	<5	0	26	13	67
Mercury	mg/kg	0.1		<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	0.2	0.4	67	<0.1	<0.1	0	<0.1	<0.1	0
Nickel	mg/kg	1		1	2	67	1	2	67	6	5	18	8	5	46	<1	<2	0	4	2	67
Zinc	mg/kg	1		8	14	55	13	22	51	43	31	32	190	591	103	3	<5	0	30	17	55
Organochlorine Pesticides																					
4,4-DDE	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Heptachlor epoxide	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Chlordane (cis)	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
a-BHC	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Aldrin	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Chlordane (trans)	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
d-BHC	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
b-BHC	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
DDD	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
DDT	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
DDT+DDE+DDD	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Dieldrin	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Endosulfan I	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Endosulfan II	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Endosulfan sulphate	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Endrin	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Endrin aldehyde	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
g-BHC (Lindane)	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Heptachlor	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Methoxychlor	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Organophosphorous Pesticides																					
Chlorpyrifos-methyl	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Dichlorvos	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Ethion	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Fenitrothion	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Malathion	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Ronnel	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Azinophos methyl	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Chlorpyrifos	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Bromophos-ethyl	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Diazinon	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Dimethoate	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
PAH																					
Naphthalene	mg/kg	0.1		<0.1	<1	0	<0.1	<1	0	<0.1	<1	0	<0.1	<1	0	<0.1	<1	0	<0.1	<1	0
Acenaphthene	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Acenaphthylene	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Anthracene	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Benz(a)anthracene	mg/kg	0.1		<0.1			<0.1			<0.1			0.7			<0.1			<0.1		
Benzo(a) pyrene	mg/kg	0.05		<0.05			<0.05			<0.05			0.5			<0.05			<0.05		
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5		<0.5			<0.5			<0.5			0.8			<0.5			<0.5		
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		<0.5			<0.5			<0.5			0.7			<0.5			<0.5		
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		<0.5			<0.5			<0.5			0.7			<0.5			<0.5		
Benzo(b+j+k)fluoranthene	mg/kg	0.2		<0.2			<0.2			<0.2			1			<0.2			<0.2		
Benzo(g,h,i)perylene	mg/kg	0.1		<0.1			<0.1			<0.1			0.2			<0.1			<0.1		
Chrysene	mg/kg	0.1		<0.1			<0.1			<0.1			0.7			<0.1			<0.1		
Dibenz(a,h)anthracene	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Fluoranthene	mg/kg	0.1		<0.1			<0.1			<0.1			1.1			<0.1			<0.1		
Fluorene	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1		<0.1			<0.1			<0.1			0.2			<0.1			<0.1		
PAHs (Sum of positives)	mg/kg	0.05		<0.05			<0.05			<0.05			5.7			<0.05			<0.05		
Phenanthrene	mg/kg	0.1		<0.1			<0.1			<0.1			0.6			<0.1			<0.1		
Pyrene	mg/kg	0.1		<0.1			<0.1			<0.1			0.8			<0.1			<0.1		
PCBs																					
Arochlor 1016	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Arochlor 1221	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Arochlor 1232	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Arochlor 1242	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Arochlor 1248	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Arochlor 1254	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Arochlor 1260	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
PCBs (Sum of total)	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
Pesticides																					
Parathion	mg/kg	0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1		
TPH																					
+C10-C36 (Sum of total)	mg/kg	50												280			<50			<50	
C10-C14	mg/kg	50		<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
C15-C28	mg/kg	100		270	210	25	<100	<100	0	<100	<100	0	<100	140	33	<100	<100	0	<100	<100	0
C29-C36	mg/kg	100		300	290	3	<100	<100	0	<100	<100	0	<100	140	33	<100	<100	0	<100	<100	0
C6-C9	mg/kg	10		<25	<25	0	<25	<25	0	<25	<25	0	<25	<10	0	<25	<10	0	<25	<10	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: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 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

Appendix F

Laboratory documentation

Ph: (02) 9910 6200

Job No: 24~~7~~142

Date Received: 16.7.20
Time Received: 1540
Received By: MO
Temp: [✓ Cool]/Ambient
Cooling: [✓ Ice]/[✓ Icepack]
Security: Intact/Broken/None

CHAIN OF CUSTODY - Client

ENVIROLAB SERVICES

Client: EMM Consulting Pty Ltd
Project Mgr: Susan Dillon
Sampler: Lachlan Lewis
Address: G/20 Chandos St
ST LEONARDS NSW 2065
Email: sdillon@emmconsulting.com.au, llewis@emmconsulting.com.au, emmconsulting@esdat.net
Phone: 61401638848 Fax:

Client Project Name and Number: Matraville
J200432
PO No.:
Envirolab Services Quote No. : 20SY259
Date results required:
Standard TAT
Note: Inform lab in advance if urgent turnaround is required - surcharge applies

Envirolab Services
12 Ashley St, Chatswood, NSW, 2067
Phone: 02 9910 6200
Fax: 02 9910 6201
E-mail: jhurst@envirolabservices.com.au
Contact: Jacinta Hurst

Sample information				Tests Required															Comments
Envirolab Sample ID	Client Sample ID	Date sampled	Type of sample	Asbestos ID	Combo 3	TRH/BTEXN	TRH/BTEXN/8 metals	VCH	OC/OP/PCB	PFAS ext									Provide as much information about the sample as you can
1	BH01_0.4_200715	15/07/2020	Soil	X	X			X	X										
2	BH02_0.5_200715	15/07/2020	Soil	↓	↓														
3	BH03_0.9_200715	15/07/2020	Soil					X	X										
4	BH04_0.9_200715	15/07/2020	Soil							X									
5	BH05_0.5_200715	15/07/2020	Soil																
6	QC300_200715	15/07/2020	Water				X												
7	TB01_200715	15/07/2020	Soil			X													
8	TS01_200715	15/07/2020	Soil			X													
9	QC100-200715	15/7/20	S				X												

Relinquished by (company): EMM
Print Name: Lachlan Lewis
Date & Time: 16/07/2020 12:00
Signature:

Received by (company): ELS
Print Name: Michael Ope
Date & Time: 16.7.20 1540
Signature:

Samples Received: [✓ Cool] or Ambient (circle one)
Temperature Recieved at: 9.2 (if applicable)
Transported by: Hand delivered / courier
Page No:

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

SAMPLE RECEIPT ADVICE

Client Details

Client	EMM Consulting Pty Ltd
Attention	Susan Dillon

Sample Login Details

Your reference	J200432, Matraville
Envirolab Reference	247142
Date Sample Received	16/07/2020
Date Instructions Received	16/07/2020
Date Results Expected to be Reported	23/07/2020

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	8 Soil, 1 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	8.2
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

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

Analysis Underway, details on the following page:

Sample ID	VHC's in soil	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils	PFAS in Soils Extended	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	HM in water - dissolved
BH01_0.4_200715	✓	✓	✓	✓	✓	✓	✓	✓	✓				
BH02_0.5_200715		✓	✓	✓				✓	✓				
BH03_0.9_200715	✓	✓	✓	✓	✓	✓	✓	✓	✓				
BH04_0.9_200715		✓	✓	✓				✓	✓	✓			
BH05_0.5_200715		✓	✓	✓				✓	✓				
QC300_200715											✓	✓	✓
TB01_200715		✓											
TS01_200715		✓											
QC100_200715		✓	✓					✓					

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

Additional Info

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

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

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

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

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

CERTIFICATE OF ANALYSIS 247142

Client Details

Client	EMM Consulting Pty Ltd
Attention	Susan Dillon
Address	188 Normanby Rd, SOUTHBANK, VIC, 3006

Sample Details

Your Reference	**J200432, Matraville**
Number of Samples	8 Soil, 1 Water
Date samples received	16/07/2020
Date completed instructions received	16/07/2020

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	23/07/2020
Date of Issue	22/07/2020

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

Asbestos Approved By
Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Dragana Tomas, Senior Chemist
Jaimie Loa-Kum-Cheung, Metals Supervisor
Josh Williams, Senior Chemist
Lucy Zhu, Asbestos Supervisor
Manju Dewendrage, Chemist
Phalak Inthakesone, Organics Development Manager, Sydney
Steven Luong, Organics Supervisor

Authorised By

Nancy

Nancy Zhang, Laboratory Manager

ACCREDITED FOR TECHNICAL COMPETENCE

VHC's in soil			
Our Reference		247142-1	247142-3
Your Reference	UNITS	BH01_0.4_200715	BH03_0.9_200715
Date Sampled		15/07/2020	15/07/2020
Type of sample		Soil	Soil
Date extracted	-	17/07/2020	17/07/2020
Date analysed	-	17/07/2020	17/07/2020
Dichlorodifluoromethane	mg/kg	<1	<1
Chloromethane	mg/kg	<1	<1
Vinyl Chloride	mg/kg	<1	<1
Bromomethane	mg/kg	<1	<1
Chloroethane	mg/kg	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1
1,1-dichloroethane	mg/kg	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1
bromochloromethane	mg/kg	<1	<1
chloroform	mg/kg	<1	<1
2,2-dichloropropane	mg/kg	<1	<1
1,2-dichloroethane	mg/kg	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1
1,1-dichloropropene	mg/kg	<1	<1
carbon tetrachloride	mg/kg	<1	<1
dibromomethane	mg/kg	<1	<1
1,2-dichloropropane	mg/kg	<1	<1
trichloroethene	mg/kg	<1	<1
bromodichloromethane	mg/kg	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1
1,3-dichloropropane	mg/kg	<1	<1
dibromochloromethane	mg/kg	<1	<1
1,2-dibromoethane	mg/kg	<1	<1
tetrachloroethene	mg/kg	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1
chlorobenzene	mg/kg	<1	<1
bromoform	mg/kg	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1
bromobenzene	mg/kg	<1	<1

VHC's in soil			
Our Reference		247142-1	247142-3
Your Reference	UNITS	BH01_0.4_200715	BH03_0.9_200715
Date Sampled		15/07/2020	15/07/2020
Type of sample		Soil	Soil
2-chlorotoluene	mg/kg	<1	<1
4-chlorotoluene	mg/kg	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1
hexachlorobutadiene	mg/kg	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1
Surrogate Dibromofluorometha	%	99	98
Surrogate aaa-Trifluorotoluene	%	106	104
Surrogate Toluene-d_8	%	99	98
Surrogate 4-Bromofluorobenzene	%	100	101

vTRH(C6-C10)/BTEXN in Soil

Our Reference		247142-1	247142-2	247142-3	247142-4	247142-5
Your Reference	UNITS	BH01_0.4_200715	BH02_0.5_200715	BH03_0.9_200715	BH04_0.9_200715	BH05_0.5_200715
Date Sampled		15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/07/2020	17/07/2020	17/07/2020	17/07/2020	17/07/2020
Date analysed	-	17/07/2020	17/07/2020	17/07/2020	17/07/2020	17/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	106	103	104	100	105

vTRH(C6-C10)/BTEXN in Soil

Our Reference		247142-7	247142-8	247142-9
Your Reference	UNITS	TB01_200715	TS01_200715	QC100_200715
Date Sampled		15/07/2020	15/07/2020	15/07/2020
Type of sample		Soil	Soil	Soil
Date extracted	-	17/07/2020	17/07/2020	17/07/2020
Date analysed	-	17/07/2020	17/07/2020	17/07/2020
TRH C_6 - C_9	mg/kg	<25	[NA]	<25
TRH C_6 - C_{10}	mg/kg	<25	[NA]	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	[NA]	<25
Benzene	mg/kg	<0.2	100%	<0.2
Toluene	mg/kg	<0.5	100%	<0.5
Ethylbenzene	mg/kg	<1	98%	<1
m+p-xylene	mg/kg	<2	97%	<2
o-Xylene	mg/kg	<1	96%	<1
naphthalene	mg/kg	<1	[NA]	<1
Total +ve Xylenes	mg/kg	<3	[NT]	<3
Surrogate aaa-Trifluorotoluene	%	111	104	74

svTRH (C10-C40) in Soil						
Our Reference		247142-1	247142-2	247142-3	247142-4	247142-5
Your Reference	UNITS	BH01_0.4_200715	BH02_0.5_200715	BH03_0.9_200715	BH04_0.9_200715	BH05_0.5_200715
Date Sampled		15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/07/2020	17/07/2020	17/07/2020	17/07/2020	17/07/2020
Date analysed	-	18/07/2020	18/07/2020	18/07/2020	18/07/2020	18/07/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	420	270	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	660	300	<100	<100
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	930	510	<100	<100
TRH >C_{34}-C_{40}	mg/kg	<100	610	120	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	1,500	630	<50	<50
Surrogate o-Terphenyl	%	87	127	114	100	91

svTRH (C10-C40) in Soil		
Our Reference		247142-9
Your Reference	UNITS	QC100_200715
Date Sampled		15/07/2020
Type of sample		Soil
Date extracted	-	17/07/2020
Date analysed	-	18/07/2020
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	210
TRH C_{29} - C_{36}	mg/kg	290
TRH >C_{10}-C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16}-C_{34}	mg/kg	450
TRH >C_{34}-C_{40}	mg/kg	180
Total +ve TRH (>C10-C40)	mg/kg	620
Surrogate o-Terphenyl	%	127

PAHs in Soil						
Our Reference		247142-1	247142-2	247142-3	247142-4	247142-5
Your Reference	UNITS	BH01_0.4_200715	BH02_0.5_200715	BH03_0.9_200715	BH04_0.9_200715	BH05_0.5_200715
Date Sampled		15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/07/2020	17/07/2020	17/07/2020	17/07/2020	17/07/2020
Date analysed	-	17/07/2020	17/07/2020	17/07/2020	17/07/2020	17/07/2020
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	%	107	103	109	108	109

Organochlorine Pesticides in soil			
Our Reference		247142-1	247142-3
Your Reference	UNITS	BH01_0.4_200715	BH03_0.9_200715
Date Sampled		15/07/2020	15/07/2020
Type of sample		Soil	Soil
Date extracted	-	17/07/2020	17/07/2020
Date analysed	-	17/07/2020	17/07/2020
alpha-BHC	mg/kg	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate TCMX	%	99	106

Organophosphorus Pesticides in Soil			
Our Reference		247142-1	247142-3
Your Reference	UNITS	BH01_0.4_200715	BH03_0.9_200715
Date Sampled		15/07/2020	15/07/2020
Type of sample		Soil	Soil
Date extracted	-	17/07/2020	17/07/2020
Date analysed	-	17/07/2020	17/07/2020
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Surrogate TCMX	%	99	106

PCBs in Soil			
Our Reference		247142-1	247142-3
Your Reference	UNITS	BH01_0.4_200715	BH03_0.9_200715
Date Sampled		15/07/2020	15/07/2020
Type of sample		Soil	Soil
Date extracted	-	17/07/2020	17/07/2020
Date analysed	-	17/07/2020	17/07/2020
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate TCMX	%	99	106

Acid Extractable metals in soil						
Our Reference		247142-1	247142-2	247142-3	247142-4	247142-5
Your Reference	UNITS	BH01_0.4_200715	BH02_0.5_200715	BH03_0.9_200715	BH04_0.9_200715	BH05_0.5_200715
Date Sampled		15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	17/07/2020	17/07/2020	17/07/2020	17/07/2020	17/07/2020
Date analysed	-	17/07/2020	17/07/2020	17/07/2020	17/07/2020	17/07/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	2	3	1	4	1
Copper	mg/kg	2	20	3	25	2
Lead	mg/kg	3	18	3	47	8
Mercury	mg/kg	<0.1	<0.1	<0.1	0.7	<0.1
Nickel	mg/kg	8	17	1	22	2
Zinc	mg/kg	13	39	8	38	17

Acid Extractable metals in soil			
Our Reference		247142-9	247142-10
Your Reference	UNITS	QC100_200715	BH04_0.9_200715 - [TRIPLICATE]
Date Sampled		15/07/2020	15/07/2020
Type of sample		Soil	Soil
Date prepared	-	17/07/2020	17/07/2020
Date analysed	-	17/07/2020	17/07/2020
Arsenic	mg/kg	<4	<4
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	2	5
Copper	mg/kg	5	29
Lead	mg/kg	10	49
Mercury	mg/kg	<0.1	0.8
Nickel	mg/kg	2	24
Zinc	mg/kg	14	36

Moisture						
Our Reference		247142-1	247142-2	247142-3	247142-4	247142-5
Your Reference	UNITS	BH01_0.4_200715	BH02_0.5_200715	BH03_0.9_200715	BH04_0.9_200715	BH05_0.5_200715
Date Sampled		15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	17/07/2020	17/07/2020	17/07/2020	17/07/2020	17/07/2020
Date analysed	-	20/07/2020	20/07/2020	20/07/2020	20/07/2020	20/07/2020
Moisture	%	7.8	5.2	3.4	19	8.9

Moisture		
Our Reference		247142-9
Your Reference	UNITS	QC100_200715
Date Sampled		15/07/2020
Type of sample		Soil
Date prepared	-	17/07/2020
Date analysed	-	20/07/2020
Moisture	%	4.5

Asbestos ID - soils						
Our Reference		247142-1	247142-2	247142-3	247142-4	247142-5
Your Reference	UNITS	BH01_0.4_200715	BH02_0.5_200715	BH03_0.9_200715	BH04_0.9_200715	BH05_0.5_200715
Date Sampled		15/07/2020	15/07/2020	15/07/2020	15/07/2020	15/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	17/07/2020	17/07/2020	17/07/2020	17/07/2020	17/07/2020
Sample mass tested	g	Approx. 20g	Approx. 20g	Approx. 25g	Approx. 25g	Approx. 30g
Sample Description	-	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil	Beige sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	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

PFAS in Soils Extended		
Our Reference		247142-4
Your Reference	UNITS	BH04_0.9_200715
Date Sampled		15/07/2020
Type of sample		Soil
Date prepared	-	17/07/2020
Date analysed	-	18/07/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	2.7
Perfluorodecanesulfonic acid	µg/kg	<0.2
Perfluorobutanoic acid	µg/kg	<0.2
Perfluoropentanoic acid	µg/kg	<0.2
Perfluorohexanoic acid	µg/kg	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1
Perfluorooctanoic acid PFOA	µg/kg	0.2
Perfluorononanoic acid	µg/kg	<0.1
Perfluorodecanoic acid	µg/kg	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5
Perfluorododecanoic acid	µg/kg	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5
Perfluorotetradecanoic acid	µg/kg	<5
4:2 FTS	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.2
10:2 FTS	µg/kg	<0.2
Perfluorooctane sulfonamide	µg/kg	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	94
Surrogate $^{13}C_2$ *PFOA*	%	101
Extracted ISTD $^{13}C_3$ *PFBS*	%	108
Extracted ISTD $^{18}O_2$ *PFHxS*	%	103
Extracted ISTD $^{13}C_4$ *PFOS*	%	102
Extracted ISTD $^{13}C_4$ *PFBA*	%	120

PFAS in Soils Extended		
Our Reference		247142-4
Your Reference	UNITS	BH04_0.9_200715
Date Sampled		15/07/2020
Type of sample		Soil
Extracted ISTD $^{13}C_3$ *PFPeA*	%	114
Extracted ISTD $^{13}C_2$ *PFHxA*	%	97
Extracted ISTD $^{13}C_4$ *PFHpA*	%	105
Extracted ISTD $^{13}C_4$ *PFOA*	%	108
Extracted ISTD $^{13}C_5$ *PFNA*	%	109
Extracted ISTD $^{13}C_2$ *PFDA*	%	106
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	108
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	91
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	57
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	114
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	112
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	130
Extracted ISTD $^{13}C_8$ *FOSA*	%	107
Extracted ISTD d_3 *N MeFOSA*	%	85
Extracted ISTD d_5 *N EtFOSA*	%	74
Extracted ISTD d_7 *N MeFOSE*	%	99
Extracted ISTD d_9 *N EtFOSE*	%	92
Extracted ISTD d_3 *N MeFOSAA*	%	113
Extracted ISTD d_5 *N EtFOSAA*	%	113
Total Positive PFHxS & PFOS	μg/kg	2.7
Total Positive PFOS & PFOA	μg/kg	2.9
Total Positive PFAS	μg/kg	2.9

vTRH(C6-C10)/BTEXN in Water		
Our Reference		247142-6
Your Reference	UNITS	QC300_200715
Date Sampled		15/07/2020
Type of sample		Water
Date extracted	-	17/07/2020
Date analysed	-	17/07/2020
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	123
Surrogate toluene-d8	%	96
Surrogate 4-BFB	%	87

svTRH (C10-C40) in Water		
Our Reference		247142-6
Your Reference	UNITS	QC300_200715
Date Sampled		15/07/2020
Type of sample		Water
Date extracted	-	17/07/2020
Date analysed	-	18/07/2020
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Surrogate o-Terphenyl	%	106

HM in water - dissolved		
Our Reference		247142-6
Your Reference	UNITS	QC300_200715
Date Sampled		15/07/2020
Type of sample		Water
Date prepared	-	17/07/2020
Date analysed	-	17/07/2020
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	<1
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	<1
Zinc-Dissolved	µg/L	<1

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
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	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.
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. 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 5.3 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: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Date analysed	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
chloroform	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
2,2-dichloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	91	[NT]
1,1-dichloropropene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	91	[NT]
bromodichloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	76	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	71	[NT]
1,2-dibromoethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bromoform	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	102	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	110	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate Toluene-d_8	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			17/07/2020	4	17/07/2020	17/07/2020		17/07/2020	[NT]
Date analysed	-			17/07/2020	4	17/07/2020	17/07/2020		17/07/2020	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	4	<25	<25	0	80	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	4	<25	<25	0	80	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	4	<0.2	<0.2	0	81	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	4	<0.5	<0.5	0	81	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	4	<1	<1	0	79	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	4	<2	<2	0	79	[NT]
o-Xylene	mg/kg	1	Org-023	<1	4	<1	<1	0	78	[NT]
naphthalene	mg/kg	1	Org-023	<1	4	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	110	4	100	105	5	88	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			17/07/2020	4	17/07/2020	17/07/2020		17/07/2020	[NT]
Date analysed	-			17/07/2020	4	18/07/2020	18/07/2020		17/07/2020	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	4	<50	<50	0	110	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	4	<100	<100	0	104	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	4	<100	<100	0	108	[NT]
TRH >C_{10}-C_{16}	mg/kg	50	Org-020	<50	4	<50	<50	0	110	[NT]
TRH >C_{16}-C_{34}	mg/kg	100	Org-020	<100	4	<100	<100	0	104	[NT]
TRH >C_{34}-C_{40}	mg/kg	100	Org-020	<100	4	<100	<100	0	108	[NT]
Surrogate o-Terphenyl	%		Org-020	89	4	100	85	16	123	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			17/07/2020	4	17/07/2020	17/07/2020		17/07/2020	[NT]
Date analysed	-			17/07/2020	4	17/07/2020	17/07/2020		17/07/2020	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	102	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	98	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	104	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	100	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	106	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	90	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	4	<0.05	<0.05	0	112	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	4	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	119	4	108	109	1	105	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Date analysed	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
HCB	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	128	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	105	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Date analysed	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Malathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	105	[NT]	[NT]	[NT]	[NT]	100	[NT]

Client Reference: J200432, Matraville

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Date analysed	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-021	105	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date prepared	-			17/07/2020	4	17/07/2020	17/07/2020		17/07/2020	[NT]
Date analysed	-			17/07/2020	4	17/07/2020	17/07/2020		17/07/2020	[NT]
Arsenic	mg/kg	4	Metals-020	<4	4	<4	<4	0	102	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	4	<0.4	<0.4	0	102	[NT]
Chromium	mg/kg	1	Metals-020	<1	4	4	6	40	99	[NT]
Copper	mg/kg	1	Metals-020	<1	4	25	34	31	100	[NT]
Lead	mg/kg	1	Metals-020	<1	4	47	50	6	99	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	4	0.7	0.4	55	90	[NT]
Nickel	mg/kg	1	Metals-020	<1	4	22	25	13	98	[NT]
Zinc	mg/kg	1	Metals-020	<1	4	38	44	15	101	[NT]

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	247142-4
Date prepared	-			17/07/2020	4	17/07/2020	17/07/2020		17/07/2020	17/07/2020
Date analysed	-			18/07/2020	4	18/07/2020	18/07/2020		18/07/2020	18/07/2020
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	4	<0.1	<0.1	0	79	105
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	4	<0.1	<0.1	0	81	98
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	4	<0.1	<0.1	0	83	92
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	4	<0.1	<0.1	0	86	105
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	4	2.7	2.6	4	84	106
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	4	<0.2	<0.2	0	73	96
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	4	<0.2	<0.2	0	80	96
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	4	<0.2	<0.2	0	81	100
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	4	<0.1	<0.1	0	79	99
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	4	<0.1	<0.1	0	74	93
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	4	0.2	0.3	40	86	101
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	4	<0.1	<0.1	0	78	101
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	4	<0.5	<0.5	0	84	102
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	4	<0.5	<0.5	0	84	107
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	4	<0.5	<0.5	0	79	106
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	4	<0.5	<0.5	0	65	88
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	4	<5	<5	0	78	98
4:2 FTS	µg/kg	0.1	Org-029	<0.1	4	<0.1	<0.1	0	83	87
6:2 FTS	µg/kg	0.1	Org-029	<0.1	4	<0.1	<0.1	0	72	105
8:2 FTS	µg/kg	0.2	Org-029	<0.2	4	<0.2	<0.2	0	95	98
10:2 FTS	µg/kg	0.2	Org-029	<0.2	4	<0.2	<0.2	0	87	88
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	4	<1	<1	0	79	87
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	4	<1	<1	0	87	104
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	<1	4	<1	<1	0	83	104
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	<1	4	<1	<1	0	82	100
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	<5	4	<5	<5	0	84	97
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	4	<0.2	<0.2	0	78	107
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	<0.2	4	<0.2	<0.2	0	79	93
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	96	4	94	93	1	97	96
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	103	4	101	101	0	102	104

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	247142-4
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	105	4	108	111	3	104	102
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	102	4	103	104	1	99	106
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	104	4	102	106	4	102	101
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	116	4	120	119	1	114	116
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	110	4	114	110	4	108	107
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	96	4	97	99	2	97	98
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	105	4	105	108	3	103	103
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	106	4	108	110	2	103	102
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	103	4	109	107	2	105	100
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	114	4	106	112	6	101	103
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	104	4	108	110	2	105	96
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	101	4	91	99	8	96	88
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	107	4	57	58	2	73	114
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	114	4	114	112	2	106	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	118	4	112	123	9	113	113
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	128	4	130	112	15	100	107
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	107	4	107	108	1	101	103
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	85	4	85	95	11	83	96
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	74	4	74	89	18	71	91
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	90	4	99	95	4	94	98

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	247142-4
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	84	4	92	91	1	81	91
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	108	4	113	112	1	112	101
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	115	4	113	108	5	108	109

Client Reference: J200432, Matraville

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date extracted	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Date analysed	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	107	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	107	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	109	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	111	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate toluene-d8	%		Org-023	95	[NT]	[NT]	[NT]	[NT]	95	[NT]
Surrogate 4-BFB	%		Org-023	91	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Date analysed	-			18/07/2020	[NT]	[NT]	[NT]	[NT]	18/07/2020	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	78	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	71	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	78	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	71	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
Surrogate o-Terphenyl	%		Org-020	110	[NT]	[NT]	[NT]	[NT]	92	[NT]

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Date analysed	-			17/07/2020	[NT]	[NT]	[NT]	[NT]	17/07/2020	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	94	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	92	[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.

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

Asbestos: Excessive sample volume was provided for asbestos analysis. A portion of the supplied sample was sub-sampled according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.
Note: Samples were sub-sampled from bags provided by the client.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 247142-4 for Hg. Therefore a triplicate result has been issued as laboratory sample number 247142-10.

coc rec'd 28/7
10.00

CHAIN OF CUSTODY - Client

Updated COC

ENVIROLAB SERVICES

Client:	EMM Consulting Pty Ltd	**Client Project Name and Number:**	Matraville
Project Mgr:	Susan Dillon		J200432
Sampler:	Lachlan Lewis	**PO No.:**	
Address:	G/20 Chandos St ST LEONARDS NSW 2065	**Envirolab Services Quote No. :**	20SY259
Email:	sdillon@emmconsulting.com.au, llewis@emmconsulting.com.au, emmconsulting@esdat.net	**Date results required:**	Standard TAT
Phone:	61401638848 **Fax:**	*Note: Inform lab in advance if urgent turnaround is required - surcharge applies*	

Envirolab Services
12 Ashley St, Chatswood, NSW, 2067
Phone: 02 9910 6200
Fax: 02 9910 6201
E-mail: jhurst@envirolabservices.com.au
Contact: Jacinta Hurst

Envirolab Sample ID	Client Sample ID	Date sampled	Type of sample	HOLD	Combo 3	Asbestos ID	VCH	OC/OP/PCB	PFAS ext.	PFAS short	TRH/BTEX/8 metals	TRH C6-C9/BTEXN							Provide as much information about the sample as you can Additional jars:
1	BH06_0.3_200722	22/7/20	Soil		X	X	X	X	X										ACM, PFAS
2	BH06_1.3_200722				X														
3	BH06_3.9_200722			✓															
4	BH07_0.3_200722				X	X													ACM
5	BH07_1.0_200722			✓															
6	BH07_3.5_200722				X		X	X	X										PFAS
7	BH08_0.3_200722				X	X	X	X											ACM
8	BH08_2.7_200722				X														
9	BH09_0.3_200722				X														ACM
10	BH09_1.5_200722				X	X	X	X	X										ACM, PFAS
11	BH10_0.3_20722				X	X													ACM
12	BH10_0.8_200722				X		X	X											ACM, PFAS
13	BH10_2.7_200722			✓															
14	BH11_0.5_200722				X	X													ACM
15	BH11_3.9_200722			✓															PFAS

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 247834
Date Received: 24-7-20
Time Received: 1750
Received By: MO
Temp: [✓ Cool]/Ambient
Cooling: Ice/[✓ Icepack]
Security: [✓ Intact]/Broken/None

Relinquished by (company): EMM Consulting	**Received by (company):** ELS		**Samples Received:** [✓ Cool] or Ambient (circle one)
Print Name: Lachlan Lewis	**Print Name:** Michael Opie		**Temperature Recieved at:** 1.5 (if applicable)
Date & Time: 24/7/20 1730	**Date & Time:** ~~28~~ 24-7-20 1750		**Transported by:** Hand delivered / courier
Signature:	**Signature:**		**Page No:** 1 of 5

Updated by Lachlan Lewis
on 28/7/20 0800

Form: 302 - Chain of Custody-Client. Issued 14/02/08. Version 3. Page 1 of 1.

247834

CHAIN OF CUSTODY - Client

ENVIROLAB SERVICES

Client: EMM Consulting Pty Ltd
Project Mgr: Susan Dillon
Sampler: Lachlan Lewis
Address: G/20 Chandos St
ST LEONARDS NSW 2065
Email: sdillon@emmconsulting.com.au, llewis@emmconsulting.com.au, emmconsulting@esdat.net
Phone: 61401638848 **Fax:**

Client Project Name and Number: Matraville
J200432
PO No.:
Envirolab Services Quote No. : 20SY259
Date results required:
Standard TAT
Note: Inform lab in advance if urgent turnaround is required - surcharge applies

Envirolab Services
12 Ashley St, Chatswood, NSW, 2067
Phone: 02 9910 6200
Fax: 02 9910 6201
E-mail: jhurst@envirolabservices.com.au
Contact: Jacinta Hurst

Sample Information				Tests Required						Comments
Envirolab Sample ID	Client Sample ID	Date sampled	Type of sample	HOLD	Asbestos ID	PFAS ext.	PCB/OC/OP	Combo-3	VCH	Provide as much information about the sample as you can
16	BH11_5.5_200724	24/7/20	Soil	~~X~~		X	X	X	X	PFAS
17	BH12_0.5_200722	22/7/20			X		X	X	X	ACM, PFAS
18	BH12_1.6_200722							X		
19	BH14_0.3_200722				X		X	X		ACM
20	BH14_0.8_200722			✓ ✓						ACM
21	BH14_3.9_200722					X		X	X	PFAS
22	BH15_0.3_200723	23/7/20			X		X	X	X	ACM
23	BH15_3.9_200723							X		PFAS
24	BH16_0.9_200723				X	X		X		ACM, PFAS
25	BH16_1.7_200723						X	X	X	
26	BH17_0.3_200723							X		ACM
27	BH17_1.6_200723				X		X	X	X	ACM
28	BH17_2.1_200723			✓ ✓						
29	BH17_3.9_200723			✓ ✓						PFAS
30	BH18_0.3_200723				X			X		ACM

Relinquished by (company): EMM Consulting
Print Name: Lachlan Lewis
Date & Time: 24/7/20 1730
Signature:

Received by (company): ELS
Print Name: Michael Ople
Date & Time: 24.7.20 1750
Signature:

Samples Received: [✓ Cool] or Ambient (circle one)
Temperature Recieved at: 1.5 (if applicable)
Transported by: Hand delivered / courier
Page No: ② of 5

247834

CHAIN OF CUSTODY - Client

ENVIROLAB SERVICES

Envirolab

Client:	EMM Consulting Pty Ltd
Project Mgr:	Susan Dillon
Sampler:	Lachlan Lewis
Address:	G/20 Chandos St ST LEONARDS NSW 2065
Email:	sdillon@emmconsulting.com.au, llewis@emmconsulting.com.au, emmconsulting@esdat.net
Phone:	61401638848 **Fax:**

Client Project Name and Number: Matraville
J200432
PO No.:
Envirolab Services Quote No. : 20SY259
Date results required:
Standard TAT
Note: Inform lab in advance if urgent turnaround is required - surcharge applies

Envirolab Services
12 Ashley St, Chatswood, NSW, 2067
Phone: 02 9910 6200
Fax: 02 9910 6201
E-mail: jhurst@envirolabservices.com.au
Contact: Jacinta Hurst

Sample Information				Tests Required															Comments
Envirolab Sample ID	Client Sample ID	Date sampled	Type of sample	HOLD	Asbestos ID	PFAS ext.	PCB/OC/OP	Combo-3	VCH										Provide as much information about the sample as you can
31	BH18_1.6_200723	23/7/20	Soil	✓ ✓															ACM, PFAS
32	BH18_3.3_200723	〃		✓ ✓															
33	BH18_5.5_200724	24/7/20				X	X	X	X										PFAS
34	BH19_1.0_200723	23/7/20			X			X											ACM
35	BH19_1.8_200723					X	X	X	X										PFAS
36	BH19_3.9_200723			✓ ✓															
37	BH20_0.3_200723				X		X	X	X										ACM
38	BH20_0.9_200723			✓ ✓															
39	BH20_1.6_200723							X											
40	BH21_0.2_200723				X	X	X	X	X										ACM, PFAS
41	BH21_1.3_200723							X											
42	BH22_1.2_200723				X	X	X	X	X										ACM, PFAS
43	BH22_3.9_200723							X											
44	BH23_0.9_200723				X		X	X	X										ACM
45	BH23_1.5_200723							X											

Relinquished by (company): EMM Consulting
Print Name: Lachlan Lewis
Date & Time: 24/7/20 1730
Signature:

Received by (company): ELS
Print Name: Michael Opie
Date & Time: 24.7.20 1750
Signature:

Samples Received: [✓ Cool] or Ambient (circle one)
Temperature Recieved at: 1.5 **(if applicable)**
Transported by: Hand delivered / courier
Page No: ③ of 5

247834

CHAIN OF CUSTODY - Client

ENVIROLAB SERVICES

Client: EMM Consulting Pty Ltd
Project Mgr: Susan Dillon
Sampler: Lachlan Lewis
Address: G/20 Chandos St
ST LEONARDS NSW 2065
Email: sdillon@emmconsulting.com.au, llewis@emmconsulting.com.au, emmconsulting@esdat.net
Phone: 61401638848 **Fax:**

Client Project Name and Number: Matraville
J200432
PO No.:
Envirolab Services Quote No. : 20SY259
Date results required:
Standard TAT
Note: Inform lab in advance if urgent turnaround is required - surcharge applies

Envirolab Services
12 Ashley St, Chatswood, NSW, 2067
Phone: 02 9910 6200
Fax: 02 9910 6201
E-mail: jhurst@envirolabservices.com.au
Contact: Jacinta Hurst

Sample information				Tests Required															Comments
Envirolab Sample ID	Client Sample ID	Date sampled	Type of sample	HOLD	Asbestos 10	PFAS ext.	PCB/OC/OP	Combo-3	VCH										Provide as much information about the sample as you can
46	BH24_0.3_200723	23/7/20	Soil		X		X	X	X										ACM
47	BH24_1.4_200723			✓															ACM
48	BH24_2.7_200723							X											
49	BH25_0.3_200723				X	X		X											ACM, PFAS
50	BH25_0.9_200723						X	X	X										
51	BH26_0.1_200724	24/7/20		✓															ACM
52	BH26_1.0_200724				X	X	X	X	X										ACM, PFAS
53	BH26_1.8_200724			✓															
54	BH26_4.4_200724						X	X	X										PFAS
55	BH27_0.5_200724				X			X											ACM
56	BH27_2.0_200724					X	X	X	X										ACM, PFAS
57	BH27_2.7_200724			✓															
58	BH28_0.3_200724				X	X	X	X	X										ACM, PFAS
59	BH28_1.0_200724							X											
60	BH29_0.3_200724				X		X	X	X										ACM

Relinquished by (company): EMM Consulting
Print Name: Lachlan Lewis
Date & Time: 24/7/20 1730
Signature:

Received by (company): EG
Print Name: Michael Opie
Date & Time: 24.7.20 1750
Signature:

Samples Received: [✓ Cool] or Ambient (circle one)
Temperature Recieved at: 1-5 (if applicable)
Transported by: Hand delivered / courier
Page No: 4 of 5

Form: 302 - Chain of Custody-Client, Issued 14/02/08, Version 3, Page 1 of 1.

247834

CHAIN OF CUSTODY - Client

ENVIROLAB SERVICES

Client: EMM Consulting Pty Ltd
Project Mgr: Susan Dillon
Sampler: Lachlan Lewis
Address: G/20 Chandos St
ST LEONARDS NSW 2065
Email: sdillon@emmconsulting.com.au, llewis@emmconsulting.com.au, emmconsulting@esdat.net
Phone: 61401638848 Fax:

Client Project Name and Number: Matraville
J200432
PO No.:
Envirolab Services Quote No. : 20SY259
Date results required:
Standard TAT
Note: Inform lab in advance if urgent turnaround is required - surcharge applies

Envirolab Services
12 Ashley St, Chatswood, NSW, 2067
Phone: 02 9910 6200
Fax: 02 9910 6201
E-mail: jhurst@envirolabservices.com.au
Contact: Jacinta Hurst

Sample Information				Tests Required															Comments
Envirolab Sample ID	Client Sample ID	Date sampled	Type of sample	HOLD	Combo 3	Asbestos ID	VCH	OC/OP/PCB	PFAS ext.	PFAS short	TRH/BTEXN/8 metals	TRH C6-C9/BTEXN							Provide as much information about the sample as you can
NR	BH29_2.6_200724	24/7/20	Soil		X														
61	BH30_0.3_200724	↓	↓		X	X													ACM
62	BH30_0.9-200724			✓ ✓															ACM
63	BH30-2.7_200724				X				X										PFAS
64	BH13_0.3_200724				X														ACM, PFAS
65	BH13_1.5_200724				X	X	X	X	X										ACM, PFAS
66	QC101_200724									X	X								
67	QC102_200724	↓	↓							X	X								
68	QC301-200722	22/7/20	Water							X	X								
69	QC302-200723	23/7/20								↓	↓								
70	QC303-200724	24/7/20	↓																
71	TB02_200724		Soil									X							
72	TB02-200724	↓										↓							
73	TB03-200724																		
74	TS03-200724		↓																

Relinquished by (company): EMM Consulting
Print Name: Lachlan Lewis
Date & Time: 24/7/20 1730
Signature:

Received by (company): ES
Print Name: Michael Opie
Date & Time: 24.7.20 1750
Signature:

Samples Received: Cool or Ambient (circle one)
Temperature Recieved at: (if applicable)
Transported by: Hand delivered / courier
Page No: 5 of 5

extra 75 BH16_1.0
M.O

Form: 302 - Chain of Custody-Client, Issued 14/02/08, Version 3, Page 1 of 1.

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

SAMPLE RECEIPT ADVICE

Client Details	
Client	EMM Consulting Pty Ltd
Attention	Susan Dillon, Lachlan Lewis

Sample Login Details	
Your reference	J200432, Matraville
Envirolab Reference	247834
Date Sample Received	24/07/2020
Date Instructions Received	28/07/2020
Date Results Expected to be Reported	04/08/2020

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	71 Soil, 3 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	1.5
Cooling Method	Ice Pack, Ice
Sampling Date Provided	YES

Comments

BH29_2.6_200724 Not received.
BH15_3.9_200723 No depth on the samples.
BH26_1.0_200724 PFAS jar mislabelled.

Please direct any queries to:

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

Analysis Underway, details on the following page:

Sample ID	VHC's in soil	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils	PFAS in Soils Extended	PFAS in Soils Short	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	Metals in Water - Dissolved	PFAS in Waters Short	On Hold
BH06_0.3_200722	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
BH06_1.3_200722		✓	✓	✓				✓								
BH06_3.9_200722																✓
BH07_0.3_200722		✓	✓	✓				✓	✓							
BH07_1_200722																✓
BH07_3.5_200722	✓	✓	✓	✓	✓	✓	✓	✓		✓						
BH08_0.3_200722	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH08_2.7_200722		✓	✓	✓				✓								
BH09_0.3_200722		✓	✓	✓				✓								
BH09_1.5_200722	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
BH10_0.3_200722		✓	✓	✓				✓	✓							
BH10_0.8_200722	✓	✓	✓	✓	✓	✓	✓	✓								
BH10_2.7_200722																✓
BH11_0.5_200722		✓	✓	✓				✓	✓							
BH11_3.9_200722																✓
BH11_5.5_200724	✓	✓	✓	✓	✓	✓	✓	✓		✓						
BH12_0.5_200722	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH12_1.6_200722		✓	✓	✓				✓								
BH14_0.3_200722		✓	✓	✓	✓	✓	✓	✓	✓							
BH14_0.8_200722																✓
BH14_3.9_200722	✓	✓	✓	✓				✓		✓						
BH15_0.3_200723	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH15_3.9_200723		✓	✓	✓				✓								
BH16_0.9_200723		✓	✓	✓				✓	✓	✓						
BH16_1.7_200723	✓	✓	✓	✓	✓	✓	✓	✓								
BH17_0.3_200723		✓	✓	✓				✓								
BH17_1.6_200723	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH17_2.1_200723																✓
BH17_3.9_200723																✓
BH18_0.3_200723		✓	✓	✓				✓	✓							
BH18_1.6_200723																✓
BH18_3.3_200723																✓

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

Sample ID	VHC's in soil	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils	PFAS in Soils Extended	PFAS in Soils Short	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	Metals in Water - Dissolved	PFAS in Waters Short	On Hold
BH18_5.5_200724	✓	✓	✓	✓	✓	✓	✓	✓		✓						
BH19_1_200723		✓	✓	✓				✓	✓							
BH19_1.8_200723	✓	✓	✓	✓	✓	✓	✓	✓		✓						
BH19_3.9_200723																✓
BH20_0.3_200723	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH20_0.9_200723																✓
BH20_1.6_200723		✓	✓	✓				✓								
BH21_0.2_200723	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
BH21_1.3_200723		✓	✓	✓				✓								
BH22_1.2_200723	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
BH22_3.9_200723		✓	✓	✓				✓								
BH23_0.9_200723	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH23_1.5_200723		✓	✓	✓				✓								
BH24_0.3_200723	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH24_1.4_200723																✓
BH24_2.7_200723		✓	✓	✓				✓								
BH25_0.3_200723		✓	✓	✓				✓	✓	✓						
BH25_0.9_200723	✓	✓	✓	✓	✓	✓	✓	✓								
BH26_0.1_200724																✓
BH26_1_200724	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
BH26_1.8_200724																✓
BH26_4.4_200724	✓	✓	✓	✓	✓	✓	✓	✓								
BH27_0.5_200724		✓	✓	✓				✓	✓							
BH27_2_200724	✓	✓	✓	✓	✓	✓	✓	✓		✓						
BH27_2.7_200724																✓
BH28_0.3_200724	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
BH28_1_200724		✓	✓	✓					✓							
BH29_0.3_200724	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH30_0.3_200724		✓	✓	✓				✓	✓							
BH30_0.9_200724																✓
BH30_2.7_200724		✓	✓	✓				✓		✓						
BH13_0.3_200724		✓	✓	✓				✓								

Sample ID	VHC's in soil	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils	PFAS in Soils Extended	PFAS in Soils Short	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	Metals in Water - Dissolved	PFAS in Waters Short	On Hold
BH13_1.5_200724	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
QC101_200724		✓	✓					✓			✓					
QC102_200724		✓	✓					✓			✓					
QC301_200722												✓	✓	✓	✓	
QC302_200723												✓	✓	✓	✓	
QC303_200724												✓	✓	✓	✓	
TB02_200724		✓														
TS02_200724		✓														
TB03_200724		✓														
TS03_200724		✓														

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

Additional Info

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

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

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

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

Envirolab Services Pty Ltd
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ph 02 9910 6200   fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 247834

Client Details

Client	EMM Consulting Pty Ltd
Attention	Susan Dillon, Lachlan Lewis
Address	188 Normanby Rd, SOUTHBANK, VIC, 3006

Sample Details

Your Reference	**J200432, Matraville**
Number of Samples	71 Soil, 3 Water
Date samples received	24/07/2020
Date completed instructions received	28/07/2020

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	04/08/2020
Date of Issue	05/08/2020

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

Asbestos Approved By

Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Dragana Tomas, Senior Chemist
Hannah Nguyen, Senior Chemist
Ken Nguyen, Reporting Supervisor
Loren Bardwell, Senior Chemist
Lucy Zhu, Asbestos Supervisor
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

VHC's in soil						
Our Reference		247834-1	247834-6	247834-7	247834-10	247834-12
Your Reference	UNITS	BH06_0.3_200722	BH07_3.5_200722	BH08_0.3_200722	BH09_1.5_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		247834-1	247834-6	247834-7	247834-10	247834-12
Your Reference	UNITS	BH06_0.3_200722	BH07_3.5_200722	BH08_0.3_200722	BH09_1.5_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	99	94	95	95	93
Surrogate aaa-Trifluorotoluene	%	96	97	99	96	101
Surrogate Toluene-d_8	%	106	100	103	102	99
Surrogate 4-Bromofluorobenzene	%	92	93	93	93	94

VHC's in soil						
Our Reference		247834-16	247834-17	247834-21	247834-22	247834-25
Your Reference	UNITS	BH11_5.5_200724	BH12_0.5_200722	BH14_3.9_200722	BH15_0.3_200723	BH16_1.7_200723
Date Sampled		24/07/2020	22/07/2020	22/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		247834-16	247834-17	247834-21	247834-22	247834-25
Your Reference	UNITS	BH11_5.5_200724	BH12_0.5_200722	BH14_3.9_200722	BH15_0.3_200723	BH16_1.7_200723
Date Sampled		24/07/2020	22/07/2020	22/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	91	96	88	88	92
Surrogate aaa-Trifluorotoluene	%	93	113	86	91	94
Surrogate Toluene-d_8	%	97	104	93	96	99
Surrogate 4-Bromofluorobenzene	%	94	94	96	94	94

VHC's in soil						
Our Reference		247834-27	247834-33	247834-35	247834-37	247834-40
Your Reference	UNITS	BH17_1.6_200723	BH18_5.5_200724	BH19_1.8_200723	BH20_0.3_200723	BH21_0.2_200723
Date Sampled		23/07/2020	24/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		247834-27	247834-33	247834-35	247834-37	247834-40
Your Reference	UNITS	BH17_1.6_200723	BH18_5.5_200724	BH19_1.8_200723	BH20_0.3_200723	BH21_0.2_200723
Date Sampled		23/07/2020	24/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	92	91	96	90	101
Surrogate aaa-Trifluorotoluene	%	98	103	103	97	107
Surrogate Toluene-d_8	%	100	98	104	99	109
Surrogate 4-Bromofluorobenzene	%	93	94	92	93	94

VHC's in soil						
Our Reference		247834-42	247834-44	247834-46	247834-50	247834-52
Your Reference	UNITS	BH22_1.2_200723	BH23_0.9_200723	BH24_0.3_200723	BH25_0.9_200723	BH26_1_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		247834-42	247834-44	247834-46	247834-50	247834-52
Your Reference	UNITS	BH22_1.2_200723	BH23_0.9_200723	BH24_0.3_200723	BH25_0.9_200723	BH26_1_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	89	94	97	91	93
Surrogate aaa-Trifluorotoluene	%	94	103	115	109	112
Surrogate Toluene-d_8	%	95	102	107	99	100
Surrogate 4-Bromofluorobenzene	%	94	94	92	92	93

VHC's in soil						
Our Reference		247834-54	247834-56	247834-58	247834-60	247834-65
Your Reference	UNITS	BH26_4.4_200724	BH27_2_200724	BH28_0.3_200724	BH29_0.3_200724	BH13_1.5_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		247834-54	247834-56	247834-58	247834-60	247834-65
Your Reference	UNITS	BH26_4.4_200724	BH27_2_200724	BH28_0.3_200724	BH29_0.3_200724	BH13_1.5_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	93	93	93	93	96
Surrogate aaa-Trifluorotoluene	%	112	105	98	105	107
Surrogate Toluene-d_8	%	101	101	98	101	104
Surrogate 4-Bromofluorobenzene	%	94	93	94	93	93

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-1	247834-2	247834-4	247834-6	247834-7
Your Reference	UNITS	BH06_0.3_200722	BH06_1.3_200722	BH07_0.3_200722	BH07_3.5_200722	BH08_0.3_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	96	93	97	97	99

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-8	247834-9	247834-10	247834-11	247834-12
Your Reference	UNITS	BH08_2.7_200722	BH09_0.3_200722	BH09_1.5_200722	BH10_0.3_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	100	99	96	96	101

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-14	247834-16	247834-17	247834-18	247834-19
Your Reference	UNITS	BH11_0.5_200722	BH11_5.5_200724	BH12_0.5_200722	BH12_1.6_200722	BH14_0.3_200722
Date Sampled		22/07/2020	24/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	104	93	113	92	109

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-21	247834-22	247834-23	247834-24	247834-25
Your Reference	UNITS	BH14_3.9_200722	BH15_0.3_200723	BH15_3.9_200723	BH16_0.9_200723	BH16_1.7_200723
Date Sampled		22/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	86	91	98	107	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-26	247834-27	247834-30	247834-33	247834-34
Your Reference	UNITS	BH17_0.3_200723	BH17_1.6_200723	BH18_0.3_200723	BH18_5.5_200724	BH19_1_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	101	98	107	103	96

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-35	247834-37	247834-39	247834-40	247834-41
Your Reference	UNITS	BH19_1.8_200723	BH20_0.3_200723	BH20_1.6_200723	BH21_0.2_200723	BH21_1.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	103	97	111	107	107

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-42	247834-43	247834-44	247834-45	247834-46
Your Reference	UNITS	BH22_1.2_200723	BH22_3.9_200723	BH23_0.9_200723	BH23_1.5_200723	BH24_0.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	94	103	103	112	115

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-48	247834-49	247834-50	247834-52	247834-54
Your Reference	UNITS	BH24_2.7_200723	BH25_0.3_200723	BH25_0.9_200723	BH26_1_200724	BH26_4.4_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	108	104	109	112	112

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-55	247834-56	247834-58	247834-59	247834-60
Your Reference	UNITS	BH27_0.5_200724	BH27_2_200724	BH28_0.3_200724	BH28_1_200724	BH29_0.3_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	112	105	98	104	105

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-61	247834-63	247834-64	247834-65	247834-66
Your Reference	UNITS	BH30_0.3_200724	BH30_2.7_200724	BH13_0.3_200724	BH13_1.5_200724	QC101_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	125	120	119	107	116

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		247834-67	247834-71	247834-72	247834-73	247834-74
Your Reference	UNITS	QC102_200724	TB02_200724	TS02_200724	TB03_200724	TS03_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	31/07/2020	31/07/2020	31/07/2020	31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	[NA]	<25	[NA]
TRH C_6 - C_{10}	mg/kg	<25	<25	[NA]	<25	[NA]
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	[NA]	<25	[NA]
Benzene	mg/kg	<0.2	<0.2	81%	<0.2	92%
Toluene	mg/kg	<0.5	<0.5	84%	<0.5	95%
Ethylbenzene	mg/kg	<1	<1	81%	<1	94%
m+p-xylene	mg/kg	<2	<2	81%	<2	93%
o-Xylene	mg/kg	<1	<1	81%	<1	93%
naphthalene	mg/kg	<1	<1	[NA]	<1	[NA]
Total +ve Xylenes	mg/kg	<3	<3	[NA]	<3	[NA]
Surrogate aaa-Trifluorotoluene	%	125	117	102	113	106

svTRH (C10-C40) in Soil

Our Reference		247834-1	247834-2	247834-4	247834-6	247834-7
Your Reference	UNITS	BH06_0.3_200722	BH06_1.3_200722	BH07_0.3_200722	BH07_3.5_200722	BH08_0.3_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
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
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	%	95	92	89	90	90

svTRH (C10-C40) in Soil

Our Reference		247834-8	247834-9	247834-10	247834-11	247834-12
Your Reference	UNITS	BH08_2.7_200722	BH09_0.3_200722	BH09_1.5_200722	BH10_0.3_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
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
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	%	91	91	91	91	92

svTRH (C10-C40) in Soil						
Our Reference		247834-14	247834-16	247834-17	247834-18	247834-19
Your Reference	UNITS	BH11_0.5_200722	BH11_5.5_200724	BH12_0.5_200722	BH12_1.6_200722	BH14_0.3_200722
Date Sampled		22/07/2020	24/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
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
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	%	98	90	91	92	89

svTRH (C10-C40) in Soil						
Our Reference		247834-21	247834-22	247834-23	247834-24	247834-25
Your Reference	UNITS	BH14_3.9_200722	BH15_0.3_200723	BH15_3.9_200723	BH16_0.9_200723	BH16_1.7_200723
Date Sampled		22/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
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
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	93	92	92

svTRH (C10-C40) in Soil						
Our Reference		247834-26	247834-27	247834-30	247834-33	247834-34
Your Reference	UNITS	BH17_0.3_200723	BH17_1.6_200723	BH18_0.3_200723	BH18_5.5_200724	BH19_1_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
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
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	%	90	105	95	89	96

svTRH (C10-C40) in Soil						
Our Reference		247834-35	247834-37	247834-39	247834-40	247834-41
Your Reference	UNITS	BH19_1.8_200723	BH20_0.3_200723	BH20_1.6_200723	BH21_0.2_200723	BH21_1.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	30/07/2020	29/07/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	180	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
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	230	<100
TRH >C_{34}-C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	230	<50
Surrogate o-Terphenyl	%	95	93	91	94	87

svTRH (C10-C40) in Soil						
Our Reference		247834-42	247834-43	247834-44	247834-45	247834-46
Your Reference	UNITS	BH22_1.2_200723	BH22_3.9_200723	BH23_0.9_200723	BH23_1.5_200723	BH24_0.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	120
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
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	200
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	200
Surrogate o-Terphenyl	%	81	78	78	79	81

svTRH (C10-C40) in Soil						
Our Reference		247834-48	247834-49	247834-50	247834-52	247834-54
Your Reference	UNITS	BH24_2.7_200723	BH25_0.3_200723	BH25_0.9_200723	BH26_1_200724	BH26_4.4_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
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
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	77	83	81	89	77

svTRH (C10-C40) in Soil						
Our Reference		247834-55	247834-56	247834-58	247834-59	247834-60
Your Reference	UNITS	BH27_0.5_200724	BH27_2_200724	BH28_0.3_200724	BH28_1_200724	BH29_0.3_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
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
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	81	80	79	81	79

svTRH (C10-C40) in Soil						
Our Reference		247834-61	247834-63	247834-64	247834-65	247834-66
Your Reference	UNITS	BH30_0.3_200724	BH30_2.7_200724	BH13_0.3_200724	BH13_1.5_200724	QC101_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	30/07/2020	30/07/2020	30/07/2020
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
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	79	80	77	81	81

svTRH (C10-C40) in Soil		
Our Reference		247834-67
Your Reference	UNITS	QC102_200724
Date Sampled		24/07/2020
Type of sample		Soil
Date extracted	-	29/07/2020
Date analysed	-	30/07/2020
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	85

PAHs in Soil						
Our Reference		247834-1	247834-2	247834-4	247834-6	247834-7
Your Reference	UNITS	BH06_0.3_200722	BH06_1.3_200722	BH07_0.3_200722	BH07_3.5_200722	BH08_0.3_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	%	96	103	98	107	109

PAHs in Soil						
Our Reference		247834-8	247834-9	247834-10	247834-11	247834-12
Your Reference	UNITS	BH08_2.7_200722	BH09_0.3_200722	BH09_1.5_200722	BH10_0.3_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	0.3	<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	%	105	104	97	96	101

PAHs in Soil						
Our Reference		247834-14	247834-16	247834-17	247834-18	247834-19
Your Reference	UNITS	BH11_0.5_200722	BH11_5.5_200724	BH12_0.5_200722	BH12_1.6_200722	BH14_0.3_200722
Date Sampled		22/07/2020	24/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	%	97	99	99	111	92

PAHs in Soil						
Our Reference		247834-21	247834-22	247834-23	247834-24	247834-25
Your Reference	UNITS	BH14_3.9_200722	BH15_0.3_200723	BH15_3.9_200723	BH16_0.9_200723	BH16_1.7_200723
Date Sampled		22/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	%	103	100	108	110	101

PAHs in Soil						
Our Reference		247834-26	247834-27	247834-30	247834-33	247834-34
Your Reference	UNITS	BH17_0.3_200723	BH17_1.6_200723	BH18_0.3_200723	BH18_5.5_200724	BH19_1_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	0.6	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	1.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.8	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	0.7	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	0.7	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	1	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.5	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	0.2	<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	0.2	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	5.7	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	0.7	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	0.7	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	0.8	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	101	100	95	99	100

PAHs in Soil						
Our Reference		247834-35	247834-37	247834-39	247834-40	247834-41
Your Reference	UNITS	BH19_1.8_200723	BH20_0.3_200723	BH20_1.6_200723	BH21_0.2_200723	BH21_1.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	0.7	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	0.3	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	4.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	1.4	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	6.0	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	9.4	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	3.6	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	3.9	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	3.9	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	3.3	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	0.9	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	0.3	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	1.5	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	39	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	4.4	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	4.4	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	4.4	<0.5
Surrogate p-Terphenyl-d14	%	103	104	106	95	102

PAHs in Soil						
Our Reference		247834-42	247834-43	247834-44	247834-45	247834-46
Your Reference	UNITS	BH22_1.2_200723	BH22_3.9_200723	BH23_0.9_200723	BH23_1.5_200723	BH24_0.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	0.3
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
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	0.06
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	1.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	102	98	102	104	95

PAHs in Soil						
Our Reference		247834-48	247834-49	247834-50	247834-52	247834-54
Your Reference	UNITS	BH24_2.7_200723	BH25_0.3_200723	BH25_0.9_200723	BH26_1_200724	BH26_4.4_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	%	104	105	109	100	109

PAHs in Soil						
Our Reference		247834-55	247834-56	247834-58	247834-59	247834-60
Your Reference	UNITS	BH27_0.5_200724	BH27_2_200724	BH28_0.3_200724	BH28_1_200724	BH29_0.3_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	%	105	101	97	101	103

PAHs in Soil					
Our Reference		247834-61	247834-63	247834-64	247834-65
Your Reference	UNITS	BH30_0.3_200724	BH30_2.7_200724	BH13_0.3_200724	BH13_1.5_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<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
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	101	106	97	103

Organochlorine Pesticides in soil						
Our Reference		247834-1	247834-6	247834-7	247834-10	247834-12
Your Reference	UNITS	BH06_0.3_200722	BH07_3.5_200722	BH08_0.3_200722	BH09_1.5_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	102	115	121	122	116

Organochlorine Pesticides in soil						
Our Reference		247834-16	247834-17	247834-19	247834-22	247834-25
Your Reference	UNITS	BH11_5.5_200724	BH12_0.5_200722	BH14_0.3_200722	BH15_0.3_200723	BH16_1.7_200723
Date Sampled		24/07/2020	22/07/2020	22/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	109	98	112	110	115

Organochlorine Pesticides in soil						
Our Reference		247834-27	247834-33	247834-35	247834-37	247834-40
Your Reference	UNITS	BH17_1.6_200723	BH18_5.5_200724	BH19_1.8_200723	BH20_0.3_200723	BH21_0.2_200723
Date Sampled		23/07/2020	24/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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	0.6	<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	0.2
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	0.4	<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
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	123	108	105	108	105

Organochlorine Pesticides in soil						
Our Reference		247834-42	247834-44	247834-46	247834-50	247834-52
Your Reference	UNITS	BH22_1.2_200723	BH23_0.9_200723	BH24_0.3_200723	BH25_0.9_200723	BH26_1_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	108	101	114	110	107

Organochlorine Pesticides in soil						
Our Reference		247834-54	247834-56	247834-58	247834-60	247834-65
Your Reference	UNITS	BH26_4.4_200724	BH27_2_200724	BH28_0.3_200724	BH29_0.3_200724	BH13_1.5_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	120	107	99	117	104

Organophosphorus Pesticides in Soil						
Our Reference		247834-1	247834-6	247834-7	247834-10	247834-12
Your Reference	UNITS	BH06_0.3_200722	BH07_3.5_200722	BH08_0.3_200722	BH09_1.5_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Dichlorvos	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
Chlorpyriphos-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
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
Ethion	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
Surrogate TCMX	%	102	115	121	122	116

Organophosphorus Pesticides in Soil						
Our Reference		247834-16	247834-17	247834-19	247834-22	247834-25
Your Reference	UNITS	BH11_5.5_200724	BH12_0.5_200722	BH14_0.3_200722	BH15_0.3_200723	BH16_1.7_200723
Date Sampled		24/07/2020	22/07/2020	22/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Dichlorvos	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
Chlorpyriphos-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
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
Ethion	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
Surrogate TCMX	%	109	98	112	110	115

Organophosphorus Pesticides in Soil						
Our Reference		247834-27	247834-33	247834-35	247834-37	247834-40
Your Reference	UNITS	BH17_1.6_200723	BH18_5.5_200724	BH19_1.8_200723	BH20_0.3_200723	BH21_0.2_200723
Date Sampled		23/07/2020	24/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Dichlorvos	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
Chlorpyriphos-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
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
Ethion	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
Surrogate TCMX	%	123	108	105	108	105

Organophosphorus Pesticides in Soil						
Our Reference		247834-42	247834-44	247834-46	247834-50	247834-52
Your Reference	UNITS	BH22_1.2_200723	BH23_0.9_200723	BH24_0.3_200723	BH25_0.9_200723	BH26_1_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Dichlorvos	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
Chlorpyriphos-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
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
Ethion	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
Surrogate TCMX	%	108	101	114	110	107

Organophosphorus Pesticides in Soil						
Our Reference		247834-54	247834-56	247834-58	247834-60	247834-65
Your Reference	UNITS	BH26_4.4_200724	BH27_2_200724	BH28_0.3_200724	BH29_0.3_200724	BH13_1.5_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Dichlorvos	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
Chlorpyriphos-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
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
Ethion	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
Surrogate TCMX	%	120	107	99	117	104

PCBs in Soil						
Our Reference		247834-1	247834-6	247834-7	247834-10	247834-12
Your Reference	UNITS	BH06_0.3_200722	BH07_3.5_200722	BH08_0.3_200722	BH09_1.5_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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 TCMX	%	102	115	121	122	116

PCBs in Soil						
Our Reference		247834-16	247834-17	247834-19	247834-22	247834-25
Your Reference	UNITS	BH11_5.5_200724	BH12_0.5_200722	BH14_0.3_200722	BH15_0.3_200723	BH16_1.7_200723
Date Sampled		24/07/2020	22/07/2020	22/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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 TCMX	%	109	98	112	110	115

PCBs in Soil						
Our Reference		247834-27	247834-33	247834-35	247834-37	247834-40
Your Reference	UNITS	BH17_1.6_200723	BH18_5.5_200724	BH19_1.8_200723	BH20_0.3_200723	BH21_0.2_200723
Date Sampled		23/07/2020	24/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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 TCMX	%	123	108	105	108	105

PCBs in Soil						
Our Reference		247834-42	247834-44	247834-46	247834-50	247834-52
Your Reference	UNITS	BH22_1.2_200723	BH23_0.9_200723	BH24_0.3_200723	BH25_0.9_200723	BH26_1_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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 TCMX	%	108	101	114	110	107

PCBs in Soil						
Our Reference		247834-54	247834-56	247834-58	247834-60	247834-65
Your Reference	UNITS	BH26_4.4_200724	BH27_2_200724	BH28_0.3_200724	BH29_0.3_200724	BH13_1.5_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
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 TCMX	%	120	107	99	117	104

Acid Extractable metals in soil						
Our Reference		247834-1	247834-2	247834-4	247834-6	247834-7
Your Reference	UNITS	BH06_0.3_200722	BH06_1.3_200722	BH07_0.3_200722	BH07_3.5_200722	BH08_0.3_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	12	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	26	3	<1	1	2
Copper	mg/kg	15	<1	<1	<1	<1
Lead	mg/kg	23	3	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	15	<1	<1	<1	<1
Zinc	mg/kg	41	2	<1	1	8

Acid Extractable metals in soil						
Our Reference		247834-8	247834-9	247834-10	247834-11	247834-12
Your Reference	UNITS	BH08_2.7_200722	BH09_0.3_200722	BH09_1.5_200722	BH10_0.3_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	1	1	1	4	1
Copper	mg/kg	<1	5	<1	<1	<1
Lead	mg/kg	<1	7	<1	2	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	6	<1	2	<1
Zinc	mg/kg	2	18	<1	3	<1

Acid Extractable metals in soil						
Our Reference		247834-14	247834-16	247834-17	247834-18	247834-19
Your Reference	UNITS	BH11_0.5_200722	BH11_5.5_200724	BH12_0.5_200722	BH12_1.6_200722	BH14_0.3_200722
Date Sampled		22/07/2020	24/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	<1	1	2	2	1
Copper	mg/kg	2	<1	3	<1	2
Lead	mg/kg	4	<1	12	1	7
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	1	<1	2	<1	1
Zinc	mg/kg	13	3	120	10	11

Acid Extractable metals in soil						
Our Reference		247834-21	247834-22	247834-23	247834-24	247834-25
Your Reference	UNITS	BH14_3.9_200722	BH15_0.3_200723	BH15_3.9_200723	BH16_0.9_200723	BH16_1.7_200723
Date Sampled		22/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	1	7	1	<1	2
Copper	mg/kg	<1	30	<1	<1	<1
Lead	mg/kg	<1	35	<1	<1	1
Mercury	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	20	<1	<1	<1
Zinc	mg/kg	6	55	1	1	2

Acid Extractable metals in soil

Our Reference		247834-26	247834-27	247834-30	247834-33	247834-34
Your Reference	UNITS	BH17_0.3_200723	BH17_1.6_200723	BH18_0.3_200723	BH18_5.5_200724	BH19_1_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	<4	10	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	1	5	<1	<1	<1
Copper	mg/kg	4	790	4	<1	3
Lead	mg/kg	6	2,000	5	<1	2
Mercury	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Nickel	mg/kg	2	8	1	<1	<1
Zinc	mg/kg	13	190	13	5	6

Acid Extractable metals in soil

Our Reference		247834-35	247834-37	247834-39	247834-40	247834-41
Your Reference	UNITS	BH19_1.8_200723	BH20_0.3_200723	BH20_1.6_200723	BH21_0.2_200723	BH21_1.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	2	<1	<1	10	<1
Copper	mg/kg	<1	<1	<1	12	<1
Lead	mg/kg	3	2	<1	430	1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	<1	<1	47	<1
Zinc	mg/kg	3	2	<1	29	<1

Acid Extractable metals in soil						
Our Reference		247834-42	247834-43	247834-44	247834-45	247834-46
Your Reference	UNITS	BH22_1.2_200723	BH22_3.9_200723	BH23_0.9_200723	BH23_1.5_200723	BH24_0.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	<1	2	<1	1	6
Copper	mg/kg	<1	<1	<1	<1	25
Lead	mg/kg	<1	<1	<1	<1	41
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	<1	1	<1	36
Zinc	mg/kg	3	3	3	1	53

Acid Extractable metals in soil						
Our Reference		247834-48	247834-49	247834-50	247834-52	247834-54
Your Reference	UNITS	BH24_2.7_200723	BH25_0.3_200723	BH25_0.9_200723	BH26_1_200724	BH26_4.4_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	<1	<1	<1	<1	1
Copper	mg/kg	<1	1	1	1	<1
Lead	mg/kg	1	2	1	2	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	<1	1	1	<1
Zinc	mg/kg	3	4	2	13	2

Acid Extractable metals in soil						
Our Reference		247834-55	247834-56	247834-58	247834-59	247834-60
Your Reference	UNITS	BH27_0.5_200724	BH27_2_200724	BH28_0.3_200724	BH28_1_200724	BH29_0.3_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	05/08/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	05/08/2020	29/07/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	3	1	2	1	4
Copper	mg/kg	26	4	1	<1	6
Lead	mg/kg	10	2	4	<1	26
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	6	5	<1	4
Zinc	mg/kg	25	43	14	4	30

Acid Extractable metals in soil						
Our Reference		247834-61	247834-63	247834-64	247834-65	247834-66
Your Reference	UNITS	BH30_0.3_200724	BH30_2.7_200724	BH13_0.3_200724	BH13_1.5_200724	QC101_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	5	1	1	<1	<1
Copper	mg/kg	4	<1	<1	<1	3
Lead	mg/kg	4	1	3	1	4
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	<1	<1	<1	2
Zinc	mg/kg	10	1	5	9	22

Acid Extractable metals in soil				
Our Reference		247834-67	247834-75	247834-76
Your Reference	UNITS	QC102_200724	BH17_1.6_200723 - [TRIPLICATE]	BH21_0.2_200723 - [TRIPLICATE]
Date Sampled		24/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020
Arsenic	mg/kg	<4	11	<4
Cadmium	mg/kg	<0.4	0.5	<0.4
Chromium	mg/kg	1	7	7
Copper	mg/kg	3	480	16
Lead	mg/kg	1	630	82
Mercury	mg/kg	<0.1	0.3	<0.1
Nickel	mg/kg	5	10	36
Zinc	mg/kg	31	340	33

Moisture						
Our Reference		247834-1	247834-2	247834-4	247834-6	247834-7
Your Reference	UNITS	BH06_0.3_200722	BH06_1.3_200722	BH07_0.3_200722	BH07_3.5_200722	BH08_0.3_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	10	6.7	3.4	13	4.3

Moisture						
Our Reference		247834-8	247834-9	247834-10	247834-11	247834-12
Your Reference	UNITS	BH08_2.7_200722	BH09_0.3_200722	BH09_1.5_200722	BH10_0.3_200722	BH10_0.8_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	4.3	11	5.3	4.1	12

Moisture						
Our Reference		247834-14	247834-16	247834-17	247834-18	247834-19
Your Reference	UNITS	BH11_0.5_200722	BH11_5.5_200724	BH12_0.5_200722	BH12_1.6_200722	BH14_0.3_200722
Date Sampled		22/07/2020	24/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	<0.1	12	6.5	5.2	5.9

Moisture						
Our Reference		247834-21	247834-22	247834-23	247834-24	247834-25
Your Reference	UNITS	BH14_3.9_200722	BH15_0.3_200723	BH15_3.9_200723	BH16_0.9_200723	BH16_1.7_200723
Date Sampled		22/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	15	5.3	20	2.2	4.4

Moisture						
Our Reference		247834-26	247834-27	247834-30	247834-33	247834-34
Your Reference	UNITS	BH17_0.3_200723	BH17_1.6_200723	BH18_0.3_200723	BH18_5.5_200724	BH19_1_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	5.0	16	2.9	13	5.4

Moisture						
Our Reference		247834-35	247834-37	247834-39	247834-40	247834-41
Your Reference	UNITS	BH19_1.8_200723	BH20_0.3_200723	BH20_1.6_200723	BH21_0.2_200723	BH21_1.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	6.2	1.2	3.1	12	2.8

Moisture						
Our Reference		247834-42	247834-43	247834-44	247834-45	247834-46
Your Reference	UNITS	BH22_1.2_200723	BH22_3.9_200723	BH23_0.9_200723	BH23_1.5_200723	BH24_0.3_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	2.2	17	28	9.9	37

Moisture						
Our Reference		247834-48	247834-49	247834-50	247834-52	247834-54
Your Reference	UNITS	BH24_2.7_200723	BH25_0.3_200723	BH25_0.9_200723	BH26_1_200724	BH26_4.4_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	13	4.7	2.2	5.2	19

Moisture						
Our Reference		247834-55	247834-56	247834-58	247834-59	247834-60
Your Reference	UNITS	BH27_0.5_200724	BH27_2_200724	BH28_0.3_200724	BH28_1_200724	BH29_0.3_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	6.3	7.6	5.7	7.8	43

Moisture						
Our Reference		247834-61	247834-63	247834-64	247834-65	247834-66
Your Reference	UNITS	BH30_0.3_200724	BH30_2.7_200724	BH13_0.3_200724	BH13_1.5_200724	QC101_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	30/07/2020	30/07/2020	30/07/2020	30/07/2020	30/07/2020
Moisture	%	8.2	23	8.5	5.0	4.9

Moisture		
Our Reference		247834-67
Your Reference	UNITS	QC102_200724
Date Sampled		24/07/2020
Type of sample		Soil
Date prepared	-	29/07/2020
Date analysed	-	30/07/2020
Moisture	%	11

Asbestos ID - soils						
Our Reference		247834-1	247834-4	247834-7	247834-10	247834-11
Your Reference	UNITS	BH06_0.3_200722	BH07_0.3_200722	BH08_0.3_200722	BH09_1.5_200722	BH10_0.3_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	22/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Sample mass tested	g	Approx. 30g	Approx. 25g	Approx. 30g	Approx. 40g	Approx. 30g
Sample Description	-	Brown sandy soil	Beige sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	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

Asbestos ID - soils						
Our Reference		247834-14	247834-17	247834-19	247834-22	247834-24
Your Reference	UNITS	BH11_0.5_200722	BH12_0.5_200722	BH14_0.3_200722	BH15_0.3_200723	BH16_0.9_200723
Date Sampled		22/07/2020	22/07/2020	22/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Sample mass tested	g	Approx. 35g	Approx. 20g	Approx. 45g	Approx. 20g	Approx. 35g
Sample Description	-	Brown sandy soil	Brown sandy soil	Brown sandy soil	Grey fine-grained soil & rocks	Beige sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	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

Asbestos ID - soils						
Our Reference		247834-27	247834-30	247834-34	247834-37	247834-40
Your Reference	UNITS	BH17_1.6_200723	BH18_0.3_200723	BH19_1_200723	BH20_0.3_200723	BH21_0.2_200723
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Sample mass tested	g	Approx. 20g	Approx. 25g	Approx. 30g	Approx. 30g	Approx. 25g
Sample Description	-	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	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

Asbestos ID - soils						
Our Reference		247834-42	247834-44	247834-46	247834-49	247834-52
Your Reference	UNITS	BH22_1.2_200723	BH23_0.9_200723	BH24_0.3_200723	BH25_0.3_200723	BH26_1_200724
Date Sampled		23/07/2020	23/07/2020	23/07/2020	23/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Sample mass tested	g	17.44g	Approx. 25g	Approx. 30g	Approx. 35g	Approx. 30g
Sample Description	-	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil
Asbestos ID in soil	-	Chrysotile asbestos detected 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

Asbestos ID - soils						
Our Reference		247834-55	247834-58	247834-59	247834-60	247834-61
Your Reference	UNITS	BH27_0.5_200724	BH28_0.3_200724	BH28_1_200724	BH29_0.3_200724	BH30_0.3_200724
Date Sampled		24/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Sample mass tested	g	Approx. 30g	Approx. 30g	Approx. 30g	Approx. 30g	Approx. 35g
Sample Description	-	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	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

Asbestos ID - soils		
Our Reference		247834-65
Your Reference	UNITS	BH13_1.5_200724
Date Sampled		24/07/2020
Type of sample		Soil
Date analysed	-	29/07/2020
Sample mass tested	g	Approx. 45g
Sample Description	-	Brown sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected

PFAS in Soils Extended						
Our Reference		247834-1	247834-6	247834-10	247834-16	247834-21
Your Reference	UNITS	BH06_0.3_200722	BH07_3.5_200722	BH09_1.5_200722	BH11_5.5_200724	BH14_3.9_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	24/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2020	03/08/2020	03/08/2020	03/08/2020	03/08/2020
Date analysed	-	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020
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	0.4	<0.1	<0.1	0.9
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	%	112	105	98	100	98
Surrogate $^{13}C_2$ PFOA	%	103	106	116	108	103
Extracted ISTD $^{13}C_3$ PFBS	%	83	86	90	87	85
Extracted ISTD $^{18}O_2$ PFHxS	%	90	90	96	88	90
Extracted ISTD $^{13}C_4$ PFOS	%	86	90	91	90	90
Extracted ISTD $^{13}C_4$ PFBA	%	68	82	84	82	82

PFAS in Soils Extended						
Our Reference		247834-1	247834-6	247834-10	247834-16	247834-21
Your Reference	UNITS	BH06_0.3_200722	BH07_3.5_200722	BH09_1.5_200722	BH11_5.5_200724	BH14_3.9_200722
Date Sampled		22/07/2020	22/07/2020	22/07/2020	24/07/2020	22/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_3$ *PFPeA*	%	85	84	88	85	81
Extracted ISTD $^{13}C_2$ *PFHxA*	%	87	86	92	86	84
Extracted ISTD $^{13}C_4$ *PFHpA*	%	89	84	95	87	85
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	91	95	95	94
Extracted ISTD $^{13}C_5$ *PFNA*	%	90	87	91	87	88
Extracted ISTD $^{13}C_2$ *PFDA*	%	100	95	94	91	90
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	108	89	90	94	92
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	106	81	76	90	82
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	58	44	45	62	69
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	97	90	92	90	92
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	111	92	102	98	97
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	119	96	100	95	81
Extracted ISTD $^{13}C_8$ *FOSA*	%	76	77	82	84	83
Extracted ISTD d_3 *N MeFOSA*	%	77	71	79	83	82
Extracted ISTD d_5 *N EtFOSA*	%	79	69	75	84	80
Extracted ISTD d_7 *N MeFOSE*	%	85	80	87	98	92
Extracted ISTD d_9 *N EtFOSE*	%	79	70	77	84	79
Extracted ISTD d_3 *N MeFOSAA*	%	116	95	88	93	92
Extracted ISTD d_5 *N EtFOSAA*	%	101	85	73	90	82
Total Positive PFHxS & PFOS	µg/kg	<0.1	0.4	<0.1	<0.1	0.9
Total Positive PFOS & PFOA	µg/kg	<0.1	0.4	<0.1	<0.1	0.9
Total Positive PFAS	µg/kg	<0.1	0.4	<0.1	<0.1	0.9

PFAS in Soils Extended						
Our Reference		247834-24	247834-33	247834-35	247834-40	247834-42
Your Reference	UNITS	BH16_0.9_200723	BH18_5.5_200724	BH19_1.8_200723	BH21_0.2_200723	BH22_1.2_200723
Date Sampled		23/07/2020	24/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2020	03/08/2020	03/08/2020	03/08/2020	03/08/2020
Date analysed	-	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020
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	0.5	<0.1	<0.1	<0.1	0.2
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	%	97	101	100	103	101
Surrogate $^{13}C_2$ PFOA	%	110	102	108	107	107
Extracted ISTD $^{13}C_3$ PFBS	%	86	83	90	85	94
Extracted ISTD $^{18}O_2$ PFHxS	%	96	83	97	91	103
Extracted ISTD $^{13}C_4$ PFOS	%	96	87	92	94	99
Extracted ISTD $^{13}C_4$ PFBA	%	80	80	89	69	80

PFAS in Soils Extended

Our Reference		247834-24	247834-33	247834-35	247834-40	247834-42
Your Reference	UNITS	BH16_0.9_200723	BH18_5.5_200724	BH19_1.8_200723	BH21_0.2_200723	BH22_1.2_200723
Date Sampled		23/07/2020	24/07/2020	23/07/2020	23/07/2020	23/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_3$ *PFPeA*	%	88	82	87	82	96
Extracted ISTD $^{13}C_2$ *PFHxA*	%	89	85	89	86	97
Extracted ISTD $^{13}C_4$ *PFHpA*	%	91	83	91	90	96
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	88	98	93	108
Extracted ISTD $^{13}C_5$ *PFNA*	%	89	86	90	95	105
Extracted ISTD $^{13}C_2$ *PFDA*	%	104	85	92	96	114
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	97	95	113	106	118
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	94	82	96	93	123
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	72	64	58	57	95
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	91	87	82	85	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	109	101	104	108	138
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	93	87	107	101	130
Extracted ISTD $^{13}C_8$ *FOSA*	%	87	80	86	86	96
Extracted ISTD d_3 *N MeFOSA*	%	85	81	81	84	103
Extracted ISTD d_5 *N EtFOSA*	%	90	81	80	83	107
Extracted ISTD d_7 *N MeFOSE*	%	101	93	93	97	111
Extracted ISTD d_9 *N EtFOSE*	%	87	84	80	86	102
Extracted ISTD d_3 *N MeFOSAA*	%	101	90	96	98	122
Extracted ISTD d_5 *N EtFOSAA*	%	82	80	97	90	111
Total Positive PFHxS & PFOS	µg/kg	0.5	<0.1	<0.1	<0.1	0.2
Total Positive PFOS & PFOA	µg/kg	0.5	<0.1	<0.1	<0.1	0.2
Total Positive PFAS	µg/kg	0.5	<0.1	<0.1	<0.1	0.2

PFAS in Soils Extended						
Our Reference	UNITS	247834-49	247834-52	247834-56	247834-58	247834-63
Your Reference		BH25_0.3_200723	BH26_1_200724	BH27_2_200724	BH28_0.3_200724	BH30_2.7_200724
Date Sampled		23/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	03/08/2020	03/08/2020	03/08/2020	03/08/2020	03/08/2020
Date analysed	-	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020
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	0.3	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	1.1	3.1	16	<0.1	0.4
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	2.7	<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*	%	98	101	99	99	102
Surrogate $^{13}C_2$ *PFOA*	%	109	107	102	99	104
Extracted ISTD $^{13}C_3$ *PFBS*	%	104	100	101	99	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	100	96	100	95
Extracted ISTD $^{13}C_4$ *PFOS*	%	101	102	99	101	98
Extracted ISTD $^{13}C_4$ *PFBA*	%	98	99	98	99	98

PFAS in Soils Extended

Our Reference		247834-49	247834-52	247834-56	247834-58	247834-63
Your Reference	UNITS	BH25_0.3_200723	BH26_1_200724	BH27_2_200724	BH28_0.3_200724	BH30_2.7_200724
Date Sampled		23/07/2020	24/07/2020	24/07/2020	24/07/2020	24/07/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_3$ *PFPeA*	%	102	104	99	101	99
Extracted ISTD $^{13}C_2$ *PFHxA*	%	90	94	90	88	86
Extracted ISTD $^{13}C_4$ *PFHpA*	%	97	105	96	98	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	92	102	93	95	93
Extracted ISTD $^{13}C_5$ *PFNA*	%	94	100	90	93	94
Extracted ISTD $^{13}C_2$ *PFDA*	%	90	97	90	89	87
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	89	108	88	88	88
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	99	124	99	88	84
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	74	112	87	82	69
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	94	99	97	94	85
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	101	124	103	101	97
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	87	134	97	91	91
Extracted ISTD $^{13}C_8$ *FOSA*	%	98	97	96	94	94
Extracted ISTD d_3 *N MeFOSA*	%	72	67	71	72	72
Extracted ISTD d_5 *N EtFOSA*	%	59	58	59	62	57
Extracted ISTD d_7 *N MeFOSE*	%	79	75	80	81	80
Extracted ISTD d_9 *N EtFOSE*	%	81	76	80	80	79
Extracted ISTD d_3 *N MeFOSAA*	%	106	109	95	98	96
Extracted ISTD d_5 *N EtFOSAA*	%	103	107	94	95	92
Total Positive PFHxS & PFOS	µg/kg	1.1	3.1	16	<0.1	0.4
Total Positive PFOS & PFOA	µg/kg	1.2	3.1	19	<0.1	0.4
Total Positive PFAS	µg/kg	1.2	3.1	19	<0.1	0.4

PFAS in Soils Extended		
Our Reference		247834-65
Your Reference	UNITS	BH13_1.5_200724
Date Sampled		24/07/2020
Type of sample		Soil
Date prepared	-	03/08/2020
Date analysed	-	04/08/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2
Perfluorobutanoic acid	µg/kg	<0.2
Perfluoropentanoic acid	µg/kg	<0.2
Perfluorohexanoic acid	µg/kg	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1
Perfluorononanoic acid	µg/kg	<0.1
Perfluorodecanoic acid	µg/kg	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5
Perfluorododecanoic acid	µg/kg	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5
Perfluorotetradecanoic acid	µg/kg	<5
4:2 FTS	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.2
10:2 FTS	µg/kg	<0.2
Perfluorooctane sulfonamide	µg/kg	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2
Surrogate $^{13}C_8$ PFOS	%	100
Surrogate $^{13}C_2$ PFOA	%	110
Extracted ISTD $^{13}C_3$ PFBS	%	98
Extracted ISTD $^{18}O_2$ PFHxS	%	96
Extracted ISTD $^{13}C_4$ PFOS	%	98
Extracted ISTD $^{13}C_4$ PFBA	%	98

PFAS in Soils Extended		
Our Reference		247834-65
Your Reference	UNITS	BH13_1.5_200724
Date Sampled		24/07/2020
Type of sample		Soil
Extracted ISTD $^{13}C_3$ *PFPeA*	%	98
Extracted ISTD $^{13}C_2$ *PFHxA*	%	89
Extracted ISTD $^{13}C_4$ *PFHpA*	%	88
Extracted ISTD $^{13}C_4$ *PFOA*	%	89
Extracted ISTD $^{13}C_5$ *PFNA*	%	89
Extracted ISTD $^{13}C_2$ *PFDA*	%	86
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	84
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	80
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	76
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	83
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	101
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	85
Extracted ISTD $^{13}C_8$ *FOSA*	%	94
Extracted ISTD d_3 *N MeFOSA*	%	71
Extracted ISTD d_5 *N EtFOSA*	%	64
Extracted ISTD d_7 *N MeFOSE*	%	81
Extracted ISTD d_9 *N EtFOSE*	%	82
Extracted ISTD d_3 *N MeFOSAA*	%	93
Extracted ISTD d_5 *N EtFOSAA*	%	92
Total Positive PFHxS & PFOS	µg/kg	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1
Total Positive PFAS	µg/kg	<0.1

PFAS in Soils Short			
Our Reference		247834-66	247834-67
Your Reference	UNITS	QC101_200724	QC102_200724
Date Sampled		24/07/2020	24/07/2020
Type of sample		Soil	Soil
Date prepared	-	03/08/2020	03/08/2020
Date analysed	-	04/08/2020	04/08/2020
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	3.2	16
Perfluorooctanoic acid PFOA	µg/kg	<0.1	3.1
6:2 FTS	µg/kg	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	99	103
Surrogate $^{13}C_2$ *PFOA*	%	107	109
Extracted ISTD $^{18}O_2$ *PFHxS*	%	95	94
Extracted ISTD $^{13}C_4$ *PFOS*	%	96	98
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	86
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	111	91
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	95	89
Total Positive PFHxS & PFOS	µg/kg	3.2	16
Total Positive PFOS & PFOA	µg/kg	3.2	19
Total Positive PFAS	µg/kg	3.2	19

vTRH(C6-C10)/BTEXN in Water				
Our Reference		247834-68	247834-69	247834-70
Your Reference	UNITS	QC301_200722	QC302_200723	QC303_200724
Date Sampled		22/07/2020	23/07/2020	24/07/2020
Type of sample		Water	Water	Water
Date extracted	-	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020
TRH C_6 - C_9	µg/L	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10
Benzene	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
o-xylene	µg/L	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	115	118	118
Surrogate toluene-d8	%	102	104	101
Surrogate 4-BFB	%	96	96	96

svTRH (C10-C40) in Water				
Our Reference	UNITS	247834-68	247834-69	247834-70
Your Reference		QC301_200722	QC302_200723	QC303_200724
Date Sampled		22/07/2020	23/07/2020	24/07/2020
Type of sample		Water	Water	Water
Date extracted	-	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	30/07/2020
TRH C_{10} - C_{14}	µg/L	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Surrogate o-Terphenyl	%	89	93	86

Metals in Water - Dissolved				
Our Reference		247834-68	247834-69	247834-70
Your Reference	UNITS	QC301_200722	QC302_200723	QC303_200724
Date Sampled		22/07/2020	23/07/2020	24/07/2020
Type of sample		Water	Water	Water
Date digested	-	29/07/2020	29/07/2020	29/07/2020
Date analysed	-	29/07/2020	29/07/2020	29/07/2020
Arsenic - Dissolved	mg/L	<0.05	<0.05	<0.05
Cadmium - Dissolved	mg/L	<0.01	<0.01	<0.01
Chromium - Dissolved	mg/L	<0.01	<0.01	<0.01
Copper - Dissolved	mg/L	<0.01	<0.01	<0.01
Lead - Dissolved	mg/L	<0.03	<0.03	<0.03
Mercury - Dissolved	mg/L	<0.0005	<0.0005	<0.0005
Nickel - Dissolved	mg/L	<0.02	<0.02	<0.02
Zinc - Dissolved	mg/L	<0.02	<0.02	<0.02

PFAS in Waters Short				
Our Reference		247834-68	247834-69	247834-70
Your Reference	UNITS	QC301_200722	QC302_200723	QC303_200724
Date Sampled		22/07/2020	23/07/2020	24/07/2020
Type of sample		Water	Water	Water
Date prepared	-	28/07/2020	31/07/2020	28/07/2020
Date analysed	-	28/07/2020	31/07/2020	28/07/2020
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	105	100	92
Surrogate $^{13}C_2$ *PFOA*	%	96	101	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	94	97	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	91	104	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	93	108	98
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	79	111	91
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	139	93	131
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
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	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.
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. 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 5.3 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: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	247834-6
Date extracted	-			29/07/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			31/07/2020	1	31/07/2020	31/07/2020		31/07/2020	31/07/2020
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	97	78
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-023	<1	1	<1	<1	0	89	72
2,2-dichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	93	78
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	94	81
1,1-dichloropropene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	83	76
bromodichloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	83	71
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	78	74
1,2-dibromoethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	105	86
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	247834-6
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	93	1	99	95	4	97	92
Surrogate aaa-Trifluorotoluene	%		Org-023	116	1	96	94	2	122	104
Surrogate Toluene-d_8	%		Org-023	100	1	106	102	4	100	93
Surrogate 4-Bromofluorobenzene	%		Org-023	94	1	92	94	2	95	100

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	247834-33
Date extracted	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	16	31/07/2020	31/07/2020		31/07/2020	31/07/2020
Dichlorodifluoromethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	89	78
cis-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-023	[NT]	16	<1	<1	0	78	70
2,2-dichloropropane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	83	78
1,1,1-trichloroethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	84	81
1,1-dichloropropene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	78	77
bromodichloromethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	77	71
trans-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	71	70
1,2-dibromoethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	96	83
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	247834-33
1,2-dichlorobenzene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	[NT]	16	91	93	2	93	88
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	16	93	97	4	110	101
Surrogate Toluene-d_8	%		Org-023	[NT]	16	97	100	3	97	89
Surrogate 4-Bromofluorobenzene	%		Org-023	[NT]	16	94	93	1	95	97

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	27	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	27	31/07/2020	31/07/2020		[NT]	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
2,2-dichloropropane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
bromodichloromethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,2-dibromoethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	[NT]	27	92	88	4	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	27	98	85	14	[NT]	[NT]
Surrogate Toluene-d_8	%		Org-023	[NT]	27	100	94	6	[NT]	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	[NT]	27	93	94	1	[NT]	[NT]

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	40	31/07/2020	31/07/2020		[NT]	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
2,2-dichloropropane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
bromodichloromethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,2-dibromoethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	[NT]	40	101	99	2	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	40	107	116	8	[NT]	[NT]
Surrogate Toluene-d_8	%		Org-023	[NT]	40	109	108	1	[NT]	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	[NT]	40	94	94	0	[NT]	[NT]

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	54	31/07/2020	31/07/2020		[NT]	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
2,2-dichloropropane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
bromodichloromethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,2-dibromoethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	[NT]	54	93	92	1	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	54	112	106	6	[NT]	[NT]
Surrogate Toluene-d_8	%		Org-023	[NT]	54	101	100	1	[NT]	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	[NT]	54	94	94	0	[NT]	[NT]

Client Reference: J200432, Matraville

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	65	31/07/2020	31/07/2020		[NT]	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
2,2-dichloropropane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
bromodichloromethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,2-dibromoethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VHC's in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	[NT]	65	96	92	4	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	65	107	98	9	[NT]	[NT]
Surrogate Toluene-d_8	%		Org-023	[NT]	65	104	100	4	[NT]	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	[NT]	65	93	92	1	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	247834-6
Date extracted	-			29/07/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			31/07/2020	1	31/07/2020	31/07/2020		31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	85	88
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	85	88
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	79	81
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	88	85
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	91	94
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	84	89
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	82	86
naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	116	1	96	94	2	108	104

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	247834-33
Date extracted	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	16	31/07/2020	31/07/2020		31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	16	<25	<25	0	86	77
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	16	<25	<25	0	86	77
Benzene	mg/kg	0.2	Org-023	[NT]	16	<0.2	<0.2	0	79	70
Toluene	mg/kg	0.5	Org-023	[NT]	16	<0.5	<0.5	0	91	85
Ethylbenzene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	91	81
m+p-xylene	mg/kg	2	Org-023	[NT]	16	<2	<2	0	84	75
o-Xylene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	82	72
naphthalene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	16	93	97	4	111	103

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	247834-46
Date extracted	-			[NT]	27	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	27	31/07/2020	31/07/2020		31/07/2020	31/07/2020
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	27	<25	<25	0	95	88
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	27	<25	<25	0	95	88
Benzene	mg/kg	0.2	Org-023	[NT]	27	<0.2	<0.2	0	87	80
Toluene	mg/kg	0.5	Org-023	[NT]	27	<0.5	<0.5	0	103	98
Ethylbenzene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	100	92
m+p-xylene	mg/kg	2	Org-023	[NT]	27	<2	<2	0	92	85
o-Xylene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	90	82
naphthalene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	27	98	85	14	118	117

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]	40	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	40	31/07/2020	31/07/2020		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	40	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	40	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	40	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	40	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	40	107	116	8	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	54	31/07/2020	31/07/2020		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	54	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	54	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	54	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	54	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	54	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-023	[NT]	54	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	54	112	106	6	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	65	31/07/2020	31/07/2020		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	65	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	65	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	65	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	65	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	65	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	65	107	98	9	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	247834-6
Date extracted	-			29/07/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			29/07/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	125	116
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	<100	<100	0	100	84
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	<100	<100	0	123	83
TRH $>C_{10}$-C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	125	116
TRH $>C_{16}$-C_{34}	mg/kg	100	Org-020	<100	1	<100	<100	0	100	84
TRH $>C_{34}$-C_{40}	mg/kg	100	Org-020	<100	1	<100	<100	0	123	83
Surrogate o-Terphenyl	%		Org-020	82	1	95	93	2	85	75

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	247834-33
Date extracted	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	16	<50	<50	0	127	121
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	16	<100	<100	0	89	85
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	16	<100	<100	0	92	78
TRH $>C_{10}$-C_{16}	mg/kg	50	Org-020	[NT]	16	<50	<50	0	127	121
TRH $>C_{16}$-C_{34}	mg/kg	100	Org-020	[NT]	16	<100	<100	0	89	85
TRH $>C_{34}$-C_{40}	mg/kg	100	Org-020	[NT]	16	<100	<100	0	92	78
Surrogate o-Terphenyl	%		Org-020	[NT]	16	90	90	0	79	100

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	247834-46
Date extracted	-			[NT]	27	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	27	29/07/2020	29/07/2020		29/07/2020	29/07/2020
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	27	<50	<50	0	96	92
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	27	<100	<100	0	84	90
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	27	<100	<100	0	92	110
TRH $>C_{10}$-C_{16}	mg/kg	50	Org-020	[NT]	27	<50	<50	0	96	92
TRH $>C_{16}$-C_{34}	mg/kg	100	Org-020	[NT]	27	<100	<100	0	84	90
TRH $>C_{34}$-C_{40}	mg/kg	100	Org-020	[NT]	27	<100	<100	0	92	110
Surrogate o-Terphenyl	%		Org-020	[NT]	27	105	106	1	120	118

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	40	30/07/2020	30/07/2020		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	40	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	40	180	190	5	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
TRH $>C_{10}$-C_{16}	mg/kg	50	Org-020	[NT]	40	<50	<50	0	[NT]	[NT]
TRH $>C_{16}$-C_{34}	mg/kg	100	Org-020	[NT]	40	230	250	8	[NT]	[NT]
TRH $>C_{34}$-C_{40}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	40	94	94	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	54	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	54	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	54	<100	<100	0	[NT]	[NT]
TRH $>C_{10}$-C_{16}	mg/kg	50	Org-020	[NT]	54	<50	<50	0	[NT]	[NT]
TRH $>C_{16}$-C_{34}	mg/kg	100	Org-020	[NT]	54	<100	<100	0	[NT]	[NT]
TRH $>C_{34}$-C_{40}	mg/kg	100	Org-020	[NT]	54	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	54	77	78	1	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	65	30/07/2020	30/07/2020		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	65	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	65	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	65	<100	<100	0	[NT]	[NT]
TRH $>C_{10}$-C_{16}	mg/kg	50	Org-020	[NT]	65	<50	<50	0	[NT]	[NT]
TRH $>C_{16}$-C_{34}	mg/kg	100	Org-020	[NT]	65	<100	<100	0	[NT]	[NT]
TRH $>C_{34}$-C_{40}	mg/kg	100	Org-020	[NT]	65	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	65	81	83	2	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	247834-6
Date extracted	-			29/07/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			30/07/2020	1	30/07/2020	30/07/2020		30/07/2020	30/07/2020
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	96
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	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	102	96
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	98
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	94	96
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	100
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	92	88
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	104	90
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	105	1	96	102	6	97	95

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	247834-33
Date extracted	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	16	30/07/2020	30/07/2020		30/07/2020	30/07/2020
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	98	92
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	94	76
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	100	96
Anthracene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	92	96
Pyrene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	98	96
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	88	88
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	16	<0.05	<0.05	0	108	96
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	16	99	105	6	98	101

Client Reference: J200432, Matraville

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	247834-46
Date extracted	-			[NT]	27	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	27	30/07/2020	30/07/2020		30/07/2020	30/07/2020
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	100	96
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	90	104
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	27	0.6	0.6	0	102	97
Anthracene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	27	1.1	0.9	20	94	90
Pyrene	mg/kg	0.1	Org-022/025	[NT]	27	0.8	0.6	29	106	90
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	27	0.7	0.6	15	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	27	0.7	0.6	15	92	82
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	27	1	0.8	22	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	27	0.5	0.4	22	104	80
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	27	0.2	0.2	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	27	0.2	0.2	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	27	100	91	9	107	95

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	40	30/07/2020	30/07/2020		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	40	0.7	0.5	33	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	40	0.3	0.2	40	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	40	4.1	4.4	7	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	40	1.4	1.3	7	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	40	6.0	7.6	24	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	40	9.4	11	16	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	40	3.6	4.9	31	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	40	3.9	4.5	14	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	40	3.9	4.6	16	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	40	3.3	3.9	17	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	40	0.9	1.2	29	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	40	0.3	0.3	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	40	1.5	1.8	18	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	40	95	103	8	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	54	30/07/2020	30/07/2020		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	54	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	54	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	54	109	98	11	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	65	30/07/2020	30/07/2020		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	65	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	65	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	65	103	100	3	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	247834-6
Date extracted	-			29/07/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			30/07/2020	1	30/07/2020	30/07/2020		30/07/2020	30/07/2020
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	114	100
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	110	100
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	98	100
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	110	112
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	102	108
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	102	108
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	94
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	88
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	98	96
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	90	86
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	108	1	102	104	2	110	113

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	247834-33
Date extracted	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	16	30/07/2020	30/07/2020		30/07/2020	30/07/2020
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	106	84
HCB	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	112	86
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	94	100
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	110	112
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	104	110
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	106	110
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	100	102
Endrin	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	106	108
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	100	98
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	72	90
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	16	109	118	8	100	95

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	247834-46
Date extracted	-			[NT]	27	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	27	30/07/2020	30/07/2020		30/07/2020	30/07/2020
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	72	112
HCB	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	96	112
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	92	96
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	106	106
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	102	104
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	114	106
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	112	102
Endrin	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	120	114
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	94	100
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	82	76
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	27	123	101	20	98	109

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	40	30/07/2020	30/07/2020		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	40	0.2	0.2	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	40	0.1	0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	40	105	112	6	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	54	30/07/2020	30/07/2020		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	54	120	101	17	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	65	30/07/2020	30/07/2020		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	65	104	102	2	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	247834-6
Date extracted	-			29/07/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			30/07/2020	1	30/07/2020	30/07/2020		30/07/2020	30/07/2020
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	72	108
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]
Chlorpyriphos-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	114	114
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	94
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	81
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	116	116
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	104
Bromophos-ethyl	mg/kg	0.1	Org-022	<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	98	96
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	108	1	102	104	2	110	113

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	247834-33
Date extracted	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	16	30/07/2020	30/07/2020		30/07/2020	30/07/2020
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	75	110
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	106	110
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	92	94
Malathion	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	80	79
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	106	108
Parathion	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	110	112
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	106	106
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	16	109	118	8	100	95

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	247834-46
Date extracted	-			[NT]	27	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	27	30/07/2020	30/07/2020		30/07/2020	30/07/2020
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	114	136
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	104	108
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	82	102
Malathion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	84	86
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	98	108
Parathion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	100	114
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	106	118
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	27	123	101	20	98	109

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	40	30/07/2020	30/07/2020		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	40	105	112	6	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	54	30/07/2020	30/07/2020		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	54	120	101	17	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	65	30/07/2020	30/07/2020		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	65	104	102	2	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	247834-6
Date extracted	-			29/07/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			30/07/2020	1	30/07/2020	30/07/2020		30/07/2020	30/07/2020
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	90	90
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	108	1	102	104	2	110	113

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	247834-33
Date extracted	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	16	30/07/2020	30/07/2020		30/07/2020	30/07/2020
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	94	94
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	16	109	118	8	100	95

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	247834-46
Date extracted	-			[NT]	27	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	27	30/07/2020	30/07/2020		30/07/2020	30/07/2020
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	27	<0.1	<0.1	0	90	92
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	27	123	101	20	98	109

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	40	30/07/2020	30/07/2020		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	40	105	112	6	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	54	30/07/2020	30/07/2020		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	54	120	101	17	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	65	30/07/2020	30/07/2020		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	65	104	102	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	247834-6
Date prepared	-			05/08/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			05/08/2020	1	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Arsenic	mg/kg	4	Metals-020	<4	1	12	9	29	96	105
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	94	104
Chromium	mg/kg	1	Metals-020	<1	1	26	20	26	102	101
Copper	mg/kg	1	Metals-020	<1	1	15	16	6	101	102
Lead	mg/kg	1	Metals-020	<1	1	23	18	24	105	110
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	94	103
Nickel	mg/kg	1	Metals-020	<1	1	15	14	7	103	104
Zinc	mg/kg	1	Metals-020	<1	1	41	39	5	101	103

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	247834-33
Date prepared	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	16	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Arsenic	mg/kg	4	Metals-020	[NT]	16	<4	<4	0	101	91
Cadmium	mg/kg	0.4	Metals-020	[NT]	16	<0.4	<0.4	0	104	99
Chromium	mg/kg	1	Metals-020	[NT]	16	1	<1	0	98	91
Copper	mg/kg	1	Metals-020	[NT]	16	<1	<1	0	109	100
Lead	mg/kg	1	Metals-020	[NT]	16	<1	<1	0	115	105
Mercury	mg/kg	0.1	Metals-021	[NT]	16	<0.1	<0.1	0	85	93
Nickel	mg/kg	1	Metals-020	[NT]	16	<1	<1	0	102	94
Zinc	mg/kg	1	Metals-020	[NT]	16	3	2	40	103	93

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	247834-46
Date prepared	-			[NT]	27	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Date analysed	-			[NT]	27	29/07/2020	29/07/2020		29/07/2020	29/07/2020
Arsenic	mg/kg	4	Metals-020	[NT]	27	10	24	82	86	89
Cadmium	mg/kg	0.4	Metals-020	[NT]	27	<0.4	0.6	40	92	102
Chromium	mg/kg	1	Metals-020	[NT]	27	5	7	33	79	73
Copper	mg/kg	1	Metals-020	[NT]	27	790	540	38	96	99
Lead	mg/kg	1	Metals-020	[NT]	27	2000	3500	55	92	118
Mercury	mg/kg	0.1	Metals-021	[NT]	27	0.2	0.3	40	89	92
Nickel	mg/kg	1	Metals-020	[NT]	27	8	11	32	81	73
Zinc	mg/kg	1	Metals-020	[NT]	27	190	290	42	83	101

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	40	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	40	29/07/2020	29/07/2020		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	40	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	40	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	40	10	7	35	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	40	12	13	8	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	40	430	61	150	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	40	47	34	32	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	40	29	31	7	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	54	29/07/2020	29/07/2020		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	54	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	54	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	54	1	1	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	54	<1	<1	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	54	<1	<1	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	54	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	54	<1	<1	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	54	2	1	67	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	65	29/07/2020	29/07/2020		[NT]	[NT]
Date analysed	-			[NT]	65	29/07/2020	29/07/2020		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	65	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	65	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	65	<1	1	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	65	<1	<1	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	65	1	1	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	65	<1	<1	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	65	9	9	0	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	247834-6
Date prepared	-			03/08/2020	1	03/08/2020	03/08/2020		03/08/2020	03/08/2020
Date analysed	-			04/08/2020	1	04/08/2020	04/08/2020		04/08/2020	04/08/2020
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	98	101
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	102	101
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	101	100
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	103	104
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	99	98
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	98	92
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	107	105
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	99	100
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	106	100
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	106	107
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	104	101
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	104	104
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	101	94
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	101	95
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	110	107
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	116	123
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	1	<5	<5	0	101	104
4:2 FTS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	106	105
6:2 FTS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	109	123
8:2 FTS	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	114	123
10:2 FTS	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	101	115
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	1	<1	<1	0	108	106
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	1	<1	<1	0	104	103
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	<1	1	<1	<1	0	100	94
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	<1	1	<1	<1	0	105	108
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	<5	1	<5	<5	0	117	117
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	93	104
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	110	103
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	99	1	112	93	19	102	99
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	108	1	103	101	2	108	109

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	247834-6
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	87	1	83	87	5	85	83
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	92	1	90	87	3	91	87
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	95	1	86	98	13	95	91
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	66	1	68	66	3	64	81
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	87	1	85	84	1	83	83
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	91	1	87	88	1	87	85
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	89	1	89	91	2	90	83
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	98	1	96	101	5	96	92
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	90	1	90	92	2	93	86
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	108	1	100	104	4	104	94
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	102	1	108	104	4	101	93
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	94	1	106	115	8	92	82
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	64	1	58	56	4	78	58
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	95	1	97	103	6	101	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	102	1	111	110	1	115	87
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	112	1	119	109	9	125	95
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	86	1	76	80	5	87	80
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	81	1	77	79	3	89	82
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	81	1	79	79	0	90	80
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	95	1	85	88	3	102	94

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	247834-6
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	85	1	79	83	5	88	80
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	106	1	116	120	3	109	92
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	91	1	101	102	1	86	86

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	40	03/08/2020	03/08/2020		[NT]	[NT]
Date analysed	-			[NT]	40	04/08/2020	04/08/2020		[NT]	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	[NT]	40	<0.1	0.1	0	[NT]	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-029	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-029	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-029	[NT]	40	<0.5	<0.5	0	[NT]	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	[NT]	40	<0.5	<0.5	0	[NT]	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-029	[NT]	40	<0.5	<0.5	0	[NT]	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	[NT]	40	<0.5	<0.5	0	[NT]	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-029	[NT]	40	<5	<5	0	[NT]	[NT]
4:2 FTS	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
6:2 FTS	µg/kg	0.1	Org-029	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
8:2 FTS	µg/kg	0.2	Org-029	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
10:2 FTS	µg/kg	0.2	Org-029	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-029	[NT]	40	<1	<1	0	[NT]	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	[NT]	40	<1	<1	0	[NT]	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	[NT]	40	<1	<1	0	[NT]	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	[NT]	40	<1	<1	0	[NT]	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	[NT]	40	<5	<5	0	[NT]	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	[NT]	40	103	105	2	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	[NT]	40	107	95	12	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	[NT]	40	85	33	88	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	[NT]	40	91	36	87	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	[NT]	40	94	37	87	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	[NT]	40	69	32	73	[NT]	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	[NT]	40	82	34	83	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	[NT]	40	86	35	84	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	[NT]	40	90	36	86	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	[NT]	40	93	38	84	[NT]	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	[NT]	40	95	37	88	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	[NT]	40	96	38	87	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	[NT]	40	106	40	90	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	[NT]	40	93	39	82	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	[NT]	40	57	46	21	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	[NT]	40	85	31	93	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	[NT]	40	108	45	82	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	[NT]	40	101	35	97	[NT]	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	[NT]	40	86	33	89	[NT]	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	[NT]	40	84	31	92	[NT]	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	[NT]	40	83	33	86	[NT]	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	[NT]	40	97	34	96	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	[NT]	40	86	35	84	[NT]	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	[NT]	40	98	38	88	[NT]	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	[NT]	40	90	38	81	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			03/08/2020	[NT]	[NT]	[NT]	[NT]	03/08/2020	[NT]
Date analysed	-			04/08/2020	[NT]	[NT]	[NT]	[NT]	04/08/2020	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
6:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
8:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	114	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	108	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	95	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	115	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	112	[NT]	[NT]	[NT]	[NT]	125	[NT]

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	-			29/07/2020	[NT]	[NT]	[NT]	[NT]	29/07/2020	[NT]
Date analysed	-			29/07/2020	[NT]	[NT]	[NT]	[NT]	29/07/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	112	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	112	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	116	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	108	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate toluene-d8	%		Org-023	103	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate 4-BFB	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	112	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			29/07/2020	[NT]	[NT]	[NT]	[NT]	29/07/2020	[NT]
Date analysed	-			29/07/2020	[NT]	[NT]	[NT]	[NT]	29/07/2020	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	87	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	87	[NT]
Surrogate o-Terphenyl	%		Org-020	96	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: Metals in Water - Dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date digested	-			29/07/2020	[NT]	[NT]	[NT]	[NT]	29/07/2020	[NT]
Date analysed	-			29/07/2020	[NT]	[NT]	[NT]	[NT]	29/07/2020	[NT]
Arsenic - Dissolved	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	106	[NT]
Cadmium - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Chromium - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Copper - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Lead - Dissolved	mg/L	0.03	Metals-020	<0.03	[NT]	[NT]	[NT]	[NT]	106	[NT]
Mercury - Dissolved	mg/L	0.0005	Metals-021	<0.0005	[NT]	[NT]	[NT]	[NT]	98	[NT]
Nickel - Dissolved	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Zinc - Dissolved	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	112	[NT]

Client Reference: J200432, Matraville

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	247834-69
Date prepared	-			28/07/2020	[NT]	[NT]	[NT]	[NT]	28/07/2020	28/07/2020
Date analysed	-			28/07/2020	[NT]	[NT]	[NT]	[NT]	28/07/2020	28/07/2020
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	103	99
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	92	90
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	99	96
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	110	113
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	101	88
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	94	97
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	96	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	88	97
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	98	107
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	88	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	117	[NT]	[NT]	[NT]	[NT]	87	111
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	85	[NT]	[NT]	[NT]	[NT]	138	88

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.

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

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures.
We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.
Note: Sample 247834-59 was sub-sampled from a jar provided by the client.

Asbestos: Excessive sample volume was provided for asbestos analysis. A portion of the supplied sample was sub-sampled according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.
Note: Samples 247834-1, 4, 7, 10, 11, 14, 17, 19, 22, 24, 27, 30, 34, 37, 40, 42, 44, 46, 49, 52, 55, 58, 60, 61, 65 were sub-sampled from bags provided by the client.

Sample 247834-42; Chrysotile asbestos identified embedded in several fragments of fibre cement, it is estimated to be 76.14g/kg in 17.44g of soil (i.e. > reporting limit for the method of 0.1g/kg).

Acid Extractable Metals in Soil:
-The laboratory RPD acceptance criteria has been exceeded for 247834-27 for Pb & Zn. Therefore a triplicate result has been issued as laboratory sample number 247834-75.
-The laboratory RPD acceptance criteria has been exceeded for 247834-40 for Pb. Therefore a triplicate result has been issued as laboratory sample number 247834-76.

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).

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐BRISBANE 2 Byth Street Stafford QLD 4053
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Ph: 07 7471 5600 E: gladstone@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 1/19-21 Ralph Black Dr North Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: EMM Consulting
OFFICE: Sydney
PROJECT: S200432 w26
SITE: Matraville
PURCHASE ORDER:
PROJECT MANAGER: Susan Dillon **CONTACT PH:**
SAMPLER: Lachlan Lewis **SAMPLER MOBILE:** 0401 638 848
COC Emailed to ALS? (YES / NO) **EDD FORMAT (or default):**
Email Reports to (will default to PM if no other addresses are listed): llewis@emmconsulting.com.au
Email Invoice to (will default to PM if no other addresses are listed): sdillon@ " " emmconsulting@esdat.net
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)
☑ Standard TAT **(List due date):**
☐ Non Standard or urgent TAT **(List due date):**

ALS QUOTE NO.:
COUNTRY OF ORIGIN: AUS

COC SEQUENCE NUMBER (Circle)
COC: [✓ 1] 2 3 4 5 6 7
OF: [✓ 1] 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No [✓ N/A]
Free ice / frozen ice bricks present upon receipt? [✓ Yes] No N/A
Random Sample Temperature on Receipt: 4.0 °C
Other comment:

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
L Lewis	Sep M		
DATE/TIME: 23/7/20	DATE/TIME: 23/07/2020 1600	DATE/TIME:	DATE/TIME:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH/BTEXN/ 8metals								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	QC200-200723	23/7/20	S		1	X								
2	QC201_200723	"	S		1	X								
				TOTAL										

Environmental Division
Sydney
Work Order Reference
ES2025385

Telephone : + 61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

ALS

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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Ph: 02 4225 3125 E: wollongong@alsglobal.com

JUSTIN 7:30pm
24/7/20

CLIENT: EMM Consulting
OFFICE: Sydney
PROJECT: ~~Matra~~ J200432 w26
SITE: Matraville
PURCHASE ORDER:
PROJECT MANAGER: Susan Dillon
CONTACT PH:
SAMPLER: Lachlan Lewis
SAMPLER MOBILE: 0401 638 848
COC Emailed to ALS? (YES / NO)
EDD FORMAT (or default):
Email Reports to (will default to PM if no other addresses are listed): llewis@~~emm~~emmconsulting.com.au
Email Invoice to (will default to PM if no other addresses are listed): sdillon@ " "
emmconsulting@esdat.net
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS :
(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)
☑ Standard TAT (List due date):
☐ Non Standard or urgent TAT (List due date):

ALS QUOTE NO.:
COUNTRY OF ORIGIN: AUS

COC SEQUENCE NUMBER (Circle)
COC: [✓ 1] 2 3 4 5 6 7
OF: [✓ 1] 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No [✓ N/A]
Free ice / frozen ice bricks present upon receipt? [✓ Yes] No N/A
Random Sample Temperature on Receipt: 4.0 °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
L Lewis	Sep M		Sep
DATE/TIME: 23/7/20	DATE/TIME: 23/07/2020 1600	DATE/TIME:	DATE/TIME: 24/07/2020 ~~1600~~ 1725

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).		Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH/BTEXN/~~[illegible]~~ 8metals	PFAS Short suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc. Updated by Lachlan Lewis 24/7/20
1	QC200-200723	23/7/20	S		1	X		
2	QC201_200723	"	S		1	X	X	
3	QC202-200724	24/7/20	S		1	X		
				TOTAL				

Environmental Division
Sydney
Work Order Reference
ES2025385

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2025385**

Client	: **EMM CONSULTING PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SUSAN DILLON	Contact	: Customer Services ES
Address	: Ground Floor Suite 1 20 Chandos Street St Leonards NSW NSW 2065	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sdillon@emmconsulting.com.au	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: J200432 W26	Page	: 1 of 2
Order number	: ----	Quote number	: ----
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: MATRAVILLE		
Sampler	: Lachlan Lewis		

Dates

Date Samples Received	: 23-Jul-2020 16:00	Issue Date	: 27-Jul-2020
Client Requested Due Date	: 30-Jul-2020	Scheduled Reporting Date	: **03-Aug-2020**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 4.0'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

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
- This is an updated SRN which indicates the addition of extra samples.
- **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 absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

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

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA055-103 Moisture Content	SOIL - EP231 (solids) PFAS - Short Suite (12 analytes)	SOIL - S-05 TRH/BTEXN/8 Metals
ES2025385-001	23-Jul-2020 00:00	QC200_200723	✓		✓
ES2025385-002	23-Jul-2020 00:00	QC201_200723	✓	✓	✓
ES2025385-003	23-Jul-2020 00:00	QC202_200724	✓		✓

Proactive Holding Time Report

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

Requested Deliverables

ALL ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	emmconsulting@esdat.net
ALL INVOICES		
- A4 - AU Tax Invoice (INV)	Email	finance@emmconsulting.com.au
Lachlan Lewis		
- *AU Certificate of Analysis - NATA (COA)	Email	llewis@emmconsulting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	llewis@emmconsulting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	llewis@emmconsulting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	llewis@emmconsulting.com.au
- A4 - AU Tax Invoice (INV)	Email	llewis@emmconsulting.com.au
- Chain of Custody (CoC) (COC)	Email	llewis@emmconsulting.com.au
- EDI Format - ENMRG (ENMRG)	Email	llewis@emmconsulting.com.au
- EDI Format - ESDAT (ESDAT)	Email	llewis@emmconsulting.com.au
SUSAN DILLON		
- *AU Certificate of Analysis - NATA (COA)	Email	sdillon@emmconsulting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sdillon@emmconsulting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sdillon@emmconsulting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	sdillon@emmconsulting.com.au
- A4 - AU Tax Invoice (INV)	Email	sdillon@emmconsulting.com.au
- Chain of Custody (CoC) (COC)	Email	sdillon@emmconsulting.com.au
- EDI Format - ENMRG (ENMRG)	Email	sdillon@emmconsulting.com.au
- EDI Format - ESDAT (ESDAT)	Email	sdillon@emmconsulting.com.au

CERTIFICATE OF ANALYSIS

Work Order : **ES2025385**
Client : **EMM CONSULTING PTY LTD**
Contact : SUSAN DILLON
Address : Ground Floor Suite 1 20 Chandos Street
St Leonards NSW NSW 2065

Telephone : ----
Project : J200432 W26
Order number : ----
C-O-C number : ----
Sampler : Lachlan Lewis
Site : MATRAVILLE
Quote number : EN/333 - SECONDARY WORK ONLY
No. of samples received : 3
No. of samples analysed : 3

Page : 1 of 5
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 : 23-Jul-2020 16:00
Date Analysis Commenced : 24-Jul-2020
Issue Date : 03-Aug-2020 16:16

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. 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*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, 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 Contact 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.

- EP080: Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP071: Results of sample QC200_200723 have been 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. 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 (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL)**			*Client sample ID*	**QC200_200723**	**QC201_200723**	**QC202_200724**	**----**	**----**
			Client sampling date / time	23-Jul-2020 00:00	23-Jul-2020 00:00	23-Jul-2020 00:00	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2025385-001**	**ES2025385-002**	**ES2025385-003**	**--------**	**--------**
				Result	Result	Result	----	----
EA055: Moisture Content								
Moisture Content	----	1.0	%	**18.8**	**7.5**	**4.2**	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**7**	<5	<5	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	**3**	**2**	**2**	----	----
Copper	7440-50-8	5	mg/kg	**267**	<5	<5	----	----
Lead	7439-92-1	5	mg/kg	**221**	<5	**13**	----	----
Nickel	7440-02-0	2	mg/kg	**5**	<2	**2**	----	----
Zinc	7440-66-6	5	mg/kg	**591**	<5	**17**	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.4**	<0.1	<0.1	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	**140**	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	**140**	<100	<100	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg	**280**	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg	**240**	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg	**240**	<50	<50	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg	<50	<50	<50	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)			Client sample ID	**QC200_200723**	**QC201_200723**	**QC202_200724**	----	----
			Client sampling date / time	23-Jul-2020 00:00	23-Jul-2020 00:00	23-Jul-2020 00:00	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2025385-001**	**ES2025385-002**	**ES2025385-003**	--------	--------
				Result	Result	Result	----	----
EP080: BTEXN - Continued								
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	<0.0002	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	<0.001	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	<0.0002	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	<0.0005	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	<0.0005	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	<0.0005	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	<0.0005	----	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	<0.0002	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	<0.0002	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**116**	**103**	**98.7**	----	----
Toluene-D8	2037-26-5	0.2	%	**122**	**105**	**114**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**121**	**108**	**118**	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	----	**89.0**	----	----	----
13C8-PFOA	----	0.0002	%	----	**91.0**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2025385**	Page	: 1 of 5
Client	: **EMM CONSULTING PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SUSAN DILLON	Telephone	: +61-2-8784 8555
Project	: J200432 W26	Date Samples Received	: 23-Jul-2020
Site	: MATRAVILLE	Issue Date	: 03-Aug-2020
Sampler	: Lachlan Lewis	No. of samples received	: 3
Order number	: ----	No. of samples analysed	: 3

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.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	**Analyte**	CAS Number	Data	Limits	**Comment**
Matrix Spike (MS) Recoveries							
EP231B: Perfluoroalkyl Carboxylic Acids	ES2025385--002	QC201_200723	**Perfluoropentanoic acid (PFPeA)**	2706-90-3	139 %	69.0-132%	**Recovery greater than upper data quality objective**

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								
Soil Glass Jar - Unpreserved (EA055) QC200_200723, QC202_200724	QC201_200723,	**23-Jul-2020**	**----**	----	----	**30-Jul-2020**	06-Aug-2020	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) QC200_200723, QC202_200724	QC201_200723,	**23-Jul-2020**	**30-Jul-2020**	19-Jan-2021	✓	**30-Jul-2020**	19-Jan-2021	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) QC200_200723, QC202_200724	QC201_200723,	**23-Jul-2020**	**30-Jul-2020**	20-Aug-2020	✓	**31-Jul-2020**	20-Aug-2020	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080) QC200_200723,	QC201_200723	**23-Jul-2020**	**24-Jul-2020**	06-Aug-2020	✓	**24-Jul-2020**	06-Aug-2020	✓
Soil Glass Jar - Unpreserved (EP071) QC200_200723,	QC201_200723	**23-Jul-2020**	**25-Jul-2020**	06-Aug-2020	✓	**27-Jul-2020**	03-Sep-2020	✓
Soil Glass Jar - Unpreserved (EP071) QC202_200724		**23-Jul-2020**	**28-Jul-2020**	06-Aug-2020	✓	**28-Jul-2020**	06-Sep-2020	✓
Soil Glass Jar - Unpreserved (EP080) QC202_200724		**23-Jul-2020**	**29-Jul-2020**	06-Aug-2020	✓	**29-Jul-2020**	06-Aug-2020	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method		**Sample Date**	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*			**Date extracted**	*Due for extraction*	*Evaluation*	**Date analysed**	*Due for analysis*	*Evaluation*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080) QC200_200723,	QC201_200723	**23-Jul-2020**	**24-Jul-2020**	06-Aug-2020	✓	**24-Jul-2020**	06-Aug-2020	✓
Soil Glass Jar - Unpreserved (EP071) QC200_200723,	QC201_200723	**23-Jul-2020**	**25-Jul-2020**	06-Aug-2020	✓	**27-Jul-2020**	03-Sep-2020	✓
Soil Glass Jar - Unpreserved (EP071) QC202_200724		**23-Jul-2020**	**28-Jul-2020**	06-Aug-2020	✓	**28-Jul-2020**	06-Sep-2020	✓
Soil Glass Jar - Unpreserved (EP080) QC202_200724		**23-Jul-2020**	**29-Jul-2020**	06-Aug-2020	✓	**29-Jul-2020**	06-Aug-2020	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) QC200_200723,	QC201_200723	**23-Jul-2020**	**24-Jul-2020**	06-Aug-2020	✓	**24-Jul-2020**	06-Aug-2020	✓
Soil Glass Jar - Unpreserved (EP080) QC202_200724		**23-Jul-2020**	**29-Jul-2020**	06-Aug-2020	✓	**29-Jul-2020**	06-Aug-2020	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) QC201_200723		**23-Jul-2020**	**28-Jul-2020**	19-Jan-2021	✓	**30-Jul-2020**	06-Sep-2020	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) QC201_200723		**23-Jul-2020**	**28-Jul-2020**	19-Jan-2021	✓	**30-Jul-2020**	06-Sep-2020	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) QC201_200723		**23-Jul-2020**	**28-Jul-2020**	19-Jan-2021	✓	**30-Jul-2020**	06-Sep-2020	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) QC201_200723		**23-Jul-2020**	**28-Jul-2020**	19-Jan-2021	✓	**30-Jul-2020**	06-Sep-2020	✓

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
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	**10.00**	**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	3	20	**15.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	27	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	30	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**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	2	27	**7.41**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**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	2	27	**7.41**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**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	2	27	**7.41**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	30	**6.67**	**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 (2013) Schedule B(3) Section 6.1 and Table 1 (14 day holding time).
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 (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, 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 (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260D. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

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 (2013) Schedule B(3) (Method 202)
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.
Sample Extraction for PFAS in solid matrices	ORG73	SOIL	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

ALS Environmental

QUALITY CONTROL REPORT

Work Order : **ES2025385**

Client : **EMM CONSULTING PTY LTD**
Contact : SUSAN DILLON
Address : Ground Floor Suite 1 20 Chandos Street
St Leonards NSW NSW 2065

Telephone : ----
Project : J200432 W26
Order number : ----
C-O-C number : ----
Sampler : Lachlan Lewis
Site : MATRAVILLE
Quote number : EN/333 - SECONDARY WORK ONLY
No. of samples received : 3
No. of samples analysed : 3

Page : 1 of 9

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 : 23-Jul-2020
Date Analysis Commenced : 24-Jul-2020
Issue Date : 03-Aug-2020

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. 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*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, 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

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	***Client sample ID***	***Method: Compound***	***CAS Number***	***LOR***	***Unit***	***Original Result***	***Duplicate Result***	***RPD (%)***	***Recovery Limits (%)***
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3169565)									
ES2025385-001	QC200_200723	EG005T: Lead	7439-92-1	5	mg/kg	221	191	14.6	0% - 20%
ES2025385-001	QC200_200723	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	3	4	30.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	8	40.8	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	8	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	267	270	1.25	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	591	619	4.66	0% - 20%
ES2025631-008	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	46	47	2.58	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	14	19	27.9	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	244	202	19.0	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	9	10	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	138	150	8.44	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3169567)									
ES2025385-003	QC202_200724	EA055: Moisture Content	----	0.1	%	4.2	3.8	7.51	No Limit
ES2025631-011	Anonymous	EA055: Moisture Content	----	0.1	%	61.8	61.6	0.382	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3169564)									
ES2025385-001	QC200_200723	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.4	0.00	No Limit
ES2025631-008	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.1	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3158472)									
ES2024943-011	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2025385-002	QC201_200723	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3159360)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3159360) - continued									
ES2025168-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2025136-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3163990)									
ES2025472-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3167261)									
ES2025385-003	QC202_200724	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2025733-012	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3158472)									
ES2024943-011	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2025385-002	QC201_200723	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3159360)									
ES2025168-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	100	110	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2025136-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3163990)									
ES2025472-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3167261)									
ES2025385-003	QC202_200724	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2025733-012	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 3158472)									
ES2024943-011	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2025385-002	QC201_200723	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEXN (QC Lot: 3158472) - continued									
ES2025385-002	QC201_200723	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 3167261)									
ES2025385-003	QC202_200724	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2025733-012	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3164800)									
ES2025385-002	QC201_200723	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
ES2025435-012	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0030	0.0034	12.8	0% - 50%
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3164800)									
ES2025385-002	QC201_200723	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.00	No Limit
ES2025435-012	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3164800)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3164800) - continued									
ES2025385-002	QC201_200723	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
ES2025435-012	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (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 Spike (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 (%)	Recovery Limits (%)	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3169565)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	98 mg/kg	109	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	72.0	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	15.4 mg/kg	116	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	48 mg/kg	120	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	50 mg/kg	102	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	12.4 mg/kg	102	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	115 mg/kg	97.4	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3169564)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.0847 mg/kg	73.0	70.0	105
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3158472)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	110	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3159360)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	87.5	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	92.2	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	90.8	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3163990)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	102	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	90.8	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	95.6	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3167261)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	111	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3158472)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	110	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3159360)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	89.6	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	92.7	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	76.4	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3163990)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	93.3	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	95.2	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	96.8	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3167261)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	111	68.4	128

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EP080: BTEXN (QCLot: 3158472)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	105	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	106	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	108	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	108	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	110	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	116	63.0	119
EP080: BTEXN (QCLot: 3167261)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	108	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	110	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	109	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	109	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	110	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	63.0	119
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3164800)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	72.0	128
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.2	67.0	130
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	68.0	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3164800)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	99.7	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	69.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3164800)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	97.6	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	120	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	103	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	109	69.2	143

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(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3169565)							
ES2025385-001	QC200_200723	EG005T: Arsenic	7440-38-2	50 mg/kg	91.4	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	87.4	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	87.7	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	126	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	96.6	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	87.9	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	82.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3169564)							
ES2025385-001	QC200_200723	EG035T: Mercury	7439-97-6	5 mg/kg	79.7	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3158472)							
ES2024943-011	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	114	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3159360)							
ES2025136-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	85.2	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	75.4	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	68.8	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3163990)							
ES2025472-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	101	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	100	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	110	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3167261)							
ES2025385-003	QC202_200724	EP080: C6 - C9 Fraction	----	32.5 mg/kg	129	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3158472)							
ES2024943-011	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	110	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3159360)							
ES2025136-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	86.2	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	73.2	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	55.4	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3163990)							
ES2025472-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	102	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	112	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	102	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3167261)							
ES2025385-003	QC202_200724	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	126	70.0	130
EP080: BTEXN (QCLot: 3158472)							
ES2024943-011	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	116	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 3158472) - continued							
ES2024943-011	Anonymous	EP080: Toluene	108-88-3	2.5 mg/kg	114	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	116	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	114	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	120	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	112	70.0	130
EP080: BTEXN (QCLot: 3167261)							
ES2025385-003	QC202_200724	EP080: Benzene	71-43-2	2.5 mg/kg	116	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	118	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	118	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	115	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	117	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	98.6	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3164800)							
ES2025385-002	QC201_200723	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	111	72.0	128
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	98.4	67.0	130
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	116	68.0	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3164800)							
ES2025385-002	QC201_200723	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	106	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	# 139	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	122	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	121	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	121	69.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3164800)							
ES2025385-002	QC201_200723	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	119	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	120	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	120	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	125	69.2	143

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
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☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: EMM Consulting Pty Ltd
OFFICE: 20 Chandos Street, St Leonards NSW 2065
PROJECT: Matraville
ORDER NUMBER: J200432
PROJECT MANAGER: Susan Dillon / Lachlan Lewis
CONTACT PH: 0401638848
SAMPLER: Lachlan Lewis
SAMPLER MOBILE: 0401 638 848
COC Emailed to ALS? (YES / NO)
EDD FORMAT (or default): Esdat
Email Reports to (will default to PM if no other addresses are listed): sdillon@emmconsulting.com.au, llewis@emmconsulting.com.au
Email Invoice to (will default to PM if no other addresses are listed): as above

TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)
☑ Standard or urgent TAT (List due date):
☐ Non Standard or urgent TAT (List due date):

ALS QUOTE NO.: EN-112-19
COUNTRY OF ORIGIN: Australia

COC SEQUENCE NUMBER (Circle)
COC: [✓ 1] 2 3 4 5 6 7
OF: [✓ 1] 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No [✓ N/A]
Free ice / frozen ice bricks present upon receipt? [✓ Yes] No N/A
Random Sample Temperature on Receipt: 2.3 °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Lachlan Lewis	Sep M.		SO
DATE/TIME: 30/7/20 1645	DATE/TIME: 30/07/2020 1645	DATE/TIME:	DATE/TIME: 30/7/20 1850

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN, 8 metals, PAHs,	PCBs	VOC/SVOCs		TRH/BTEXN (w-18/s-18)	TRH, BTEXN, 8 metals (s-6/w-5)	TRH C6-C9		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	MW01_200730	30/7/20	W			X		X						
2	MW02_200730	↓	↓			X		X						
3	MW03_200730					X		X						
4	QC103_200730										X			
5* *	QC203_200730										X			*Send to Envirolab*
6	QC304_200730										X			
7	TB04_200730											X		
8	TS04_200730									X				
9	T1_200730	↓	↓			X	X							
10	T3_200730					↓	↓							
11	T4_200730													
12	HT_200730													
				TOTAL										

Envirolab → QC203

Environmental Division
Sydney
Work Order Reference
ES2026409

Telephone : + 61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: *please tick* →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: EMM Consulting Pty Ltd

OFFICE: 20 Chandos Street, St Leonards NSW 2065

PROJECT: Matraville

ORDER NUMBER: J200432

PROJECT MANAGER: Susan Dillon / Lachlan Lewis

CONTACT PH: 0401638848

SAMPLER: Lachlan Lewis

SAMPLER MOBILE: 0401 638 848

COC Emailed to ALS? (YES / NO)

EDD FORMAT (or default): Esdat

Email Reports to (will default to PM if no other addresses are listed): sdillon@emmconsulting.com.au, llewis@emmconsulting.com.au

Email Invoice to (will default to PM if no other addresses are listed): as above

TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)

☑ Standard or urgent TAT (List due date):

☐ Non Standard or urgent TAT (List due date):

ALS QUOTE NO.: EN-112-19

COUNTRY OF ORIGIN: Australia

COC SEQUENCE NUMBER (Circle)

COC: [✓ 1] 2 3 4 5 6 7

OF: [✓ 1] 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No [✓ N/A]

Free ice / frozen ice bricks present upon receipt? [✓ Yes] No N/A

Random Sample Temperature on Receipt: 2.3 °C

Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Lachlan Lewis	Sep M.		SO 8841 Ao Ay
DATE/TIME: 30/7/20 1645	DATE/TIME: 30/07/2020 1645	DATE/TIME:	DATE/TIME: 30/7/20 1850

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN, 8 metals, PAHs, [redacted]	PCBs	[redacted] VOC/SVOCs	[redacted]	TRH/BTEXN (w-18/s-18)	TRH, BTEXN, 8 metals (s-5/w-5)	TRH C6-C9		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	MW01_200730	30/7/20	W			X		X						
2	MW02_200730	↓	↓			X		X						
3	MW03_200730	↓	↓			X		X						
4	QC103_200730	↓	↓								X			
5* *	QC203_200730	↓	↓								X			*Send to Envirolab*
6	QC304_200730	↓	↓								X			
7	TB04_200730	↓	↓									X		
8	TS04_200730	↓	↓							X				
9	T1_200730	↓	↓			X	X							
10	T3_200730	↓	↓			↓	↓							
11	T4_200730	↓	↓			↓	↓							
12	HT_200730	↓	↓			↓	↓							
				TOTAL										

Envirolab → QC203

Relinquished By

WO No:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

Environmental Division
Sydney
Work Order Reference
ES2026409

Telephone : + 61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2026409**

Client : **EMM CONSULTING PTY LTD**
Contact : SUSAN DILLON
Address : Ground Floor Suite 1 20 Chandos Street
St Leonards NSW NSW 2065

E-mail : sdillon@emmconsulting.com.au
Telephone : ----
Facsimile : ----

Project : Matraville
Order number : J200432

C-O-C number : ----
Site : ----
Sampler : Lachlan Lewis

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

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

Page : 1 of 3
Quote number : ES2019EMGAMM0002 (EN/112/18 - Primary work only)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 30-Jul-2020 16:45
Client Requested Due Date : 06-Aug-2020
Issue Date : 31-Jul-2020
Scheduled Reporting Date : **06-Aug-2020**

Delivery Details

Mode of Delivery : Client Drop Off
No. of coolers/boxes : 2
Receipt Detail :
Security Seal : Not Available
Temperature : 2.3'C - Ice present
No. of samples received / analysed : 11 / 10

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
- **Sample QC203_200730 has been forwarded to Envirolab.**
- **Metals analysis will not be conducted for samples T3_200730, T4_200730 and HT_200730 as no suitable sampling container was received.**
- **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 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: **PRODUCT**

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) PRODUCT No analysis requested
ES2026409-009	30-Jul-2020 00:00	T1_200730	✓

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - EP080 BTEXN	WATER - W-05 TRH/BTEXN/8 Metals	WATER - W-07 TRH/BTEXN/PAH	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-23 minus BTEX SVOC/VOC without BTEX	WATER - W-26 TRH/BTEXN/PAH/8 Metals
ES2026409-001	30-Jul-2020 00:00	MW01_200730					✓	✓
ES2026409-002	30-Jul-2020 00:00	MW02_200730					✓	✓
ES2026409-003	30-Jul-2020 00:00	MW03_200730					✓	✓
ES2026409-004	30-Jul-2020 00:00	QC103_200730		✓				
ES2026409-006	30-Jul-2020 00:00	QC304_200730		✓				
ES2026409-007	30-Jul-2020 00:00	TB04_200730				✓		
ES2026409-008	30-Jul-2020 00:00	TS04_200730	✓					
ES2026409-010	30-Jul-2020 00:00	T3_200730			✓			
ES2026409-011	30-Jul-2020 00:00	T4_200730			✓			
ES2026409-012	30-Jul-2020 00:00	HT_200730			✓			

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EP066-PCB-WA Polychlorinated Biphenyls (PCB)
ES2026409-010	30-Jul-2020 00:00	T3_200730	✓
ES2026409-011	30-Jul-2020 00:00	T4_200730	✓
ES2026409-012	30-Jul-2020 00:00	HT_200730	✓

Proactive Holding Time Report

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

Requested Deliverables

ALL ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	emmconsulting@esdat.net
ALL INVOICES		
- A4 - AU Tax Invoice (INV)	Email	finance@emmconsulting.com.au
Lachlan Lewis		
- *AU Certificate of Analysis - NATA (COA)	Email	llewis@emmconsulting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	llewis@emmconsulting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	llewis@emmconsulting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	llewis@emmconsulting.com.au
- A4 - AU Tax Invoice (INV)	Email	llewis@emmconsulting.com.au
- Chain of Custody (CoC) (COC)	Email	llewis@emmconsulting.com.au
- EDI Format - ENMRG (ENMRG)	Email	llewis@emmconsulting.com.au
- EDI Format - ESDAT (ESDAT)	Email	llewis@emmconsulting.com.au
SUSAN DILLON		
- *AU Certificate of Analysis - NATA (COA)	Email	sdillon@emmconsulting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sdillon@emmconsulting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sdillon@emmconsulting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	sdillon@emmconsulting.com.au
- A4 - AU Tax Invoice (INV)	Email	sdillon@emmconsulting.com.au
- Chain of Custody (CoC) (COC)	Email	sdillon@emmconsulting.com.au
- EDI Format - ENMRG (ENMRG)	Email	sdillon@emmconsulting.com.au
- EDI Format - ESDAT (ESDAT)	Email	sdillon@emmconsulting.com.au

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2026409**

Client : **EMM CONSULTING PTY LTD**
Contact : SUSAN DILLON
Address : Ground Floor Suite 1 20 Chandos Street
St Leonards NSW NSW 2065

E-mail : sdillon@emmconsulting.com.au
Telephone : ----
Facsimile : ----

Project : Matraville
Order number : J200432

C-O-C number : ----
Site : ----
Sampler : Lachlan Lewis

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

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

Page : 1 of 3
Quote number : ES2019EMGAMM0002 (EN/112/18 - Primary work only)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 30-Jul-2020 16:45
Client Requested Due Date : 06-Aug-2020

Issue Date : 04-Aug-2020
Scheduled Reporting Date : **06-Aug-2020**

Delivery Details

Mode of Delivery : Client Drop Off
No. of coolers/boxes : 2
Receipt Detail :

Security Seal : Not Available
Temperature : 2.3'C - Ice present
No. of samples received / analysed : 11 / 11

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
- This is an updated SRN which indicates the addition of analysis for sample T1_200730.
- **Sample QC203_200730 has been forwarded to Envirolab.**
- **Metals analysis will not be conducted for samples T3_200730, T4_200730 and HT_200730 as no suitable sampling container was received.**
- **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 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.

Method *Client sample ID*	**Sample Container Received**	**Preferred Sample Container for Analysis**
PAH/Phenols (SIM) : EP075(SIM)		
T1_200730	- Amber Glass Bottle - Unpreserved	- Soil Glass Jar - Unpreserved
Polychlorinated Biphenyls (PCB) : EP066		
T1_200730	- Amber Glass Bottle - Unpreserved	- Soil Glass Jar - Unpreserved
Total Mercury by FIMS : EG035T		
T1_200730	- Amber Glass Bottle - Unpreserved	- Soil Glass Jar - Unpreserved
Total Metals by ICP-AES : EG005T		
T1_200730	- Amber Glass Bottle - Unpreserved	- Soil Glass Jar - Unpreserved
TRH - Semivolatile Fraction : EP071		
T1_200730	- Amber Glass Bottle - Unpreserved	- Soil Glass Jar - Unpreserved

Summary of Sample(s) and Requested Analysis

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

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EP066 (solids) Polychlorinated Biphenyls by GCMS	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2026409-009	30-Jul-2020 00:00	T1_200730	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EP080 BTEXN	WATER - W-05 TRH/BTEXN/8 Metals	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-23 minus BTEX SVOC/VOC without BTEX	WATER - W-26 TRH/BTEXN/PAH/8 Metals
ES2026409-001	30-Jul-2020 00:00	MW01_200730				✓	✓
ES2026409-002	30-Jul-2020 00:00	MW02_200730				✓	✓
ES2026409-003	30-Jul-2020 00:00	MW03_200730				✓	✓
ES2026409-004	30-Jul-2020 00:00	QC103_200730		✓			
ES2026409-006	30-Jul-2020 00:00	QC304_200730		✓			
ES2026409-007	30-Jul-2020 00:00	TB04_200730			✓		
ES2026409-008	30-Jul-2020 00:00	TS04_200730	✓				

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EP066-PCB-WA Polychlorinated Biphenyls (PCB)	WATER - W-07 TRH/BTEXN/PAH
ES2026409-010	30-Jul-2020 00:00	T3_200730	✓	✓
ES2026409-011	30-Jul-2020 00:00	T4_200730	✓	✓
ES2026409-012	30-Jul-2020 00:00	HT_200730	✓	✓

Proactive Holding Time Report

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

Requested Deliverables

ALL ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	emmconsulting@esdat.net
ALL INVOICES		
- A4 - AU Tax Invoice (INV)	Email	finance@emmconsulting.com.au
Lachlan Lewis		
- *AU Certificate of Analysis - NATA (COA)	Email	llewis@emmconsulting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	llewis@emmconsulting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	llewis@emmconsulting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	llewis@emmconsulting.com.au
- A4 - AU Tax Invoice (INV)	Email	llewis@emmconsulting.com.au
- Chain of Custody (CoC) (COC)	Email	llewis@emmconsulting.com.au
- EDI Format - ENMRG (ENMRG)	Email	llewis@emmconsulting.com.au
- EDI Format - ESDAT (ESDAT)	Email	llewis@emmconsulting.com.au
SUSAN DILLON		
- *AU Certificate of Analysis - NATA (COA)	Email	sdillon@emmconsulting.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sdillon@emmconsulting.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sdillon@emmconsulting.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	sdillon@emmconsulting.com.au
- A4 - AU Tax Invoice (INV)	Email	sdillon@emmconsulting.com.au
- Chain of Custody (CoC) (COC)	Email	sdillon@emmconsulting.com.au
- EDI Format - ENMRG (ENMRG)	Email	sdillon@emmconsulting.com.au
- EDI Format - ESDAT (ESDAT)	Email	sdillon@emmconsulting.com.au

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order : **ES2026409**
Client : **EMM CONSULTING PTY LTD**
Contact : SUSAN DILLON
Address : Ground Floor Suite 1 20 Chandos Street
St Leonards NSW NSW 2065
Telephone : ----
Project : Matraville
Order number : J200432
C-O-C number : ----
Sampler : Lachlan Lewis
Site : ----
Quote number : EN/112/18 - Primary work only
No. of samples received : 11
No. of samples analysed : 11

Page : 1 of 17
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 : 30-Jul-2020 16:45
Date Analysis Commenced : 03-Aug-2020
Issue Date : 06-Aug-2020 16:48

ilac-MRA NATA
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. 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*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact 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.
- EP075: 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.
- 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.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene 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.
- EP075(SIM): Surrogate recovery bias low due to sample matrix interferences.
- EP071 : Particular sample required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP075(SIM): Particular sample required dilution due to sample matrix and the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP080: Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEXN compounds spiked at 20 ug/L.
- EP066 : Particular samples required dilution due to sample matrix . LOR values have been adjusted accordingly.
- EP066 : Particular samples required dilution due to sample matrix . LOR values have been adjusted accordingly.Surrogatescannot be determined due to samples matrix.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs

Analytical Results

Sub-Matrix: **PRODUCT** (Matrix: **SOIL)**			Client sample ID	**T1_200730**	----	----	----	----
			Client sampling date / time	30-Jul-2020 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	**ES2026409-009**	--------	--------	--------	--------
				Result	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	<2	----	----	----	----
Copper	7440-50-8	5	mg/kg	**10**	----	----	----	----
Lead	7439-92-1	5	mg/kg	<5	----	----	----	----
Nickel	7440-02-0	2	mg/kg	<2	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**6**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<4.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**412**	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<40.0	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	**103**	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	**154**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**514**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<40.0	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<40.0	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**49.6**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<40.0	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<40.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<40.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<40.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<40.0	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<40.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<40.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<40.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg	**1230**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg	<10.0	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg	**48.4**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg	**96.8**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	**718**	----	----	----	----

Analytical Results

Sub-Matrix: **PRODUCT** (Matrix: **SOIL**)			*Client sample ID*	**T1_200730**	----	----	----	----
			Client sampling date / time	30-Jul-2020 00:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2026409-009**	--------	--------	--------	--------
				Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	**44900**	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	**119000**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	**15300**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg	**179000**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	**1280**	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg	**1100**	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	**78600**	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	**97200**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	**9900**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg	**186000**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg	**78400**	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	**1.4**	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	**11.4**	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	**20.9**	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	**108**	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	**33.9**	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg	**176**	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg	**142**	----	----	----	----
Naphthalene	91-20-3	1	mg/kg	**177**	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**Not Determined**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**Not Determined**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**64.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**Not Determined**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**86.6**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%	**89.3**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**86.9**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								

Analytical Results

Sub-Matrix: **PRODUCT** (Matrix: **SOIL)**			*Client sample ID*	**T1_200730**	**----**	**----**	**----**	**----**
			Client sampling date / time	30-Jul-2020 00:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2026409-009**	**--------**	**--------**	**--------**	**--------**
				Result	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**89.5**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%	**98.9**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%	**109**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			*Client sample ID*	**MW01_200730**	**MW02_200730**	**MW03_200730**	**QC103_200730**	**QC304_200730**
			Client sampling date / time	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**ES2026409-001**	**ES2026409-002**	**ES2026409-003**	**ES2026409-004**	**ES2026409-006**
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	**0.006**	<0.001	**0.005**	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L	<0.001	**0.002**	<0.001	**0.002**	<0.001
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L	**0.011**	<0.005	<0.005	**0.005**	<0.005
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	5	µg/L	<5	<5	<5	----	----
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<5	----	----
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	<5	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	<5	----	----
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	<5	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	<5	----	----
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	<5	----	----
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	<5	----	----
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	<5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	<50	----	----
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	<50	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	<50	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	<5	<5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	<5	----	----
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	<5	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	<5	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	<5	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	<5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	<50	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Client sample ID	**MW01_200730**	**MW02_200730**	**MW03_200730**	**QC103_200730**	**QC304_200730**
			Client sampling date / time	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**ES2026409-001**	**ES2026409-002**	**ES2026409-003**	**ES2026409-004**	**ES2026409-006**
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
Chloromethane	74-87-3	50	µg/L	<50	<50	<50	----	----
Vinyl chloride	75-01-4	50	µg/L	<50	<50	<50	----	----
Bromomethane	74-83-9	50	µg/L	<50	<50	<50	----	----
Chloroethane	75-00-3	50	µg/L	<50	<50	<50	----	----
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	<50	----	----
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	<5	----	----
Iodomethane	74-88-4	5	µg/L	<5	<5	<5	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	<5	----	----
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	<5	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	**7**	<5	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	<5	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	<5	----	----
Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	<5	----	----
1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	<5	----	----
Trichloroethene	79-01-6	5	µg/L	<5	<5	<5	----	----
Dibromomethane	74-95-3	5	µg/L	<5	<5	<5	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	<5	----	----
1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	<5	----	----
Tetrachloroethene	127-18-4	5	µg/L	<5	<5	<5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	<5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	<5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	<5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	<5	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	<5	----	----
Pentachloroethane	76-01-7	5	µg/L	<5	<5	<5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	<5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	<5	----	----
Bromobenzene	108-86-1	5	µg/L	<5	<5	<5	----	----
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	<5	----	----
4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	<5	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	<5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	<5	<5	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Client sample ID	**MW01_200730**	**MW02_200730**	**MW03_200730**	**QC103_200730**	**QC304_200730**
			Client sampling date / time	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	CAS Number	LOR	Unit	**ES2026409-001**	**ES2026409-002**	**ES2026409-003**	**ES2026409-004**	**ES2026409-006**
				Result	Result	Result	Result	Result
EP074G: Trihalomethanes - Continued								
Bromodichloromethane	75-27-4	5	µg/L	<5	<5	<5	----	----
Dibromochloromethane	124-48-1	5	µg/L	<5	<5	<5	----	----
Bromoform	75-25-2	5	µg/L	<5	<5	<5	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.5	<0.5	<0.5	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.5	<0.5	<0.5	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	<2	<2	<2	----	----
2-Chlorophenol	95-57-8	2	µg/L	<2	<2	<2	----	----
2-Methylphenol	95-48-7	2	µg/L	<2	<2	<2	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	<4	<4	----	----
2-Nitrophenol	88-75-5	2	µg/L	<2	<2	<2	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	<2	<2	<2	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	<2	<2	<2	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L	<2	<2	<2	----	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	<2	<2	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	<2	<2	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	<2	<2	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Client sample ID	**MW01_200730**	**MW02_200730**	**MW03_200730**	**QC103_200730**	**QC304_200730**
			Client sampling date / time	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**ES2026409-001**	**ES2026409-002**	**ES2026409-003**	**ES2026409-004**	**ES2026409-006**
				Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued								
Pentachlorophenol	87-86-5	4	µg/L	<4	<4	<4	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	2	µg/L	<2	<2	<2	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	<2	<2	<2	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	<2	<2	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	<2	<2	----	----
3-Methylcholanthrene	56-49-5	2	µg/L	<2	<2	<2	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	2	µg/L	<2	<2	<2	----	----
Diethyl phthalate	84-66-2	2	µg/L	<2	<2	<2	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L	<2	<2	<2	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	<2	<2	----	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L	<10	<10	<10	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	<2	<2	<2	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	<2	<2	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	<2	<2	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	<4	<4	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L	<2	<2	<2	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	<2	<2	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L	<2	<2	<2	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	<2	<2	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	**13**	<4	----	----
Methapyrilene	91-80-5	2	µg/L	<2	<2	<2	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	2	µg/L	<2	<2	<2	----	----
Acetophenone	98-86-2	2	µg/L	<2	<2	<2	----	----
Nitrobenzene	98-95-3	2	µg/L	<2	<2	<2	----	----
Isophorone	78-59-1	2	µg/L	<2	<2	<2	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	<4	<4	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	<4	<4	----	----
1-Naphthylamine	134-32-7	2	µg/L	<2	<2	<2	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	<2	<2	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Client sample ID	**MW01_200730**	**MW02_200730**	**MW03_200730**	**QC103_200730**	**QC304_200730**
			Client sampling date / time	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**ES2026409-001**	**ES2026409-002**	**ES2026409-003**	**ES2026409-004**	**ES2026409-006**
				Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued								
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	<2	<2	----	----
Azobenzene	103-33-3	2	µg/L	<2	<2	<2	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	<2	<2	----	----
Phenacetin	62-44-2	2	µg/L	<2	<2	<2	----	----
4-Aminobiphenyl	92-67-1	2	µg/L	<2	<2	<2	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	<2	<2	----	----
Pronamide	23950-58-5	2	µg/L	<2	<2	<2	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	<2	<2	----	----
Chlorobenzilate	510-15-6	2	µg/L	<2	<2	<2	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	<2	<2	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	<2	<2	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	<2	<2	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	<2	<2	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	<2	<2	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	<2	<2	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	<2	<2	----	----
Hexachloroethane	67-72-1	2	µg/L	<2	<2	<2	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	<2	<2	----	----
Hexachloropropylene	1888-71-7	2	µg/L	<2	<2	<2	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	<2	<2	<2	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	<10	<10	----	----
Pentachlorobenzene	608-93-5	2	µg/L	<2	<2	<2	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	<4	<4	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<2	<2	<2	----	----
4-Chloroaniline	106-47-8	2	µg/L	<2	<2	<2	----	----
2-Nitroaniline	88-74-4	4	µg/L	<4	<4	<4	----	----
3-Nitroaniline	99-09-2	4	µg/L	<4	<4	<4	----	----
Dibenzofuran	132-64-9	2	µg/L	<2	<2	<2	----	----
4-Nitroaniline	100-01-6	2	µg/L	<2	<2	<2	----	----
Carbazole	86-74-8	2	µg/L	<2	<2	<2	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	<2	<2	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Client sample ID	**MW01_200730**	**MW02_200730**	**MW03_200730**	**QC103_200730**	**QC304_200730**
			Client sampling date / time	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**ES2026409-001**	**ES2026409-002**	**ES2026409-003**	**ES2026409-004**	**ES2026409-006**
				Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	2	µg/L	<2	<2	<2	----	----
beta-BHC	319-85-7	2	µg/L	<2	<2	<2	----	----
gamma-BHC	58-89-9	2	µg/L	<2	<2	<2	----	----
delta-BHC	319-86-8	2	µg/L	<2	<2	<2	----	----
Heptachlor	76-44-8	2	µg/L	<2	<2	<2	----	----
Aldrin	309-00-2	2	µg/L	<2	<2	<2	----	----
Heptachlor epoxide	1024-57-3	2	µg/L	<2	<2	<2	----	----
alpha-Endosulfan	959-98-8	2	µg/L	<2	<2	<2	----	----
4.4`-DDE	72-55-9	2	µg/L	<2	<2	<2	----	----
Dieldrin	60-57-1	2	µg/L	<2	<2	<2	----	----
Endrin	72-20-8	2	µg/L	<2	<2	<2	----	----
beta-Endosulfan	33213-65-9	2	µg/L	<2	<2	<2	----	----
4.4`-DDD	72-54-8	2	µg/L	<2	<2	<2	----	----
Endosulfan sulfate	1031-07-8	2	µg/L	<2	<2	<2	----	----
4.4`-DDT	50-29-3	4	µg/L	<4	<4	<4	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	4	µg/L	<4	<4	<4	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	4	µg/L	<4	<4	<4	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	2	µg/L	<2	<2	<2	----	----
Dimethoate	60-51-5	2	µg/L	<2	<2	<2	----	----
Diazinon	333-41-5	2	µg/L	<2	<2	<2	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	<2	<2	----	----
Malathion	121-75-5	2	µg/L	<2	<2	<2	----	----
Fenthion	55-38-9	2	µg/L	<2	<2	<2	----	----
Chlorpyrifos	2921-88-2	2	µg/L	<2	<2	<2	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	<2	<2	<2	----	----
Chlorfenvinphos	470-90-6	2	µg/L	<2	<2	<2	----	----
Prothiofos	34643-46-4	2	µg/L	<2	<2	<2	----	----
Ethion	563-12-2	2	µg/L	<2	<2	<2	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	**20**	<20	**40**	<20
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Client sample ID	**MW01_200730**	**MW02_200730**	**MW03_200730**	**QC103_200730**	**QC304_200730**
			Client sampling date / time	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**ES2026409-001**	**ES2026409-002**	**ES2026409-003**	**ES2026409-004**	**ES2026409-006**
				Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued								
^ **C10 - C36 Fraction (sum)**	----	50	µg/L	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	**20**	<20	**40**	<20
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	<20	<20	**40**	<20
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	<100	<100	<100	<100
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	<100	<100	<100	<100
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	**3**	<1	**3**	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ **Total Xylenes**	----	2	µg/L	<2	<2	<2	<2	<2
^ **Sum of BTEX**	----	1	µg/L	<1	**3**	<1	**3**	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	5	%	**111**	**104**	**116**	----	----
Toluene-D8	2037-26-5	5	%	**99.1**	**113**	**110**	----	----
4-Bromofluorobenzene	460-00-4	5	%	**93.3**	**114**	**98.7**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	**28.4**	**25.2**	**30.3**	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	**61.8**	**55.6**	**68.4**	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	**70.8**	**54.4**	**55.5**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**79.7**	**76.3**	**85.8**	----	----
Anthracene-d10	1719-06-8	1.0	%	**97.7**	**79.8**	**87.8**	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	**97.9**	**82.6**	**91.0**	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	2	%	**40.6**	**38.4**	**51.4**	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Client sample ID	**MW01_200730**	**MW02_200730**	**MW03_200730**	**QC103_200730**	**QC304_200730**
			Client sampling date / time	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	CAS Number	LOR	Unit	**ES2026409-001**	**ES2026409-002**	**ES2026409-003**	**ES2026409-004**	**ES2026409-006**
				Result	Result	Result	Result	Result
EP075S: Acid Extractable Surrogates - Continued								
Phenol-d6	13127-88-3	2	%	**31.0**	**26.9**	**30.8**	----	----
2-Chlorophenol-D4	93951-73-6	2	%	**65.3**	**58.3**	**71.0**	----	----
2.4.6-Tribromophenol	118-79-6	2	%	**67.1**	**48.5**	**48.5**	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	2	%	**72.8**	**69.2**	**86.2**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%	**62.4**	**59.9**	**74.9**	----	----
2-Fluorobiphenyl	321-60-8	2	%	**74.7**	**70.4**	**87.6**	----	----
Anthracene-d10	1719-06-8	2	%	**103**	**81.0**	**91.2**	----	----
4-Terphenyl-d14	1718-51-0	2	%	**115**	**94.2**	**98.2**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**115**	**136**	**119**	**110**	**119**
Toluene-D8	2037-26-5	2	%	**97.2**	**122**	**108**	**120**	**103**
4-Bromofluorobenzene	460-00-4	2	%	**94.1**	**115**	**101**	**109**	**98.1**

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)		Client sample ID		**TB04_200730**	**TS04_200730**	**T3_200730**	**T4_200730**	**HT_200730**
		Client sampling date / time		30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**ES2026409-007**	**ES2026409-008**	**ES2026409-010**	**ES2026409-011**	**ES2026409-012**
				Result	Result	Result	Result	Result
EP066: Polychlorinated Biphenyls (PCB)								
^ **Total Polychlorinated biphenyls**	----	1	µg/L	----	----	<1	<1	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	----	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	----	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	----	----	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	----	----	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	----	----	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	**20**	----	<20	**80**	<20
C10 - C14 Fraction	----	50	µg/L	----	----	**70**	**500**	<570
C15 - C28 Fraction	----	100	µg/L	----	----	**2660**	**1420**	**11100**
C29 - C36 Fraction	----	50	µg/L	----	----	**2570**	**480**	**25800**
^ **C10 - C36 Fraction (sum)**	----	50	µg/L	----	----	**5300**	**2400**	**36900**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	<20	**80**	<20
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	<20	**80**	<20
>C10 - C16 Fraction	----	100	µg/L	----	----	**160**	**790**	<570
>C16 - C34 Fraction	----	100	µg/L	----	----	**4760**	**1460**	**28700**
>C34 - C40 Fraction	----	100	µg/L	----	----	**820**	**370**	**34100**
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	----	----	**5740**	**2620**	**62800**

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Client sample ID	**TB04_200730**	**TS04_200730**	**T3_200730**	**T4_200730**	**HT_200730**
			Client sampling date / time	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00	30-Jul-2020 00:00
Compound	CAS Number	LOR	Unit	**ES2026409-007**	**ES2026409-008**	**ES2026409-010**	**ES2026409-011**	**ES2026409-012**
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	----	----	**160**	**790**	<570
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	**22**	<1	**1**	<1
Toluene	108-88-3	2	µg/L	<2	**18**	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	**17**	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	**17**	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	**18**	<2	<2	<2
^ **Total Xylenes**	----	2	µg/L	<2	**35**	<2	<2	<2
^ **Sum of BTEX**	----	1	µg/L	<1	**92**	<1	**1**	<1
Naphthalene	91-20-3	5	µg/L	<5	**16**	<5	<5	<5
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	1	%	----	----	**71.8**	**70.7**	**75.7**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	----	----	**22.4**	**19.4**	**21.1**
2-Chlorophenol-D4	93951-73-6	1.0	%	----	----	**47.2**	**41.5**	**42.0**
2.4.6-Tribromophenol	118-79-6	1.0	%	----	----	**75.8**	**52.1**	**36.0**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	----	----	**70.8**	**56.6**	**58.9**
Anthracene-d10	1719-06-8	1.0	%	----	----	**69.5**	**68.0**	**63.0**
4-Terphenyl-d14	1718-51-0	1.0	%	----	----	**78.3**	**72.2**	**60.7**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**125**	**119**	**123**	**137**	**109**
Toluene-D8	2037-26-5	2	%	**105**	**108**	**111**	**117**	**117**
4-Bromofluorobenzene	460-00-4	2	%	**101**	**100**	**103**	**106**	**105**

Surrogate Control Limits

Sub-Matrix: **PRODUCT**

Compound	*CAS Number*	*Recovery Limits (%)*	
		Low	***High***
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
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	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Sub-Matrix: **WATER**

Compound	*CAS Number*	*Recovery Limits (%)*	
		Low	***High***
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	45	134
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
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
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	10	117
Phenol-d6	13127-88-3	10	69
2-Chlorophenol-D4	93951-73-6	21	130
2.4.6-Tribromophenol	118-79-6	10	151
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	29	142
1.2-Dichlorobenzene-D4	2199-69-1	24	121

Sub-Matrix: **WATER**

Compound	*CAS Number*	***Recovery Limits (%)***	
		Low	***High***
EP075T: Base/Neutral Extractable Surrogates - Continued			
2-Fluorobiphenyl	321-60-8	27	135
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	21	123
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order : **ES2026409**

Client	: **EMM CONSULTING PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SUSAN DILLON	Telephone	: +61-2-8784 8555
Project	: Matraville	Date Samples Received	: 30-Jul-2020
Site	: ----	Issue Date	: 06-Aug-2020
Sampler	: Lachlan Lewis	No. of samples received	: 11
Order number	: J200432	No. of samples analysed	: 11

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

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 : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075A: Phenolic Compounds	QC-3173546-002	----	**2.4-Dimethylphenol**	105-67-9	25.8 %	50.0-94.0%	**Recovery less than lower control limit**
EP075D: Nitrosamines	QC-3173546-002	----	**N-Nitrosodiethylamine**	55-18-5	56.0 %	60.6-113%	**Recovery less than lower control limit**
EP075D: Nitrosamines	QC-3173546-002	----	**Methapyrilene**	91-80-5	21.8 %	23.3-125%	**Recovery less than lower control limit**
EP075E: Nitroaromatics and Ketones	QC-3173546-002	----	**Nitrobenzene**	98-95-3	64.1 %	68.3-112%	**Recovery less than lower control limit**
EP075F: Haloethers	QC-3173546-002	----	**Bis(2-chloroethyl) ether**	111-44-4	55.7 %	69.1-112%	**Recovery less than lower control limit**
EP075H: Anilines and Benzidines	QC-3173546-002	----	**Aniline**	62-53-3	45.7 %	50.0-104%	**Recovery less than lower control limit**

Regular Sample Surrogates

Sub-Matrix: **PRODUCT**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)S: Phenolic Compound Surrogates	ES2026409-009	T1_200730	**2-Chlorophenol-D4**	93951-73-6	64.4 %	66.0-122 %	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
PAH/Phenols (SIM)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	6	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	8	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	6	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	8	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: **SOIL**

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*
EG005(ED093)T: Total Metals by ICP-AES							
Amber Glass Bottle - Unpreserved (EG005T) T1_200730	**30-Jul-2020**	**04-Aug-2020**	26-Jan-2021	✓	**05-Aug-2020**	26-Jan-2021	✓
EG035T: Total Recoverable Mercury by FIMS							
Amber Glass Bottle - Unpreserved (EG035T) T1_200730	**30-Jul-2020**	**04-Aug-2020**	27-Aug-2020	✓	**05-Aug-2020**	27-Aug-2020	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066) T1_200730	**30-Jul-2020**	**05-Aug-2020**	13-Aug-2020	✓	**05-Aug-2020**	14-Sep-2020	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) T1_200730	**30-Jul-2020**	**05-Aug-2020**	13-Aug-2020	✓	**05-Aug-2020**	14-Sep-2020	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP080) T1_200730	**30-Jul-2020**	**04-Aug-2020**	13-Aug-2020	✓	**04-Aug-2020**	13-Aug-2020	✓
Amber Glass Bottle - Unpreserved (EP071) T1_200730	**30-Jul-2020**	**05-Aug-2020**	13-Aug-2020	✓	**05-Aug-2020**	14-Sep-2020	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP080) T1_200730	**30-Jul-2020**	**04-Aug-2020**	13-Aug-2020	✓	**04-Aug-2020**	13-Aug-2020	✓
Amber Glass Bottle - Unpreserved (EP071) T1_200730	**30-Jul-2020**	**05-Aug-2020**	13-Aug-2020	✓	**05-Aug-2020**	14-Sep-2020	✓
EP080: BTEXN							
Amber Glass Bottle - Unpreserved (EP080) T1_200730	**30-Jul-2020**	**04-Aug-2020**	13-Aug-2020	✓	**04-Aug-2020**	13-Aug-2020	✓

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*
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) MW01_200730, MW02_200730, MW03_200730, QC103_200730, QC304_200730	**30-Jul-2020**	**----**	----	----	**03-Aug-2020**	26-Jan-2021	✓

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*
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) MW01_200730, MW02_200730, MW03_200730, QC103_200730, QC304_200730	**30-Jul-2020**	**----**	----	----	**03-Aug-2020**	27-Aug-2020	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066) T3_200730, T4_200730, HT_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP074) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓
EP074D: Fumigants							
Amber VOC Vial - Sulfuric Acid (EP074) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓
EP074G: Trihalomethanes							
Amber VOC Vial - Sulfuric Acid (EP074) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW01_200730, MW02_200730, MW03_200730, T3_200730, T4_200730, HT_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓

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
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved (EP075) MW01_200730, MW02_200730, MW03_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓

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
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) MW01_200730, MW02_200730, MW03_200730, QC103_200730, QC304_200730, T3_200730, T4_200730, HT_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW01_200730, MW02_200730, MW03_200730, QC103_200730, QC304_200730, TB04_200730, T3_200730, T4_200730, HT_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) MW01_200730, MW02_200730, MW03_200730, QC103_200730, QC304_200730, T3_200730, T4_200730, HT_200730	**30-Jul-2020**	**03-Aug-2020**	06-Aug-2020	✓	**04-Aug-2020**	12-Sep-2020	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW01_200730, MW02_200730, MW03_200730, QC103_200730, QC304_200730, TB04_200730, T3_200730, T4_200730, HT_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) MW01_200730, MW02_200730, MW03_200730, QC103_200730, QC304_200730, TB04_200730, TS04_200730, T3_200730, T4_200730, HT_200730	**30-Jul-2020**	**03-Aug-2020**	13-Aug-2020	✓	**03-Aug-2020**	13-Aug-2020	✓

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)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	0	1	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	1	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	1	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	6	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	3	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: ✗ = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type *Analytical Methods*	*Method*	*Count* *QC*	 *Regular*	*Rate (%)* ***Actual***	 ***Expected***	*Evaluation*	*Quality Control Specification*
Laboratory Duplicates (DUP) - Continued							
Semivolatile Organic Compounds	EP075	0	3	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	8	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	6	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	3	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	3	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	8	**0.00**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	11	**9.09**	**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*
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 AS 3550, 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)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
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.
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 AS 3550, 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).
Polychlorinated Biphenyls (PCB)	EP066	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
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)

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
Volatile Organic Compounds	EP074	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. This method is compliant with NEPM Schedule B(3)
Semivolatile Organic Compounds	EP075	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
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)

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.
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 sparging.

ALS Environmental

QUALITY CONTROL REPORT

Work Order : **ES2026409**
Page : 1 of 17

Client : **EMM CONSULTING PTY LTD**
Contact : SUSAN DILLON
Address : Ground Floor Suite 1 20 Chandos Street
St Leonards NSW NSW 2065
Telephone : ----
Project : Matraville
Order number : J200432
C-O-C number : ----
Sampler : Lachlan Lewis
Site : ----
Quote number : EN/112/18 - Primary work only
No. of samples received : 11
No. of samples analysed : 11

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 : 30-Jul-2020
Date Analysis Commenced : 03-Aug-2020
Issue Date : 06-Aug-2020

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. 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*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3179369)									
ES2025604-135	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	26	22	14.9	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	14	13	7.77	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	16	15	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	6	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	12	11	12.2	No Limit
ES2025604-150	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	28	26	7.73	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	22	20	7.51	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	20	18	11.4	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	7	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	14	14	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3179370)									
ES2025604-135	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2025604-150	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3178392)									
ES2026409-009	T1_200730	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<4.5	<4.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3178390)									
ES2026409-009	T1_200730	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	412	359	13.7	0% - 50%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	103	90.4	12.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	154	139	10.3	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3178390) - continued									
ES2026409-009	T1_200730	EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	514	456	11.9	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	49.6	44.2	11.6	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<40.0	<40.0	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1230	1090	12.4	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<10.0	<10.0	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3178391)									
ES2026409-009	T1_200730	EP071: C15 - C28 Fraction	----	100	mg/kg	119000	111000	6.71	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	15300	15400	0.643	0% - 20%
		EP071: C10 - C14 Fraction	----	50	mg/kg	44900	42400	5.71	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3178433)									
ES2026802-024	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3178391)									
ES2026409-009	T1_200730	EP071: >C16 - C34 Fraction	----	100	mg/kg	97200	91800	5.81	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	9900	10400	5.42	0% - 20%
		EP071: >C10 - C16 Fraction	----	50	mg/kg	78600	74000	6.10	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3178433)									
ES2026802-024	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 3178433)									
ES2026802-024	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3175104)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3175104) - continued									
ES2026408-005	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.017	0.017	0.00	0% - 50%
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.047	0.050	5.66	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	27.2	27.6	1.53	0% - 20%
EW2003433-002	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.004	0.004	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.021	0.021	0.00	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.208	0.212	1.91	0% - 20%
EG035F: Dissolved Mercury by FIMS (QC Lot: 3175105)									
ES2026409-001	MW01_200730	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 3174070)									
ES2026468-002	Anonymous	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.00	No Limit
ES2026348-001	Anonymous	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.00	No Limit
EP074B: Oxygenated Compounds (QC Lot: 3174070)									
ES2026468-002	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074B: Oxygenated Compounds (QC Lot: 3174070) - continued									
ES2026348-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.00	No Limit
EP074C: Sulfonated Compounds (QC Lot: 3174070)									
ES2026468-002	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.00	No Limit
ES2026348-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.00	No Limit
EP074D: Fumigants (QC Lot: 3174070)									
ES2026468-002	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.00	No Limit
ES2026348-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.00	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3174070)									
ES2026468-002	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.00	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3174070) - continued									
ES2026468-002	Anonymous	EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.00	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.00	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.00	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.00	No Limit
ES2026348-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.00	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.00	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.00	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.00	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 3174070)									
ES2026468-002	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	110	106	3.64	0% - 20%
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.00	No Limit
ES2026348-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074F: Halogenated Aromatic Compounds (QC Lot: 3174070) - continued									
ES2026348-001	Anonymous	EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.00	No Limit
EP074G: Trihalomethanes (QC Lot: 3174070)									
ES2026468-002	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.00	No Limit
ES2026348-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	44	43	0.00	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	40	38	4.21	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	19	19	0.00	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	6	6	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3174071)									
ES2026468-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	120	120	0.00	No Limit
ES2026348-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	40	40	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3174071)									
ES2026468-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	130	120	0.00	No Limit
ES2026348-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	40	40	0.00	No Limit
EP080: BTEXN (QC Lot: 3174071)									
ES2026468-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	9	8	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
ES2026348-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (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 Spike (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 (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3179369)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	98 mg/kg	113	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	90.5	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	15.4 mg/kg	125	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	48 mg/kg	106	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	50 mg/kg	115	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	12.4 mg/kg	109	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	115 mg/kg	98.9	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3179370)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.0847 mg/kg	91.8	70.0	105
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3178392)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	99.1	62.0	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3178390)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	88.2	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	89.6	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	90.6	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	89.4	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	93.0	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	93.9	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	95.2	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	93.8	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	83.2	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	87.5	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	77.3	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	94.8	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	88.8	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	83.6	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	81.6	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	79.9	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3178391)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	99.2	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	104	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	102	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3178433)								

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3178433) - continued								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	89.3	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3178391)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	91.1	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	91.7	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	86.0	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3178433)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	88.9	68.4	128
EP080: BTEXN (QCLot: 3178433)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	91.8	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	90.6	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	88.0	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	88.5	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	88.3	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	83.3	63.0	119

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EG020F: Dissolved Metals by ICP-MS (QCLot: 3175104)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	89.2	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	87.4	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	86.9	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	86.7	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	86.1	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	82.8	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	87.7	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 3175105)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	100	83.0	105
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3173548)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	90.0	68.9	113
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 3174070)								
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	102	73.0	119
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	99.0	76.0	118
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	98.7	69.0	119
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	100	74.0	116
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	97.5	73.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	98.2	74.0	116

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 3174070) - continued								
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	98.0	72.0	116
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	97.6	71.0	119
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	98.8	65.0	123
EP074B: Oxygenated Compounds (QCLot: 3174070)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	94.3	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	98.0	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	97.0	66.0	132
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	102	65.0	137
EP074C: Sulfonated Compounds (QCLot: 3174070)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	97.4	72.8	127
EP074D: Fumigants (QCLot: 3174070)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	95.6	68.0	122
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	98.4	76.0	118
EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	10 µg/L	96.8	62.0	120
EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	10 µg/L	98.6	60.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	99.0	69.0	117
EP074E: Halogenated Aliphatic Compounds (QCLot: 3174070)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	100	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	95.1	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	95.0	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	97.4	56.0	140
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	99.5	61.0	139
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	95.6	69.0	131
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	100	70.0	124
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	98.7	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	96.8	74.0	118
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	94.8	74.0	120
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	95.7	77.0	119
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	96.4	67.0	119
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	96.1	73.0	119
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	94.8	62.0	120
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	98.7	73.0	123
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	97.5	76.0	118
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	97.4	73.0	119
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	99.4	72.0	126
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	98.6	71.0	129
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	98.7	72.0	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	99.9	66.0	114

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EP074E: Halogenated Aliphatic Compounds (QCLot: 3174070) - continued								
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	99.1	60.0	120
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	105	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	101	70.0	124
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	101	74.0	126
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	95.6	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	95.5	66.4	136
EP074F: Halogenated Aromatic Compounds (QCLot: 3174070)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	100	79.0	117
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	99.9	76.0	116
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	98.4	73.0	119
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	102	73.0	119
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	104	67.0	123
EP074G: Trihalomethanes (QCLot: 3174070)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	98.4	72.0	120
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	99.1	64.0	118
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	98.2	65.0	115
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	99.2	73.5	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3173545)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	67.0	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	71.3	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	72.5	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	75.9	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	72.5	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	69.8	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	73.2	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	73.9	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	69.8	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	77.5	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	69.1	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	76.2	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	71.9	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	67.7	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	69.0	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	66.9	59.1	118
EP075A: Phenolic Compounds (QCLot: 3173546)								
EP075: Phenol	108-95-2	2	µg/L	<2	10 µg/L	27.8	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	10 µg/L	52.0	52.0	88.0

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EP075A: Phenolic Compounds (QCLot: 3173546) - continued								
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	10 µg/L	67.7	50.0	94.0
EP075: 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2	10 µg/L	51.0	45.0	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	10 µg/L	69.9	48.0	98.0
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	10 µg/L	# 25.8	50.0	94.0
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	10 µg/L	73.2	61.9	109
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	10 µg/L	61.8	61.5	108
EP075: 4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	10 µg/L	73.0	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	10 µg/L	71.6	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	10 µg/L	84.8	58.0	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	20 µg/L	74.7	12.8	95.0
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 3173546)								
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	10 µg/L	62.3	59.0	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	10 µg/L	69.3	60.6	106
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	10 µg/L	98.8	59.7	110
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	10 µg/L	90.5	50.0	108
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	10 µg/L	93.4	60.1	110
EP075C: Phthalate Esters (QCLot: 3173546)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	10 µg/L	88.6	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	10 µg/L	90.4	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	10 µg/L	95.7	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	10 µg/L	97.9	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	µg/L	----	10 µg/L	115	60.0	132
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	10 µg/L	97.3	62.1	115
EP075D: Nitrosamines (QCLot: 3173546)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	10 µg/L	46.3	46.0	110
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	10 µg/L	# 56.0	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	10 µg/L	53.7	45.0	91.0
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	10 µg/L	51.9	42.0	100
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	10 µg/L	71.1	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	10 µg/L	67.9	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	10 µg/L	67.1	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	20 µg/L	85.5	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	10 µg/L	# 21.8	23.3	125
EP075E: Nitroaromatics and Ketones (QCLot: 3173546)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	10 µg/L	45.8	41.0	109
EP075: Acetophenone	98-86-2	2	µg/L	<2	10 µg/L	71.8	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	10 µg/L	# 64.1	68.3	112

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EP075E: Nitroaromatics and Ketones (QCLot: 3173546) - continued								
EP075: Isophorone	78-59-1	2	µg/L	<2	10 µg/L	77.6	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	10 µg/L	87.0	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	10 µg/L	89.3	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	10 µg/L	69.3	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	10 µg/L	78.8	40.0	96.0
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	10 µg/L	89.6	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	10 µg/L	79.8	66.0	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	10 µg/L	92.8	46.0	108
EP075: Phenacetin	62-44-2	2	µg/L	<2	10 µg/L	81.4	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	10 µg/L	68.2	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	10 µg/L	81.8	59.0	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	10 µg/L	101	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	10 µg/L	96.5	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	10 µg/L	98.0	57.7	110
EP075F: Haloethers (QCLot: 3173546)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	10 µg/L	# 55.7	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	10 µg/L	74.9	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	10 µg/L	78.2	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	10 µg/L	82.3	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 3173546)								
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	10 µg/L	51.9	41.0	97.0
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	10 µg/L	48.3	40.0	96.0
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	10 µg/L	53.7	41.0	95.0
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	10 µg/L	56.6	46.0	88.0
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	10 µg/L	65.5	46.0	96.0
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	10 µg/L	52.9	34.0	96.0
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	10 µg/L	54.5	37.4	100
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	10 µg/L	24.9	23.5	107
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	10 µg/L	71.6	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	10 µg/L	80.9	65.7	110
EP075H: Anilines and Benzidines (QCLot: 3173546)								
EP075: Aniline	62-53-3	2	µg/L	<2	10 µg/L	# 45.7	50.0	104
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	10 µg/L	59.1	42.0	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	10 µg/L	86.0	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	10 µg/L	87.5	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	10 µg/L	74.4	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	10 µg/L	74.8	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	10 µg/L	93.0	64.3	107

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075H: Anilines and Benzidines (QCLot: 3173546) - continued								
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	10 µg/L	101	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 3173546)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	10 µg/L	80.9	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	10 µg/L	81.8	53.0	107
EP075: gamma-BHC	58-89-9	2	µg/L	<2	10 µg/L	83.3	51.0	111
EP075: delta-BHC	319-86-8	2	µg/L	<2	10 µg/L	90.1	57.0	111
EP075: Heptachlor	76-44-8	2	µg/L	<2	10 µg/L	91.0	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	10 µg/L	92.9	56.0	112
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	10 µg/L	92.9	50.0	118
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	10 µg/L	97.0	59.0	111
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	10 µg/L	96.0	53.0	115
EP075: Dieldrin	60-57-1	2	µg/L	<2	10 µg/L	91.5	59.0	115
EP075: Endrin	72-20-8	2	µg/L	<2	10 µg/L	97.5	58.0	114
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	10 µg/L	94.5	54.0	116
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	10 µg/L	95.9	55.0	115
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	10 µg/L	102	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	10 µg/L	92.9	56.0	114
EP075: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L	<4	----	----	----	----
EP075: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	4	µg/L	<4	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 3173546)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	10 µg/L	87.0	51.0	113
EP075: Dimethoate	60-51-5	2	µg/L	<2	10 µg/L	81.8	43.0	109
EP075: Diazinon	333-41-5	2	µg/L	<2	10 µg/L	103	49.0	113
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	10 µg/L	97.2	54.1	116
EP075: Malathion	121-75-5	2	µg/L	<2	10 µg/L	107	54.0	124
EP075: Fenthion	55-38-9	2	µg/L	<2	10 µg/L	100	57.0	115
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	10 µg/L	95.6	53.0	109
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	10 µg/L	95.1	55.0	111
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	10 µg/L	98.6	50.0	116
EP075: Prothiofos	34643-46-4	2	µg/L	<2	10 µg/L	99.8	54.0	118
EP075: Ethion	563-12-2	2	µg/L	<2	10 µg/L	101	51.0	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3173547)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	74.1	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	84.3	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	78.5	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3174071)								

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	*CAS Number*	*LOR*	*Unit*	*Result*	*Concentration*	*LCS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3174071) - continued								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	93.1	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3173547)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	91.7	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	78.7	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	98.7	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3174071)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	94.3	75.0	127
EP080: BTEXN (QCLot: 3174071)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	112	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	97.5	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	95.4	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	93.2	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	97.2	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	82.4	70.0	120

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(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3179369)							
ES2025604-135	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	81.0	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	83.0	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	78.0	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	84.1	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	82.5	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	84.1	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	81.7	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3179370)							
ES2025604-135	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	85.8	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3178433)							
ES2026802-024	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	115	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3178433)							
ES2026802-024	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	108	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 3178433)							
ES2026802-024	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	108	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	109	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	108	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	108	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	106	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	99.2	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG020F: Dissolved Metals by ICP-MS (QCLot: 3175104)							
ES2026409-001	MW01_200730	EG020A-F: Arsenic	7440-38-2	1 mg/L	98.9	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	101	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	102	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	106	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	111	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	97.2	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	101	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 3175105)							
ES2026408-005	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	95.3	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 3174070)							
ES2026348-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	108	70.0	130
		EP074: Trichloroethene	79-01-6	25 µg/L	119	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 3174070)							
ES2026348-001	Anonymous	EP074: Chlorobenzene	108-90-7	25 µg/L	106	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3174071)							
ES2026348-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.6	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3174071)							
ES2026348-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	98.9	70.0	130
EP080: BTEXN (QCLot: 3174071)							
ES2026348-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	117	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	96.7	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	95.7	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	84.6	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	91.9	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 3174071) - continued							
ES2026348-001	Anonymous	EP080: Naphthalene	91-20-3	25 µg/L	91.4	70.0	130

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: EMM Consulting Pty Ltd
OFFICE: 20 Chandos Street, St Leonards NSW 2065
PROJECT: Matraville
ORDER NUMBER: J200432
PROJECT MANAGER: Susan Dillon / Lachlan Lewis
CONTACT PH: 0401638848
SAMPLER: Lachlan Lewis
SAMPLER MOBILE: 0401 638 848
COC Emailed to ALS? (YES / NO)
EDD FORMAT (or default): Esdat
Email Reports to (will default to PM if no other addresses are listed): sdillon@emmconsulting.com.au, llewis@emmconsulting.com.au
Email Invoice to (will default to PM if no other addresses are listed): as above

TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)
☑ Standard or urgent TAT (List due date):
☐ Non Standard or urgent TAT (List due date):
ALS QUOTE NO.: EN-112-19
COUNTRY OF ORIGIN: Australia

COC SEQUENCE NUMBER (Circle)
COC: [✓ 1] 2 3 4 5 6 7
OF: [✓ 1] 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No [✓ N/A]
Free ice / frozen ice bricks present upon receipt? [✓ Yes] No N/A
Random Sample Temperature on Receipt: 2.3 °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Lachlan Lewis	Sep M.		SO 8
DATE/TIME: 30/7/20 1645	DATE/TIME: 30/07/2020 1645	DATE/TIME:	DATE/TIME: 30/7/20 1850

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN, 8 metals, PAHs,	PCBs	VOC/SVOCs	~~ASBESTOS Y/N~~	TRH/BTEXN (w-18/s-18)	TRH, BTEXN, 8 metals (s-5/w-5)	TRH C6-C9		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	MW01_200730	30/7/20	W			X		X						
2	MW02_200730	↓	↓			X		X						
3	MW03_200730	↓	↓			X		X						
4	QC103_200730	↓	↓								X			
5 * *	QC203_200730	↓	↓								X			*Send to Envirolab*
6	QC304_200730	↓	↓								X			
7	TB04_200730	↓	↓									X		
8	TS04_200730	↓	↓							X				
9	T1_200730	↓	↓			X	X							
10	T3_200730	↓	↓			↓	↓							
11	T4_200730	↓	↓			↓	↓							
12	HT_200730	↓	↓			↓	↓					Envirolab → QC203		
	Received by ALS SYD C.Mullen													
	3/8/20 1410.			TOTAL										

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 248214
Date Received: 3/8/20
Time Received: 1430
Received By: OM
Temp: [✓ Cool]/Ambient
Cooling: [✓ Ice]/Icepack
Security: [✓ Intact]/Broken/None

Relinquished By

Environmental Division
Sydney
Work Order Reference
ES2026409

Telephone : + 61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

WO No:

ENFM (2004/12)

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

SAMPLE RECEIPT ADVICE

Client Details

Client	EMM Consulting Pty Ltd
Attention	Susan Dillon, Lachlan Lewis

Sample Login Details

Your reference	J200432, Matraville
Envirolab Reference	248214
Date Sample Received	03/08/2020
Date Instructions Received	03/08/2020
Date Results Expected to be Reported	10/08/2020

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	11.7
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Sample Labelled as "QC200", confirmed COC ID correct.

Please direct any queries to:

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

Analysis Underway, details on the following page:

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	Acid Extractable metalsin soil
QC203_200730	✓	✓	✓

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

Additional Info

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

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

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

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

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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 248214

Client Details

Client	EMM Consulting Pty Ltd
Attention	Susan Dillon, Lachlan Lewis
Address	188 Normanby Rd, SOUTHBANK, VIC, 3006

Sample Details

Your Reference	**J200432, Matraville**
Number of Samples	1 Water
Date samples received	03/08/2020
Date completed instructions received	03/08/2020

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	10/08/2020
Date of Issue	10/08/2020

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

Results Approved By
Dragana Tomas, Senior Chemist
Jaimie Loa-Kum-Cheung, Metals Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water		
Our Reference	UNITS	248214-1
Your Reference		QC203_200730
Date Sampled		30/07/2020
Type of sample		Water
Date extracted	-	07/08/2020
Date analysed	-	07/08/2020
TRH C_6 - C_9	µg/L	11
TRH C_6 - C_{10}	µg/L	12
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	3
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	117
Surrogate toluene-d8	%	97
Surrogate 4-BFB	%	88

svTRH (C10-C40) in Water		
Our Reference		248214-1
Your Reference	UNITS	QC203_200730
Date Sampled		30/07/2020
Type of sample		Water
Date extracted	-	05/08/2020
Date analysed	-	05/08/2020
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Surrogate o-Terphenyl	%	97

HM in water - dissolved		
Our Reference		248214-1
Your Reference	UNITS	QC203_200730
Date Sampled		30/07/2020
Type of sample		Water
Date prepared	-	05/08/2020
Date analysed	-	05/08/2020
Arsenic-Dissolved	μg/L	6
Cadmium-Dissolved	μg/L	<0.1
Chromium-Dissolved	μg/L	2
Copper-Dissolved	μg/L	<1
Lead-Dissolved	μg/L	<1
Mercury-Dissolved	μg/L	0.1
Nickel-Dissolved	μg/L	1
Zinc-Dissolved	μg/L	8

Method ID	Methodology Summary
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
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-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.

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	-			07/08/2020	[NT]	[NT]	[NT]	[NT]	07/08/2020	[NT]
Date analysed	-			07/08/2020	[NT]	[NT]	[NT]	[NT]	07/08/2020	[NT]
TRH C_6 - C_9	μg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	105	[NT]
TRH C_6 - C_{10}	μg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	105	[NT]
Benzene	μg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Toluene	μg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Ethylbenzene	μg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
m+p-xylene	μg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	110	[NT]
o-xylene	μg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Naphthalene	μg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	114	[NT]	[NT]	[NT]	[NT]	104	[NT]
Surrogate toluene-d8	%		Org-023	94	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate 4-BFB	%		Org-023	87	[NT]	[NT]	[NT]	[NT]	116	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			05/08/2020	[NT]	[NT]	[NT]	[NT]	05/08/2020	[NT]
Date analysed	-			05/08/2020	[NT]	[NT]	[NT]	[NT]	05/08/2020	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	84	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	84	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
Surrogate o-Terphenyl	%		Org-020	84	[NT]	[NT]	[NT]	[NT]	111	[NT]

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			05/08/2020	[NT]	[NT]	[NT]	[NT]	05/08/2020	[NT]
Date analysed	-			05/08/2020	[NT]	[NT]	[NT]	[NT]	05/08/2020	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	104	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	100	[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.

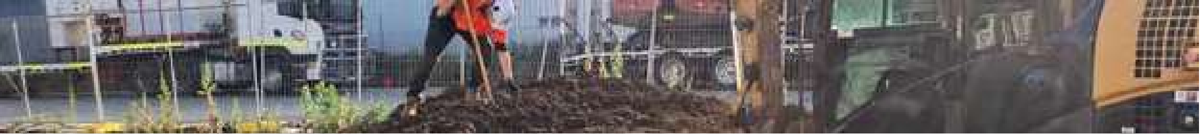
When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

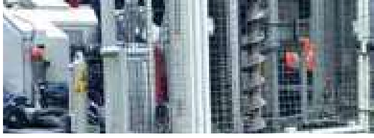
Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

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.





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