Preliminary & Detailed Site Investigation

Broken Head Road, Suffolk Park NSW

NEW24P-0141-AAv1 23 July 2024



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**GEOTECHNICAL I LABORATORY I EARTHWORKS I QUARRY I CONSTRUCTION MATERIAL TESTING** 

# Document control record

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This report has been reviewed and approved by Emma Coleman, who is a Certified Environmental Practitioner (CEnvP) (registration no. 1274) – Site Contamination Specialist (registration no. SC41121), under the Environment Institute of Australia and New Zealand.



# **Executive Summary**

Qualtest Laboratory NSW Pty Ltd (Qualtest) has carried out a Preliminary and Detailed Site Investigation (PDSI) on behalf of Darley Pty Ltd atf GWR Trust & Crisjoy Pty Ltd atf The Lighthouse Unit Trust for the former Broken Head Quarry located at Broken Head Road, Suffolk Park NSW (the Site).

The site was previously the western portion of the former Broken Head Quarry, comprising Lot 1 DP123302 and Lot 2 DP700806. The site was previously used for quarrying and currently has three zonings, RU1 Primary Production, C2 Environmental Conservation, and DM Deferred Matter.

It is proposed to re-zone the RU1 zoned land to R2 Low Density Residential. Figure 3 shows the current and proposed land zonings.

It is understood that a Preliminary and Detailed Site Investigation is required to support the application for the proposed re-zoning.

Qualtest were provided the following reports for the site, and relevant information from these reports has been incorporated into this report:

- R. W. Corkey & Co. Pty Ltd (RWCC) (1997) Environmental Impact Statement for the Extension of an Existing Sand Quarry at Suffolk Park, report no. 314/04 dated October 1997 (EIS, RWCC, 1997);
- Extract of: EMM Consulting Pty Ltd (EMM) (2014) Proposed Community Title Subdivision, Broken Head Quarry, Statement of Environmental Effects, ref: J11032RP1, dated June 2014 (EMM, SEE, 2014).
- EMM (2015) Supplementary Contamination Assessment, ref: J11032RP1, dated 4 June 2015 (EMM, SCA, 2015)
- SLR Consulting Australia Pty Ltd (SLR) (2023) Planning Proposal, Amend Byron Bay Local Environmental Plan 2014, Part of the Former Broken Head Quarry, Suffolk Park, ref: 631.30868.00000-R01.v1.0, dated March 2023 (PP, SLR, 2023).

The objectives of the PDSI were to provide:

- Assess former and current site uses or activities, that have the potential to cause contamination;
- Provide an assessment of the location and extent of potential soil contamination on the site (if any);
- Provide recommendations on the need for further assessment, management and/or remediation; and,
- Assessment of whether the site is suitable, or can be made suitable, for the proposed rezoning.

In order to achieve the above objective, Qualtest carried out the following scope:

- Desktop and site history assessment;
- Site walkover;
- Collection of soil samples from 31 test pits;

- Laboratory analysis of soil samples for the identified Contaminants of Potential Concern (COPC); and
- Data assessment and preparation of a Preliminary and Detailed Site Investigation Report.

The site history assessment indicated the site was used for quarrying since at least the 1920s, until circa 2018 when operations ceased. The quarry was then significantly rehabilitated between 2018 and 2019 via land-forming, and planting of vegetation. The main quarry area is now vegetated. The southern portion of the site contains remnant infrastructure, including: workshop and office buildings; concrete bund of former diesel AST now containing oil drums; wash-bay; concrete structure which previously supported wet-processing plant and concrete water tanks; and former weighbridge area and office.

Eight Areas of Environmental Concern (AECs) were identified based on the site history and site observations. The AECs related to:

- 1. Former diesel AST and bunded area;
- 2. Wash-bay;
- 3. Workshop and machinery sheds;
- 4. Current and former wet-processing plants;
- 5. Former weighbridge and office;
- 6. Former "dumping yard" identified by EMM (no waste present at time of Qualtest site visit);
- 7. Quarrying activities; and,
- 8. Filling on the site.

Sampling and analysis targeted the AECs listed above. The assessment identified fill material in most sample locations. The fill material generally appeared to be re-worked natural soils on the site, or imported quarry products (i.e. road base). In one location, TPQ05, a fragment of Asbestos Containing Material (ACM) was identified on the surface of the fill.

The laboratory results showed concentrations of contaminants below the adopted criteria (residential land use with accessible soil), with the exception of:

- TRH contamination exceeding the human and ecological criteria in several soil samples down-gradient from the AST bund and wash-bay; and,
- Elevated lead concentrations on the human health criteria, and ACM above the human health criteria in fill in one quarry fill location, TPQ05. Further assessment around TPQ05 was limited during the field investigations due to the presence of vegetation which was not permitted to be destroyed due to rehabilitation requirements of the quarry.

The Conceptual Site Model (CSM) indicated that there was a complete exposure pathway for human and ecological receptors due to petroleum hydrocarbon contamination in surface soils down-gradient of the AST bund and wash-bay, and ACM and lead in surface soils in an area of fill in the quarry (location TPQ05).

It is considered that the site can be made suitable for residential land use, if the following recommendations are implemented:

- Preparation and implementation of a Remediation Action Plan. The RAP would include:
  - Outline of the additional assessment required in the area of fill around TPQ05;

- Outline of additional assessment of the workshop, AST bund and wash-bay footprints after demolition of the buildings/structures; and,
- The remedial strategy for the identified contamination.
- Preparation of an Unexpected Finds Procedure (UFP) to be implemented during remediation, vegetation clearing, and earthworks for the subdivision.

Based on the assessment completed and the contamination identified, it is considered that preparation of the RAP and UFP could occur as part of future development application(s). If this was adopted then the RAP and UFP would not be required for the rezoning application.

This report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPC 2013, Canberra (referred to as ASC NEPM 2013). This report comprises a Stage 1 Preliminary Site Investigation and Stage 2 Detailed Site Investigation as described in SEPP (Resilience and Hazards) 2021, Chapter 4.

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# 1.0 Introduction

Qualtest Laboratory NSW Pty Ltd (Qualtest) has carried out a Preliminary and Detailed Site Investigation (PDSI) on behalf of Darley Pty Ltd atf GWR Trust & Crisjoy Pty Ltd atf The Lighthouse Unit Trust for the former Broken Head Quarry located at Broken Head Road, Suffolk Park NSW (the Site). The site location is shown on Figure 1, Appendix A.

The site was previously the western portion of the former Broken Head Quarry, comprising Lot 1 DP123302 and Lot 2 DP700806, as shown on Figure 2, Appendix A. The site was previously used for quarrying and currently has three zonings, RU1 Primary Production, C2 Environmental Conservation, and DM Deferred Matter.

It is proposed to re-zone the RU1 zoned land to R2 Low Density Residential. Figure 3 shows the current and proposed land zonings.

It is understood that a Preliminary and Detailed Site Investigation is required to support the application for the proposed re-zoning.

Qualtest were provided the following reports for the site, and relevant information from these reports has been incorporated into this report:

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# 1.1 Objectives

The objectives of the PDSI were to provide:

- Assess former and current site uses or activities, that have the potential to cause contamination;
- Provide an assessment of the location and extent of potential soil contamination on the site (if any);
- Provide recommendations on the need for further assessment, management and/or remediation; and,

• Assessment of whether the site is suitable, or can be made suitable, for the proposed rezoning.

# 1.2 Scope of Works

In order to achieve the above objective, Qualtest carried out the following scope:

- Desktop and site history assessment;
- Site walkover;

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• Collection of soil samples from 31 test pits;

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- Laboratory analysis of soil samples for the identified Contaminants of Potential Concern (COPC); and
- Data assessment and preparation of a Preliminary and Detailed Site Investigation Report.

# 2.0 Site Description

### 2.1 Site Identification

General site information is provided below in Table 2.1. The site location is shown in Figure 1, Appendix A.

Site Address:	Broken Head Road, Suffolk Park NSW
Approximate site area and dimensions:	Approx. 32.78ha Approx. 540m wide by 660m long at its widest and longest points.
Title Identification Details:	Lot 1 DP123302 and Lot 2 DP700806, within the Byron Shire Council local government area.
Current Zoning	RU1 Primary Production – former sand quarry area C2 Environmental Conservation – around the sides of the
	DM Deferred Matter – a small area adjacent to Broken Head Road
Current Ownership:	Darley Pty Ltd Crisjoy Pty Limited
Current Occupier:	Former sand quarry undergoing rehabilitation Vacant land (bush land)
Previous and Current Landuse:	Sand quarry (commercial/industrial) Vacant land (bush land)

Table 2.1: Summary of Site Details

Proposed Landuse:	Residential Vacant land (bush land)			
Adjoining Site Uses:	North, West and South – rural-residential properties East – Broken Head Road followed by eastern portion of former Broken Head Quarry (non-operational)			
Site Coordinates for centre of site:	28°41'44.24 S 153°35'55.20 E			

# 2.2 Topography and Drainage

Reference to the NSW Land and Property Information Spatial Information Exchange website (<u>https://six.nsw.gov.au/wps/portal/</u>) indicated the elevation of the site ranged from 20m to 50m AHD.

During the site walkover, the site topography was observed to be highly modified from previous quarrying and rehabilitation activities. Generally, slope direction was observed to slope from the north-western and western portions (~40 to 60m AHD), and south-eastern and eastern portions (~40 to 50m AHD) down to the central and south-western portions of the site (~30m AHD). The north-eastern portion of the site (~40m AHD) was observed to slope further to the north-western of the site. A void/dam was present in the central portion of the site where quarrying previously occurred.

Rain falling on the site would be expected to infiltrate into site soils. Based on the EIS (RWCC, 1997) and topography, excess surface water would be anticipated to drain to:

- Northern portion of the site Tallow Creek which has its headwater on the site and drains to the north-northwest. Tallow Creek eventually discharges to Tallow Beach about 3.6km north-north-west of the site; and,
- Southern portion of the site to an unnamed creek that has its headwater on the site, which flows to Newrybar Drain located about 3km south-south-west of the site. Newrybar Drain flows to North Creek.

# 2.3 Regional Geology

Reference to the 1:100,000 Tweed Heads Coastal Quaternary Geological Map (https://minview.geoscience.nsw.gov.au/) indicates the site to be underlain by Pleistocene bed-rock mantling dune: marine sand, indurated sand. Reference to the 1:250,000 Tweed Heads Geological Map indicates the site is underlain by the Bundamba Group which comprises sandstone, siltstone, claystone and conglomerate.

The EIS (RWCC, 1997) indicates that the "rocks on the Project Site comprise weathered quartzose siltstones, sandstones, and conglomerates, with the conglomerate components of the unit referred to locally as "hailstones".

### 2.4 Hydrogeology

Groundwater beneath the site is anticipated to be present in a semi-confined aquifer in weathered rock. Groundwater is expected to be greater than 5m below ground surface (bgs). Groundwater is anticipated to follow the site topography, with the southern portion

discharging to Newrybar Swamp about 3km south of the site, and the northern portion discharging to Tallow Beach about 3.6km north-east of the site.

It should be noted that groundwater conditions can vary due to rainfall and other influences including regional groundwater flow, temperature, permeability, recharge areas, surface condition, and subsoil drainage.

A search of the NSW Department of Primary Industries (Office of Water) registered groundwater bores located within a 500m radius of the site was undertaken. The search revealed that there were two bores within this radius. A summary of the bores is provided in Table 2.4 below. A copy of the search is provided in Appendix B.

Bore ID	Installation Date	Purpose	Approx. Distance, Direction and Gradient from Site	Final Depth (m)	Water Bearing Zones (m)	Standing Water Level (m)
GW3015125	2003	Test Bore	On site	25	NR	NR
GW071160	1993	Domestic, Stock	70m west of south-west boundary of site, cross- gradient	115	58-60 102-107	NR

Table 2.4 – Groundwater Bore Search

Notes: NR = not recorded.

### 2.5 Acid Sulfate Soils

Reference to the Acid Sulfate Soil online database from State of NSW and Department of Planning, Industry and Environment (<u>https://www.environment.nsw.gov.au/eSpade2Webapp</u>) the site is located in an area of 'no known occurrence' of acid sulfate soils.

### 3.0 Site History Review

A site history review was undertaken as part of the assessment, and included:

- Review of the EIS (RWCC, 1997), SEE (EMM, 2014) and PP (SLR, 2014) for the site;
- A review of historical ownership of Lot 1 DP123302 and Lot 2 DP700806;
- A review of aerial photography from the past 77 years;
- A review of Section 10.7 Certificate for Lot 1 DP123302 and Lot 2 DP700806;
- Interview with people familiar with the site, if available;
- Search of the NSW EPA's list of contaminated sites relevant to the site and nearby properties; and
- A site walkover to help identify current and previous activities carried out on the site, identify surrounding land uses, and assess Areas of Environmental Concern (AECs) and Chemicals of Potential Concern (COPCs).

The information provided from the above reviews is summarised in the sections below.

### 3.1 **Previous Reports**

Qualtest were provided the following reports for the site:

- R. W. Corkey & Co. Pty Ltd (RWCC) (1997) Environmental Impact Statement for the Extension of an Existing Sand Quarry at Suffolk Park, report no. 314/04 dated October 1997 (EIS, RWCC, 1997);
- Extract ( of: EMM Consulting Pty Ltd (EMM) (2014) Proposed Community Title Subdivision, Broken Head Quarry, Statement of Environmental Effects, ref: J11032RP1, dated June 2014 (EMM, SEE, 2014).
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- Martens & Associates Pty Ltd (Martens) (2024) Geotechnical Assessment: Former Broken Head Quarry, ref: Draft Report, P2410392JR01V01, dated 19 July 2024.

A summary of the relevant information from the reports is provided below.

#### 3.1.1 RWCC (1997) Environmental Impact Statement (EIS)

RWCC prepared an EIS for extension of Broken Head Quarry in 1997. The extension was proposed for both the western (current site) and eastern (off site) sides of the quarry.

The EIS indicated the following:

- Sand and gravel extraction had occurred since at least 1920s, and possibly earlier. The quarry was called Tom Sleeps Quarry, and supplied gravel for concrete aggregate. It is not known whether the quarry operated on both the western and eastern sides at that time.
- By 1947 quarrying was on both sides of Broken Head Road. The western side (the site) was operated by Mr G.A. Duncombe.
- In 1967 Robert and Marie Batson and Bert and Christine Batson formed the company R. B. Batson Pty Ltd, and in October 1968 purchased the land containing the western quarry. Subsequently in July 1984, R. B. Batson Pty Ltd, together with brothers Keith and Phillip Batson, formed Batson Sand & Gravel Pty Ltd.
- Since 1965 production from the quarries (western and eastern side) ranged from 20,000m3 to 122,000m3.
- In 1997 approximately 1ha was actively used for quarrying and processing on western side of Broken Head Road. At the time, the majority of Broken Head Quarry activities were on the eastern quarry.
- The quarry produced fine to coarse grained sand from the "friable" sandstone. Below is an extract of the material produced at the quarry from the EIS (RWCC, 1997).

#### TABLE 1.1

Product Type	Particle Size (mm)	Product Type (% of Sales)	Geographic Market (% of Sales)		
	· /		BS	OS	QLD
Ready Mixed Concrete and Concrete Products	< 5	56	55	45	-
Asphalt Sand	< 4	16	-	100	-
Brickies Sand	< 3	11	58	42	-
Road Base and Filling #	<20	6	100	-	-
Pebbles	<20	9	5	5	90
Topsoil	<20	1	100	-	-
TOTA	TOTAL			32	4
BS = Byron Shire OS = Other Shires (NSW) QLD = Queensland # A combination of brown hailstone and dried fines from the wet processing operation					

#### Main Products and Markets for Products Produced by Batson Sand & Gravel Pty. Limited at Suffolk Park

The EIS stated: "The "topsoil" referred to in Table 1.1 is a blend of suitable rough fill from civil works external to the quarry (e.g. from sub-divisions, house sites, etc), sand and sawdust. These raw materials are brought to the Project site, blended using the Company's dry processing plant and despatched from the site to the Company's Byron Bay depot for sale as product."

Below is an extract of the operations and facilities at the quarry from the EIS (RWCC, 1997).

Location of Existing Operations and Facilities						
Operation and/or Facility (see Figure 1.4)	East of Broken Head Road	West of Broken Head Road	Comments			
Existing Quarry	*	*	Minor activity only west of Broken Head Road			
Dry Sand Processing Plant	*		Mobile			
Wet Sand Processing Plant		*				
Raw Materials and Product Storage	*	*	Adjacent to Processing Plants and active quarry areas			
Fines Collection System		*				
Fines Drying	*	*				
Lunch Room	*	*	Mobile			

TABLE 1.2 Location of Existing Operations and Facilities

The quarry materials were selectively obtained by bulldozer or excavator, loaded into trucks, and taken to the wet processing plant. At the processing plant they were either dumped into feed hoppers, or stockpiled for subsequent processing.

The wet processing plant was located on the "hilltop immediately west of Broken Head Road". In 1994 a new wet processing plant was located in southern portion of site. The location of the former and new wet processing plants is shown on Figure 4, Appendix A. The wet processing plant prior to 1994, was similar but less efficient than the "new" 1994 one.

Wet processing included:

- Raw material was dumped into feed hopper. The hopper was fitted with a "grizzly" to exclude oversize material and breakdown clumps of raw material;
- From the hopper, raw material was discharged to feed conveyors, which transferred material to vibrating screens;
- Oversize from the screens was scalped off prior to processing;
- Undersize from the screen was directed by chutes to a trommel for washing and grading. The sand was then transferred to a surge bin and sand washer;
- The washed sand slurry was discharged from base of the bin/washer to Cyclone C1 for dewatering. The overflow from Cyclone C1 returned to the sump and overflowed to a surge tank, which was pumped to Cyclone C2 to recover fine sand from the return water;
- The return water from Cyclone C2 flowed to a Serpac Water Clarification Unit following addition of flocculent. The flocculents used were Magnafloc 1597 and Magnafloc E10 (similar to those used in potable water treatment plants);
- Clarified overflow water from Serpac Unit was returned to Process Water Pond via Ponds K and T;
- The underflow from the Serpac Unit, which comprised 25% solids, was pumped to Ponds G, G2 and G3, from which the decanted clean water overflowed to Ponds H, I or E, and then to the Process Water Pond via Ponds F, J, S, then T.
- Fines or silts were retained in Ponds G, G2 and G3. Fines within Ponds G, G2 and G3 were removed via excavator and either placed alongside the ponds, or taken to the fines drying area;
- The clean water from the water clarification plant flowed via an open channel to Ponds K, then T, and hence to the Process Water Pond.

#### 3.1.2 EMM (2014) Statement of Environmental Effects (SEE)

Qualtest were provided with an extract from the SEE (EMM, 2014), with the title page, Section 5.6 Land Contamination, and Appendix I Surface water and soil sampling laboratory results (tables only) provided.

EMM undertook a contamination assessment for the proposed community title subdivision. EMM stated: "It involved sampling and analysis designed to target the areas most susceptible to contamination, based on a review of the history of the site and a site inspection undertaken on 13 May 2014 by EMM hydrogeochemist, Dr Wendy McLean. Based on this, five soil sampling locations and five surface water sampling locations were selected at the western side of the site, within the main quarry infrastructure area (refer Figure 5.1)." Figure 5.1 is reproduced as Figure 6, Appendix A. EMM undertook the following scope of work:

- Collection of 5 surface soil samples, SS1 to SS5:
  - "SS1 to SS3 were selected as there was anecdotal evidence to suggest localised contamination from runoff from the wash bay area;
  - SS4 was located directly adjacent to a wash bay;
  - SS5 was next to an above-ground storage tank."
- Collection of 5 surface water samples:
  - "Three surface water samples were collected from the main plant dam [Process Pond], which receives run-off from the wash bat (SW1, W2, SW3), and two samples were collected from an adjacent pond [Upper Lily Pond] (SW4, SW5)."

No description of the soil types encountered was provided. It is assumed that the material sampled comprised sandy gravel/gravelly sand.

EMM assessed the contaminants of potential concern to be total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), and phenolic compounds. The samples were analysed for:

- Soils Metals, TRH, BTEX, PAH, and phenolic compounds. The metals tested were arsenic, barium, beryllium, boron, cadmium, cobalt, chromium, copper, lead, manganese, nickel, selenium, vanadium, zinc, and mercury.
- Surface water major anions, dissolved metals, TRH, BTEX PAH, phenolic compounds. The metals tested were aluminium, arsenic, cadmium, chromium, copper, nickel, lead, selenium, zinc, iron, and mercury.

EMM stated that they compared the soil results to residential land use criteria, including health screening and investigation levels (HIL/HSL), and ecological screening and investigation levels EIL/ESL). It is noted that EMM adopted ESLs for fine grained soils, however sands would classify as coarse grained. Management limits for TRH were not adopted. Qualtest have compared the soil results to the adopted criteria, see Table 1, Appendix J. Section 6 provides more information on the adopted soil criteria.

The results showed:

- Concentrations of TRH C10-C16 exceeded the ESL (120mg/kg) in sample SS3 (430mg/kg);
- Concentrations of TRH C10-C16 minus naphthalene exceeded the HSL (110mg/kg) in sample SS3 (430mg/kg);
- Concentrations of TRH C16-C34 exceeded the ESL (300mg/kg) in samples SS1 (430mg/kg), SS2 (490mg/kg), SS3 (22,000mg/kg) and SS4 (710mg/kg);
- Concentrations of TRH C16-C34 exceeded the management limits (10,000mg/kg) in sample SS3 (22,000mg/kg); and,
- Concentrations of TRH C34-C40 exceeded the ESL (2,800mg/kg) in sample SS3 (6,350mg/kg).

The field surface water quality parameters recorded by EMM indicated that the water was:

- Fresh with electrical conductivity ranging from 119.3µS/cm to 265.2µS/cm;
- Neutral to alkaline with pH ranging from 7.20 to 9.05;

• Anaerobic with dissolved oxygen ranging from 87.4%sat to 110%sat, and redox potential ranging from 165mV to 182.3mV.

EMM compared the surface water results to trigger values for protection of aquatic species and recreational use in ANZECC (2000). Qualtest have compared the results to the Default Guideline Values (DGVs) for protection of aquatic ecosystems in ANZG (2018), which supercede ANZECC (2000), see Table 2, Appendix J. The results showed:

- Aluminium above the aquatic ecosystem DGV (0.055mg/L) in sample SW5 (0.07mg/L);
- Copper above the aquatic ecosystem DGV (0.0014mg/L) in each sample, ranging from 0.002mg/L to 0.006mg/L); and,
- Zinc above the aquatic ecosystem DGV (0.008mg/L) in each sample, ranging from 0.027mg/L to 0.077mg/L).

Qualtest note that the DGVs are defined as concentrations below which there is a low risk that adverse biological effects will occur. It is important to note that these are not threshold values at which an environmental problem is likely to occur if exceeded. Rather, if the DGVs are exceeded, then further assessment is required to assess whether or not there is an actual problem.

Based on the following, Qualtest considered the metal concentrations do not pose an adverse environmental risk:

- The concentrations were relatively low, and decreased from the Process Pond to the Upper Lily Pond (the Upper Lily Pond is down-gradient of the Process Pond);
- The metals exceeding the DGVs were aluminium, copper and zinc, which are common in the environment, and likely represent regional concentrations; and,
- The onsite ponds are disturbed environments, and comparison to protection of 95% of species in slightly to moderately disturbed aquatic ecosystems is a conservative approach. Comparison of the aluminium, copper and zinc concentrations to protection of 80% of species in disturbed aquatic ecosystems showed that concentrations were below the DGV, with the exception of copper and zinc in the Process Pond.

#### 3.1.3 EMM (2015) Supplementary Contamination Assessment (SCA)

EMM prepared a Supplementary Contamination Assessment (SCA) for the site in 2015. It is noted that the report covered both the western and eastern sides of the quarry. Relevant information for the western portion only is summarised below.

The scope of work completed by EMM for the SCA included:

- Review of site history:
  - Review of NSW EPA Contaminated Land Register, List of sites notified to EPA as contaminated, and Environmental Protection Licenses (EPLs) register;
  - Aerial photographs from 1947 to 2011;
- Soil sampling:
  - Collection of 13 soil samples from random locations across the quarry area on an approximate 100m x 100m grid;
  - Collection of 9 soil samples from three targeted areas: Target 1 TRH hotpot identified in 2014; Target 2 – "Dumping Yard"; and Target 3 – Wet-Processing Plant);

- Laboratory analysis of samples for: Metals, TRH, BTEX, PAH, and phenolic compounds. The metals tested were arsenic, barium, beryllium, boron, cadmium, cobalt, chromium, copper, lead, manganese, nickel, selenium, vanadium, zinc, and mercury; and,
- Preparation of the SCA report.

A summary of the sampling locations is presented in Table 3.1.1 below, and the sampling locations are shown on Figures 7 and 8, Appendix A.

EMM compared the laboratory results to human health and ecological criteria. It is noted that EMM stated there were no human health criteria for TRH, which is incorrect. Qualtest have compared the results to the adopted criteria in Table 1, Appendix J.

Date	Location	Sample ID	Contamination Identified
2015	Random Locations Across Quarry	R1, R2, R2.05*, R3, R4, R5, R6, R7, R8, R8.05*, R9, R10, R11	Nil
2014	TRH Hotspot (wash- bay, north of	SS1 to SS5	TRH C10-C16 exceeded the ESL (120mg/kg) in sample SS3 (430mg/kg)
	workshop, diesel AST)		TRH C10-C16 minus naphthalene exceeded the HSL (110mg/kg) in sample SS3 (430mg/kg).
			TRH C16-C34 exceeded the ESL (300mg/kg) in samples SS1, SS2, SS3 and SS4, ranging from 430mg/kg to 22,000mg/kg.
			TRH C16-C34 exceeded the management limits (10,000mg/kg) in sample SS3 (22,000mg/kg).
			TRH C34-C40 exceeded the ESL (2,800mg/kg) in sample SS3 (6,350mg/kg).
2015		1-1.0, 1-1.1, 1-2.0, 1- 2.1, 1-3.0, 1-3.1	TRH C10-C16 exceeded the ESL (120mg/kg) in sample 1-2.0 (850mg/kg).
			TRH C10-C16 minus naphthalene exceeded the HSL (110mg/kg) in sample 1-2.0 (850mg/kg).
			TRH C16-C34 exceeded the ESL (300mg/kg) in sample 1-2.0 (2,970mg/kg).
2015	Dumping Yard	2-1.0	Nil
2015	Wet-Processing Plant	3-1.0, 3-1.1	Nil

Table 3.1.2 – Summary of EMM Sampling Locations

Note: Samples were collected from 0.0-0.1m depth. \* = sample collected from 0.5m depth.

#### 3.1.4 Martens (2024) Geotechnical Assessment

A geotechnical investigation was undertaken for the site by Martens & Associates Pty Ltd in July 2024 (ref: Draft Report, P2410392JR01V01, dated 19 July 2024).

The investigation included drilling of six boreholes, and excavation of two test pits. The soil profile observed by Martens (2024) was similar to Qualtest, with fill overlying residual soils, overlying weathered rock.

Martens also provided information on groundwater inflows observed during drilling. Groundwater inflows were observed in boreholes BH102, BH103, BH104, BH105, and test pit TP101 at 1.0m, 2.0m, 5.3m, 1.1m and 1.2m bgs, respectively. Martens noted that: "Groundwater inflow was not encountered in BH101, BH106 and TP102 up to investigation termination depth of 7.3 mbgl. Groundwater inflow in other boreholes / test pit except for BH105 is typically encountered in sandy permeable layers, where confined by clay or at the soil / rock interface.

Based on our observation of groundwater inflow, we conclude:

- Groundwater seepage inflow across majority of the Site (except within former sediment pond i.e. across Zone C) is attributed to the presence of ephemeral perched groundwater within the soil profile or residual soil / weathered rock interface originating from infiltration of surface water during investigation / pre-investigation intense and prolonged rainfall events.
- Permanent groundwater across the majority of the Site (i.e. except Zone C) is expected to be encountered within the weathered rock profile.
- Groundwater inflow encountered during drilling of boreholes in Zone C is likely to be the permanent groundwater, which is attributed to the presence of former sediment ponds across Zone C."

A review of Martens logs indicates that the inflows were observed at the fill / residual soil interface, or within fill. Based on Qualtest observations during fieldwork on 2 and 3 July (see Sections 5 and 8), heavy rainfall was causing water to sheet across the surface, and could have been impacting perched water within fill materials.

Qualtest excavated 31 test pits across the site to depths of between 0.6m and 2.7m bgs, 20 of which were extended to  $\geq$ 1.0m bgs, and no groundwater inflows were noted during the short time the test pits were open. Qualtest test pit TPQ02 was located in 'Zone C', and was excavated to 2.7m bgs, and no groundwater inflows were observed.

Based on the above, it is considered that the inflows observed by Martens in the boreholes do not represent the groundwater table.

### 3.2 Historical Titles Search

A search of historical titles for Lot 1 DP123302 and Lot 2 DP700806 was undertaken by Advanced Legal Searchers Pty Ltd. A list of past registered proprietors dating back to 1934 was obtained. The results of the search are included in Appendix C and a summary is presented below in Tables 3.1.1 and 3.1.2.

Date Owner	Inferred Site Use
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#### Table 3.1.1: Summary of Historical Titles – Lot 2 DP700806

29/02/2024 to todate Darley Pty Ltd Crisjoy Pty Limited		Re- development
12/03/2003 to 29/02/2024	Crisjoy Pty Limited	Re- development
8/07/1985 to 12/03/2003	Batson Land and Gravel Pty Limited	Quarry
4/12/1968 to 8/07/1985	R & B Batson Pty Limited	Quarry
10/01/1964 to 4/12/1968	Gordon Alan Duncombe, contractor	Quarry
17/12/1953 to 10/01/1964	Walter Cyril Duncombe, contractor Gordon Alan Duncombe, contractor	Quarry
26/05/1948 to 17/12/1953	Robert Bertram Trimble, cream carrier Thomas Charles Sleep, farmer	Quarry
5/09/1934 to 26/05/1948	The Rural Bank of New South Wales, lease to Thomas Charles Sleep, farmer	Quarry
Pre 5/09/1934	Crown Land	Quarry

#### Table 3.1.2: Summary of Historical Titles – Lot 2 DP700806

Date		Owner	Inferred Site Use	
29/02/2024 to to	odate	Darley Pty Ltd Crisjoy Pty Limite	Re- development	
12/03/2003 to 2	9/02/2024	Crisjoy Pty Limited		Re- development
31/08/1984 to 1	2/03/2003	Batson Land and	d Gravel Pty Ltd	Quarry
26/03/1984 to 31/08/1984		Derek Beckner Michael Robert Birch R & B Batson Pty Limited		Quarry
Former Lo	of C DP392638	Former Lot D DP392638		
Date	Owner	Date	Owner	
4/02/1982 to 26/03/1984	Derek Beckner Michael Robert Birch	23/02/1976 to 26/03/1984 R & B Batson Pty Limited		Quarry
3/08/1972 to 4/02/1982 Evelyn May Hofford, hospital supervisor John Francis		18/07/1972 to 23/02/1976	Frederick Charles Chalkner, fruit inspector	Farming

	Hofford, draftsman			
31/10/1955 to 3/08/1972	Clarence Milton Irvine, banana grower	29/06/1966 to 18/07/1972	Clarence Milton Irvine, banana grower	Farming
8/10/1953 to 31/10/1955	Robert Bertram Trimble, carrier	13/10/1958 to 29/06/1966	Jean de Maar, wife of Jouke de Maar	Farming
	garage proprietor	31/10/1955 to 13/10/1958	Jouke de Maar, garage proprietor	Farming
		8/10/1953 to 31/10/1955	Robert Bertram Trimble, carrier Jouke de Maar, garage proprietor	Farming
26/08/1953 to 8/10/1953	Clarence Richmond Millard, farmer	26/08/1953 to 8/10/1953	Clarence Richmond Millard, farmer	Farming
	Former	DP383211		
Date		Owner		
26/05/1948 to 26/08/1953		Robert Bertram Trimble, cream carrier Thomas Charles Sleep, farmer		Vacant / Farming
5/09/1934 to 26/05/1948		The Rural Bank of New South Wales, lease to Thomas Charles Sleep, farmer		
Pre 5/09/1934		Crown Land		

The site history shows that Lot 1, which comprises the majority of the site, was owned or leased by private individuals (Thomas Sleep, and Walter and Cyril Duncombe) since 1934, until it was purchased by companies associated with the Batson family in the 1960s. Based on information in the previous reports, Walter and Cyril Duncombe and the Batson family operated the quarry on the site, and Thomas Sleep may have operated a quarry.

Lot 2 was owned or leased by private individuals since 1934, until it was purchased by companies associated with the Batson family in the 1980s. The private individuals had varying occupations, including farmers, garage proprietor, carrier, and draftsman. Based on the aerial photographs from 1958 to 1980s (see Section 3.3) Lot 2 was vacant land (cleared agricultural land and bushland). Therefore, it is considered Lot 2 was used for agricultural purposes, and not used for the commercial/industrial occupations listed (garage proprietor, carrier).

The site has been owned by Crisjoy Pty Ltd and/or Darley Pty Ltd since 2003.

# 3.3 Aerial Photograph Review

Aerial photographs of the site from 1958 to 1997 were obtained from the NSW Government Spatial Portal (<u>https://portal.spatial.nsw.gov.au/</u>), and satellite images from Google Earth for 2006 and Nearmaps for 2012 and 2024, were assessed by a Qualtest Environmental Scientist. The results of the aerial photograph review are summarised below in Table 3.3. The aerial photographs are presented in Appendix D.

Year	Site	Surrounding Land
1947	The scale of the photograph makes features difficult to distinguish. The quarry is present in the central-eastern portion of the site. The remaining land appears to be a mix of cleared grazing land and bushland.	The site is surrounded by bushland and cleared grazing land. The quarry immediately to the east of Broken Head Road is present, but further from Broken Head Road than later photographs.
1958	The quarry outline is visible, and appears to be one void in the central part of the site. The access to the quarry is from the central part of the eastern site boundary. No infrastructure is visible, however the scale of the photograph limits observations. The land around the quarry void is mostly bushland with some cleared areas. The far western side of the site appears to be newly cleared land. A smaller square area in the northern portion of the site is cleared in amongst the bushland, and may contain a building. An access track leads to this area.	The site is surrounded by bushland and cleared grazing land.
1979	Aerial photograph is of poor quality. The quarry operations have expanded to the north, west and south. The land around the quarry void is bushland, with denser bush than in 1958. There appears to be a large dam on the south-western side of the site. No infrastructure is visible, however the quality and scale of the photograph limits observations.	The surrounding land to the north, west and south comprises bushland. To the east, the eastern portion of Broken Head Quarry is visible to the east of Broken Head Road.
1987	The quarry operations have expanded to the west. A second entrance from Broken Head Road is present in the south-east corner of the site. At least six dams are present, and potentially more. The land around the quarry void is bushland. No infrastructure is visible, however the quality and scale of the photograph limits observations.	The surrounding area appears similar to the 1979 aerial photograph.

#### Table 3.3: Aerial Photograph Review

Year	Site	Surrounding Land	
1991	The site appears similar to the 1987 photograph. The photograph scale and quality enables better observation of site features.	The surrounding area appears similar to the 1987 aerial photograph.	
	The entrances to the quarry appear similar to the 1987 photographs, with one entrance on the centre of the eastern boundary, and one in the south-east corner.		
	There is some form of infrastructure in the southern portion of the site, possibly part of processing plant.		
	There may be infrastructure in the central-eastern portion of the site, however it is not clear. This may be the location of the pre-1994 wet processing plant.		
	There are at least 10 dams/ponds, mostly in the southern and western portions of the quarry area. These may also be extraction areas.		
	Stockpiles of quarried material are visible in several locations on the site.		
	Smaller rectangular excavations/ponds in a grid are visible in the northern portion of the quarry area.		
	The remainder of the site comprises bushland.		
1997	The site appears similar to the 1991 photograph.	The surrounding area appears	
	The smaller rectangular excavations/ponds in a grid are visible in the northern portion of the quarry area have been removed and vegetation is regrowing.	photograph.	
	The potential infrastructure in the central-eastern portion of the site has been removed, and the area is now clear and vegetation appears to be regrowing.		
	The infrastructure in the southern portion of the site has expanded. It is assumed this is the wet processing plant.		
2006	The photograph quality is poor. Generally, the site appears similar to the 1997 photograph.	The surrounding area appears similar to the 1997 aerial	
	Two buildings are visible in the southern portion of the site.	photograph.	

Year	Site	Surrounding Land
2012	The site appears similar to the 2006 photograph. The bushland surrounding the quarry appears to be encroaching on the quarry area on the northern side. The appear to be some smaller dams/ponds in the central part of the quarry.	The surrounding area appears similar to the 2006 aerial photograph.
2024	The quarry is no longer operational. The quarry area is largely becoming re-vegetated. Several dams are still present, in the south-western and central portion. The buildings in the southern portion are visible. The infrastructure, wet processing plant, in the southern portion appears to have been removed, and there appears to be equipment or materials stored in the area.	The surrounding area appears similar to the 2012 aerial photograph. The quarry to the east of Broken Head Road is also no longer operational.

### 3.5 Schedule 11 Hazardous Chemicals Storage

A search of SafeWork NSW Schedule 11 Hazardous Chemicals Stored on Premises (formerly dangerous goods records) was undertaken. The search results did not locate records pertaining to the site. The search results are attached in Appendix F.

### 3.6 Anecdotal & Publicly Available Information

Information on the rehabilitation of Broken Head Quarry is available from the quarry website - <u>https://www.brokenheadquarry.com.au/</u>. It is noted that the website indicates the quarry is operational, however the quarry ceased operations in circa 2018.

The website states that Leadshine Pty Ltd acquired the site from the Batson Family in 2003 and managed the site since then.

Numerous environmental reports are available on the website, including:

- Annual returns reports for EPL 4860,
- Ecological reports;
- Environmental testing for water discharged and dust;
- An Environmental Management Report (EMR) July 2008 to December 2011; and,
- Rehabilitation reports.

Relevant information from the EMR and rehabilitation reports is summarised below.

#### 3.6.1 Environmental Management Report (EMR) July 2008 to December 2011

The EMR provides information on the environmental management of the site. This included information on how resource consumption, water, noise, dust, and flora and fauna had been managed over the period 2008 to 2011.

The EMR indicates diesel was used for running three trucks, excavation and dozer equipment, and generators for pumping water from catchment dams, bores, or the process water pond to the wet processing plant.

The EMR stated water for the wet processing plant was sourced from the process water pond which is a combination of surface water run-off and recycled water, and from a bore.

#### 3.6.2 Rehabilitation Report August 2018 to March 2019

Eight rehabilitation reports were available on the website:

- Enforceable Undertaking Progress Report, Report #1 August 2018;
- Enforceable Undertaking Progress Report, Report #2 September 2018;
- Enforceable Undertaking Progress Report, Report #3 October 2018;
- Enforceable Undertaking Progress Report, Report #4 November 2018;
- Enforceable Undertaking Progress Report, Report #5 December 2018;
- Enforceable Undertaking Progress Report, Report #6 January 2019;
- Enforceable Undertaking Progress Report, Report #7 February 2019; and,
- Enforceable Undertaking Progress Report, Report #8 March 2019.

The reports describe works on the following aspects:

- Planning for the undertaking of rehabilitation works;
- Landforming works;
- Vegetation works; and,
- Other rehabilitation related activities.

The reports cover both the eastern and western quarries. The rehabilitation works on the western quarry (the site) included:

- Import and stockpile of "clean" fill materials for filling, clay material for construction of dams, and topsoil for topsoiling. The August 2018 report indicated that topsoil was sourced from stockpiled topsoil on the eastern quarry. No other information regarding the source of imported materials was provided.
- Construction of a new Central Dam, and the associated drainage to the dam. The dam was located in the central area of the quarry;
- Construction of a new wetland area to the west of the Central Dam;
- Removal of the weighbridge and wet processing plant;
- Land forming generally removal of steep slopes, and battering of the landform;
- Placement of topsoil; and,
- Planting of vegetation.

Based on the information available at the completion of the rehabilitation works, the following remained:

- Re-shaped and vegetated quarry areas, with areas battered/terraced, and rock-lined drainage channels present;
- Central Dam in central portion of former quarry;
- Wetland area in central-western portion of former quarry;
- Process pond in south-western portion of former quarry, south-west of Central Dam and wetland area;
- Lower and Upper Lilyponds in south-western portion, south of Process pond;
- Electrical switchboard and water tanks remain in area of former wet-processing plant;
- Buildings in the southern portion of the site.

### 3.4 Site Observations

A Qualtest Senior Environmental Scientist visited the site on 1 to 3 July 2024. Selected site photographs are presented in Appendix E. The current site features and layout is shown on Figures 3 and 4 attached.

- The site is a former quarry which has undergone land reshaping and revegetation in the central portion of the site (see Photographs 1 to 3);
- The land surrounding the former quarry is densely vegetated with small to large sized trees (see Photographs 4 to 6);
- Access tracks can be observed running through the central, southern and eastern portions of the land around the former quarry (see Photographs 7 to 9);
- In addition to likely filling as part of the rehabilitation of the former quarry, three other filling areas were visible on the site:
  - Filling Area 1 Located in the southern portion of the site. The fill area is approximately 700m<sup>2</sup> (see Photograph 10);
  - Filling Area 2 Located in the southern portion of the site. The fill volume is approximately 10m<sup>3</sup> (see Photograph 11);
- Four dams/ponds were observed in the central and southern portions of the site:
  - Central Dam Located in the central portion (see Photograph 13);
  - Process Pond Located south of the central dam. A pump station was observed on the eastern bank (see Photographs 14 and 15);
  - Upper Lilypond Located south of the Process Pond (see Photograph 16);
  - Lower lilypond Located south of the Upper Pond.
- Two workshops were observed in the southern portion. The workshops were constructed with metal sheet roofing and walls, with a large roller door on the eastern side of each workshop, and a roller door on the northern side of the northern workshop. Both workshops were founded on a concrete slab. The workshops were locked during the site visit, preventing access to inside (see Photograph 17);

- Two demountable sheds were observed to the south of the workshops and may have been used as onsite offices while the quarry was operational (see Photograph 18);
- A concrete bund containing 44 gallon and various smaller sized oil drums/containers, was observed north of the workshops. Oil staining and liquids with sheens were observed within the bunded area (see Photograph 19);
- A concrete wash bay was observed adjacent to the concrete bund. The wash bay appeared to contain water and sediment (see Photograph 20);
- Steel/plastic materials/structures were stockpiled north of the concrete bund. A drain pipe was observed running from the northern most workshop roof, into the steel structure, filling it with water (see Photographs 21 and 22);
- An inground, concrete water storage area with pump system could be observed east of the demountable offices (see Photograph 23);
- A wet processing plant was located west of Fill Area 1, in the southern portion. The plant has been removed and the remnant concrete structure that supported the plant remains see Photograph 24 and 25).
- Two empty, concrete water tanks, were located south of the former wet processing plant (see Photograph 26);
- A weigh bridge and offices were observed in the south-eastern portion, at the main entry to the site off Broken Head Road. A boom entry gate was located approximately 20m east of the weigh bridge. A steel constructed shipping container (appears to be formerly used as site office) was observed on the northern side of the weigh bridge (see Photographs 27 and 28);
- Empty 44 gallon drums were observed stored against the wall of the demountable shed and four 20L herbicide drums were located next to the boom entry gate in the south eastern portion. No staining was observed around the drums (see Photographs 29 and 30).

### 3.7 NSW EPA Records & Environment Protection Licenses

#### **Contaminated Land Records**

A search of the NSW EPA database of notices issued under the Contaminated Land Management Act, 1997 (CLM Act) revealed there was one property listed as having current and/or former notices within the Suffolk Park suburb:

• Suffolk Park dip site (cattle tick dip site), corner Broken Head Road and Beech Drive – located about 700m north of the site. The property is considered unlikely to impact the site, given the distance from the site to the property (>500m), and the source of contamination.

A search of sites that have been notified to NSW EPA as contaminated (as of 11 June 2024) was also carried out. The search identified two properties within the Suffolk Park suburb which had been notified to the NSW EPA as being contaminated:

- Suffolk Park dip site (cattle tick dip site), corner Broken Head Road and Beech Drive located about 700m north of the site, Regulation not required under the CLM Act; and,
- BP Service Station, 207-209 Broken Head Road located about 700m north-northeast of the site, Regulation not required under the CLM Act.

Given the distances from the site (greater than 500m), and as the sites do not require regulation under the CLM Act, the likelihood of the notified sites impacting the site is considered to be low.

A copy of the above searches is provided in Appendix G.

#### **Environment Protection Licenses (EPLs)**

The Protection of the Environment Operations (POEO) register under Section 308 of the POEO Act 1997, was searched for Environment Protection Licenses (EPLs) for the suburb of Suffolk Park NSW. The search revealed there were no properties other than the site (EPL 4860).

Information provided on the NSW EPA EPL page (<u>https://apps.epa.nsw.gov.au/prpoeoapp/</u>) for EPL 4860 included:

- Pollution studies and reduction programs. These related to sediment and erosion control, with the exception of:
  - July 2019, Management of imported material information provided indicates that EPA required "The licensee must conduct appropriate sampling and testing of all spoil material imported into the premises to determine if it meets the chemical concentration limits of Excavated Natural Material (ENM). Any material which does not meet the ENM classification must be lawfully disposed of offsite to a licenced waste facility." The condition required reports to be provided to NSW EPA by 30 October 2019, however no copies of the reports are publicly available.
- Annual returns, with non-compliance details available for some returns. The noncompliance typically related to sediment and erosion controls, with release of surface water in a non-compliant way. One related to unauthorised storage of waste in 2019.

The client provided a copy letter 'Approval of the Surrender of License No. 4860'. The letter states: "On 18 March 2024, EPA Officers inspected the premises. The premises was well rehabilitated. Three issues were observed during the inspection and will require actions to remediate the site. The issues observed were:

- 1. The storage of diesel and chemical drums unbunded and unsecured adjacent to the machinery shed;
- 2. Several old 200L drums and spilt oil within the bund presenting a risk of hydrocarbon seepage occurring;
- 3. Diesel pump adjacent to Basin 1 with potential for seepage of legacy hydrocarbon materials from the pump system."

The letter also states that the surrender of the license was approved.

A copy of the above searches and letter is provided in Appendix G.

#### **NSW EPA PFAS Investigation Program**

Based on a review of the NSW EPA Government PFAS Investigation Program (<u>ref:</u> <u>https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program</u>), there are no properties in the suburb of Suffolk Park that have been identified as a site that is likely to have used large quantities of PFAS. One property was identified in Byron Bay:

• Butler Street Reserve, located about 5.5km north of the site.

Based on the distance to this property, it is considered that PFAS contamination on the property would not impact the site.

#### **NSW EPA Former Gasworks Sites**

Based on a review of the NSW EPA website <u>(ref: https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/former-gasworks-sites</u>), there are no former gasworks that have been identified in the local government area of Byron Shire Council.

### 3.8 Section 10.7 Certificate

Section 10.7 Certificates for Lot 1 DP 123302 and Lot 2 DP700806 of the site were obtained from Byron Shire Council, and are presented in Appendix H. Relevant information is summarised below.

	Lot 1 DP123302	Lot 2 DP700806	
Land Zoning	No. 7(d) Scenic/Escarpment Zone* C2 Environmental Conservation RU1 Primary Production	C2 Environmental Conservation RU1 Primary Production	
	(a) The land (or part of the land) is not significantly contaminated as at the date this certificate is issued.		
	(b) The land is not subject to a management order as at the date this certificate is issued.		
Matters	(c) The land is not the subject of an approved voluntary management proposal as at the date this certificate is issued.		
prescribed by Section 59(2)	(d) The land is not subject to an ongo this certificate is issued.	ing maintenance order as at the date	
of the Contaminated Land	e audit statement as at the date this		
Management Act	Note: Absence of notification from the EPA under Section 59 of the Contaminated Land Management Act 1997 does not necessarily mean that the land is not subject to some type of contamination		
	The answer given above only relates to "significantly contaminated" land as defined under the Contaminated Land Management Act 1997. If Council holds sufficient information about whether or not land is contaminated land (as defined under Schedule 6 of the Environmental Planning and Assessment Act 1979), this information will be given in the 10.7(5) certificate.		
Contaminated Land	Council records do not have sufficient information about previous use of the land subject of this certificate to determine whether or not the land is contaminated as defined in Schedule 6 of the Environmental Planning & Assessment Act 1979. Restrictions imposed by State Legislation including SEPP (Resilience & Hazards), and Council's Contaminated Land Management Policy 2024 will need to be considered in respect of any proposal to develop, remediate or rezone the land.		
Loose-Fill Asbestos Insulation	The land does not include any residential premises (within the meaning of Division 1A of Part 8 of the Home Building Act 1989) that are listed on the register that is required to be maintained under that Division.		

Table 3.8 - Summary	of Section	10.7 Certificates
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Note: \* Qualtest note that the zoning is different to that provided on NSW Planning Portal Spatial Viewer (<u>https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address</u>), which listed DM Deferred Matter, C2 and RU1. It is inferred that the DM zoned land shown on the Planning Portal is the No. 7(d) zoned land in the Section 10.7 certificate NSW Planning Portal.

### 3.9 Summary of Site History

The site history review showed:

- The site had been used for sand quarrying since at least the 1920s. Quarrying activities ceased circa 2018, and the site was rehabilitated.
- Quarrying involved excavation of weathered sandstone and conglomerate using excavators and dozers, and processing in a wet-processing plant (essentially screening into different material sizes).
- Rehabilitation comprised construction of a new Central Dam, a wetland area, land-forming (cut/fill) and battering/terracing slopes, installation of drainage channels, placing of topsoil, and planting vegetation.
- There were numerous surface water ponds/dams on the site. Following completion of rehabilitation, the following ponds/dams remained:
  - Central Dam in central portion of former quarry;
  - Wetland area in central-western portion of former quarry;
  - Process pond in south-western portion of former quarry, south-west of Central Dam and wetland area;
  - Lower and Upper Lilyponds in south-western portion, south of Process pond
- The weighbridge and wet-processing plant were removed during rehabilitation in 2018 and 2019. The electrical switchboard and water tanks in the area of the processing plant were retained.
- Machinery trucks and pumps on site were powered using diesel. An inspection by the NSW EPA in March 2024 identified that diesel drums were present on site, and evidence of spills were observed. A diesel pump was adjacent to Basin 1.
- Two buildings, one of which is understood to be a machinery shed, are present in the southern portion of the site. Previous aerial photographs and plans indicate that a diesel above-ground storage tank, and a wash-bay, were present to the north of the buildings in the southern portion of the site. The AST has been removed, the concrete bund and wash-bay are still present, and oil drums are stored in the bund.

### 3.10 Potential Offsite Sources of Contamination

No potential offsite sources of contamination were identified for the site.

### 3.11 Gaps in the Site History

Whilst the site history is reasonably comprehensive there are some gaps identified in the review as follows:

- Quarrying activities carried out prior to circa 1980s are not well known. However, it is considered they were likely similar to post-1980s, and included use of excavators and dozers to extract sandstone and conglomerate.
- The location of former buildings/ infrastructure are not known.
- The source of fill materials imported to the site as "topsoil" for sale in the 1990s to 2010s is not known. The source of fill materials imported to the site for rehabilitation is not known.

# 3.12 Areas of Environmental Concern

Table 3.12 (below) shows the areas of environmental concern (AECs) and associated Chemicals of Potential Concern (COPCs) identified for the site.

AEC	Potentially Contaminating Activity	Potential COCs	Likelihood of Contamination
1. Former diesel AST drum storage in bunded area	Spills/leaks of oil and diesel	TRH, PAH	Low to medium (due to bund)
2. Wash Bay	Spills/leaks of diesel/lubricants	TRH, PAH	High (based on EMM, 2014 and 2015 results)
3. Workshop, machinery shed	Storage and use of fuels, oils and chemicals Spills/leaks of fuels, oils and chemicals	TRH, PAH, Metals	Medium
4. Current and former wet- processing plant.	Spills/leaks of hydraulic fluids	TRH, PAH	Low
5. Former weighbridge and office	Spills/leaks of fuels and oils	TRH, PAH	Low
6. Former "dumping yard" identified by EMM (no waste present at time of Qualtest site visit)	Storage of waste materials	TRH, BTEX, PAH, Metals, Asbestos (CoPCs dependent on material/waste type)	Low
7. Quarrying activities, including importation of "topsoil" fill for processing and on-selling	Potential importation of fill of unknown origin and quality Spills/leaks of diesel/lubricants from excavators, dozers, trucks	TRH, BTEX, PAH, Metals, Asbestos	Low

Table 3.12 – Areas of Environmental Concern and Chemicals of Potential Concern

AEC	Potentially Contaminating Activity	Potential COCs	Likelihood of Contamination
8. Fillling on the site.	Potential importation of fill of unknown origin and quality	TRH, BTEX, PAH, Metals, Asbestos	Low

# 4.0 Data Quality Objectives

### 4.1 Step 1 – State the Problem

A portion of the site is proposed to be rezoned for residential purposes. There is potential for contaminated soil from past uses to exist on the site at concentrations above the residential landuse criteria, that could require remediation and/or management. Eight AECs requiring assessment were identified for the site, as described in Table 3.12, above.

### 4.2 Step 2 – Identify the Decision/Goal of the Study

The decisions to be made based on the contamination assessment are:

- Is the site characterisation sufficient to provide adequate confidence to make decisions regarding suitability of the site for the proposed use?
- Are the concentrations of COPCs above the adopted landuse criteria?
- Do potential risks associated with contamination exist, and if so, what are they?
- Is the site suitable for the proposed use (residential)?
- Will the site require remediation, and if so, what level and type of remediation will be required to make the site suitable for the proposed land use, from a contamination perspective?

### 4.3 Step 3 – Identify Information Inputs

Inputs into the decision are:

- Have samples been collected in the required areas of the site (the identified AECs)?
- Have samples been collected at the required frequencies and adequately represent the conditions on site?
- Is the data set adequate to perform statistical analysis, if required (i.e. calculate 95% UCL)?
- Have the samples been analysed for the COPCs identified?
- Have concentrations exceeding the adopted criteria been reported in the samples?
- If concentrations exceeding adopted criteria have been reported, will these areas require remediation and/or management?

The informational inputs into the decision are:

- Field observations and field screening results;
- Laboratory results (concentrations of contaminants in soil);

- QA/QC documentation and data;
- Adopted assessment criteria (see Section 6); and
- Relevant NSW EPA endorsed Guidelines.

The media to be sampled and analysed is:

• Soil.

### 4.4 Step 4 – Define the Boundaries of the Study

The study boundary is defined laterally as the site boundary, Lot 1 DP123302 and Lot 2 DP700806 within the Byron Shire local government area. The site is located at Broken Head Road, Suffolk Park NSW and covers an area of approximately 32.78ha (refer to Figure 1, Appendix A). Vertically, the study boundary will be defined by the depth of contamination or fill, anticipated to be a maximum of 3m bgs. Temporally, the study boundary is the date of soil sampling, 2 and 3 July 2024.

### 4.5 Step 5 – Develop an Analytical (Statistical) Approach

The analytical approach can be defined as: -

- If the laboratory quality assurance/ quality control data are within the acceptable ranges, the data will be considered suitable for use;
- If the COPCs are reported above the adopted criteria and/or at elevated levels (where no criteria are available) then it will be considered whether further assessment, remediation and/or management measures are required;
- Where practical and/or appropriate, the 95% Upper Confidence Limit (UCL) of the validation samples will be calculated. If the 95% UCL is above the adopted criteria, then it will be considered whether further assessment, remediation and/or management measures are required; and,
- Where concentrations are below the assessment criteria, then no further assessment, remediation and/or management of that contaminant, in that area, in that media, is required. This is provided samples have been collected at the required frequencies (as per NSW EPA guidelines) and adequately represent the conditions on site, if not, additional sampling may be required.

# 4.6 Step 6 – Specify Performance or Acceptance Criteria

There are two types of errors:

- Type 1 finding that the site is contaminated, when it is not;
- Type 2 finding that the site is uncontaminated, when it is.

To reduce the potential for errors, the following will be applied:

- Appropriate field sampling methodologies and collection of field data (including sampling frequency);
- Robust QA/QC assessment of field procedures and laboratory data;
- Appropriate sampling and analytical density;
- Use of statistics (i.e. 95% UCL) to assess arithmetic average of COPCs. Use of statistics will also take into account:
  - o No sample should report a concentration more than 250% of the adopted criteria; and,

• The standard deviation of a sample population should not exceed 50% of the adopted criteria.

The adopted criteria are shown in Section 6 below.

### 4.7 Step 7 – Optimise the Design for Obtaining Data

The methodologies presented in this report are designed to meet the nominated DQOs. Optimisation of the data collection process will be achieved by:

- Working closely with the analytical laboratories and sampling equipment suppliers so that appropriate procedures and processes are developed and implemented prior to and during the field work and that sampling, handling, and transport to, and processing by, the analytical laboratories is appropriate.
- Conduct sampling in accordance with industry best practice and Standard Operating Procedures (SOPs) for the type of sampling being conducted.

# 5.0 Field and Laboratory Investigations

### 5.1 Sampling Plan

The site is about 32.78ha in area, with approximately 10.2ha of the site previously used as a sand quarry, and the remainder of the site undeveloped bushland. Based on this, the area requiring assessment is approximately 10.2ha.

The NSW EPA (2022) Sampling Design Part 1 – Application recommends a minimum of 110 systematic sampling locations to characterise a site of 10ha. As most of the site comprises land that was quarried, but did not have permanent machinery or buildings located on it, a reduced sampling density was adopted, comprising:

- Sampling in accordance with NSW EPA (2022) in the former machinery and building areas, approximately 0.9ha, 20 test pits (AST1, WBY1, WBY2, TPW1 to TPW4, WPP1 to WPP4, TPS1, TPS3, TPS5 to TPS8, WBTP1, WBTP2), and six surface sample sampling locations (S1 to S6); and,
- Sampling on an approximately 100m grid across former quarry areas, 11 test pit sampling locations (test pits).

The sampling locations were selected based on the site history and the AECs identified for the site. Table 5.1 summarises the sampling locations with reference to the AECs, and the laboratory analysis. The sampling locations are shown on Figures 9 and 10, Appendix A.

Sample Location	AEC	Analysis of Primary Samples
AST1, S5	1. Diesel AST	TRH, BTEX, PAH, Metals – 2 samples PFAS - 1 sample
WBY1, WBY2	2. Wash Bay	TRH, BTEX, PAH, Metals, PFAS – 2 samples ACM (gravimetric onsite), Asbestos %w/w – 1 sample

Sample Location	AEC	Analysis of Primary Samples
TPW1 to TPW4, S4	3. Workshop, machinery shed	TRH, BTEX, PAH, Metals – 4 samples ACM (gravimetric onsite), Asbestos %w/w – 3 samples PFAS – 2 samples
WPP1 to WPP4	4. Current wet- processing plant.	TRH, BTEX, PAH, Metals – 4 samples PFAS – 1 sample ACM (gravimetric onsite), Asbestos %w/w – 1 sample
TPQ06	4. Former wet- processing plant.	TRH, BTEX, PAH, Metals – 1 sample
WBTP1, WBTP2	5. Former weighbridge and office	TRH, BTEX, PAH, Metals – 2 samples ACM (gravimetric onsite), Asbestos %w/w – 1 sample
TPQ04	6. Former "dumping yard" identified by EMM	Not tested
TPQ01 to TPQ11 and TPS1 and TPS3 to TPS8*	7. Quarrying activities, including importation of "topsoil" fill for processing and on- selling	TRH, BTEX, PAH, Metals – 11 samples PFAS – 1 sample ACM (gravimetric onsite), Asbestos %w/w – 2 samples Asbestos ID – 1 material sample
AST1, WBY1, WBY2, TPW1 to TPW4, WPP2 to WPP4, TPQ01 to TPQ11, TPS1, TPS3, TPS5 to TPS8, WBTP1, WBTP2, S1 to S5	8. Fillling on the site.	TRH, BTEX, PAH, Metals – 33 samples PFAS – 7 samples ACM (gravimetric onsite), Asbestos %w/w – 10 samples Asbestos ID – 1 material sample

Note: \* Proposed sample location TPS2 not excavated/sampled due to access constraints.

# 5.2 Soil Sampling

Thirty-three (33) test pits were excavated using a 5t excavator equipped with a 450mm bucket. The test pits were excavated 0.5m into natural soils, or a maximum of 3m bgs. Samples were collected directly from the excavator bucket, using a clean pair of nitrile gloves for each sample. Samples were collected at the surface and then regular intervals, or where potential contamination was observed. Surface soil samples (S1 to S6) were collected in locations where access with the excavator was limited by infrastructure (i.e. above or underground services, buildings and concrete bunds). These samples were collected using a shovel and a clean pair of nitrile gloves for each sample. The hand tools were decontaminated between locations using a phosphate free detergent and rinsed with potable water.

Selected fill soil samples were assessed for ACM onsite using the gravimetric method, comprising of collection of a 10L sample, screening through a 6.7mm sieve, and weighing of potential ACM fragments retained on the sieve (if any). The samples were selected based on field observations (i.e. type of fill, location). The results of the gravimetric testing are presented in Section 8.3.

Soil samples collected around the bunded AST and wash bay area were screened for potential volatile contamination using a photoionisation detector (PID). PID results are discussed in Section 8.2.

The soil samples were placed into laboratory supplied glass jars and plastic zip-lock bags. Each soil sample was placed directly into an ice-chilled esky and remained chilled during fieldwork and transportation to the laboratory.

### 5.3 Laboratory Analysis

The samples were dispatched to the NATA-accredited Eurofins laboratory under chain of custody conditions. Soil samples were selected for analysis based on field observations, and providing a spread across the site. The soil samples were analysed for the following:

- Total Recoverable Hydrocarbons (TRH) 33 primary samples;
- Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) 33 primary samples;
- Polycyclic Aromatic Hydrocarbons (PAHs) 33 primary samples;
- Metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury) 33 primary samples;
- Asbestos NEPM %w/w 10 soil samples;
- Asbestos (presence/absence) 1 material sample; and,
- Per- and Poly-Fluoroalkyl Substances (PFAS) 7 primary samples.

A lower sampling density was selected for asbestos, based on likelihood of being present from field observations. A lower sampling density was selected for PFAS as these are unlikely to have been used extensively on the site (if used at all), and if present would be expected to be located in areas of infrastructure.

In order to assess site-specific ecological criteria (see Section 6.1 below), two samples were tested for Cation Exchange Capacity and pH.

# 6.0 Investigation Criteria

### 6.1 Health and Ecological Investigation and Screening Levels

The health and ecological investigation levels for soil, presented in the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPC 2013, Canberra (referred to as ASC NEPM 2013) are generally used in NSW when selecting investigation levels for chemical contaminants in soil.

The purpose of the ASC NEPM (2013) is to 'establish a nationally consistent approach to the assessment of site contamination to ensure sound environmental management practices by

the community which includes regulators, site assessors, environmental auditors, landowners, developers and industry'.

ASC NEPM (2013) provides health and ecological investigation and screening levels for different exposure scenarios based on a proposed land use. Health and ecological investigation and screening levels are applicable to the first stage (Tier 1) of site assessment and are used to assist in the iterative development of a Conceptual Site Model (CSM). They are adopted as concentrations of a contaminant above which either further appropriate investigation and/or evaluation will be required, or development of an appropriate management strategy (including remediation).

Health Investigation Levels (HILs) and Health Screening levels (HSLs) are applicable for assessing human health risk via relevant exposure pathways.

The HILs were developed for a broad range of metals and organic substances. These are generic to all soil types.

The HSLs have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via inhalation and direct contact with soil and groundwater. The HSLs depend on specific soil physicochemical properties, building configurations, land use scenarios and the depth that groundwater is encountered.

Ecological Investigation Levels (EILs) and Ecological Screening Levels (ESLs) are applicable for assessing risk to terrestrial ecosystems under residential, open space and commercial/industrial land use scenarios. They apply to the top 2m of soil, which corresponds to the root zone and habitation zone of many species.

The ELLs are associated with selected metals and organic compounds. The ELLs are site specific and are determined by calculating an Ambient Background Concentration (ABC) and an Added Contaminant Limit (ACL) for the site, which are added together to get the ELL. The ELL's for the site have been calculated using an ABC and site specific pH, Cation Exchange Capacity (CEC) and clay content values. The ABC were obtained from Trace Element Concentrations in Soils from Rural and Urban Areas of Australia (Olszowy et al, 1995) - old suburbs, high traffic, 50 percentile.

The ESLs are associated with petroleum compounds and fractions and are dependent on specific soil physical properties (i.e. coarse and fine-grained soil).

Based on the proposed rezoning (residential land use), and soil types, the following investigation levels have been adopted:

- HIL A & HSL A Residential, clay soils; and,
- EIL A, ESL A Urban Residential and Public Open Space, coarse texture.

The adopted investigation levels are shown in Table 6.5 below.

### 6.2 Asbestos Materials in Soil

The assessment of known and suspected asbestos contamination in soil is based on:

- ASC NEPM (2013); and
- WA DoH (2009) Guidelines of the assessment and management of asbestos contaminated sites in Western Australia, WA Department of Health and Department of Environment and Conservation.

Schedule B1, Section 4 ASC NEPM (2013) provides guidance on the assessment of both friable and non-friable forms of asbestos in soil. This guidance is based on the WA DoH (2009)
Guidelines that presented risk based screening levels for asbestos in soil under various landuse scenarios.

For the purpose of assessing asbestos impacts in soil, three groups are recognised:

- Asbestos Containing Material (ACM) which is in sound condition although possibly broken or fragmented and the asbestos is bound in a matrix. This is restricted to material that cannot pass through a 7mm x 7mm sieve;
- Fibrous asbestos (FA) friable asbestos material, such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products;
- Asbestos fines (AF) includes free fibres of asbestos, small fibre bundles and also ACM fragments that pass through a 7mm x 7mm sieve.

The health screening levels for asbestos in soil for residential land use have been adopted and are shown in Table 6.5 below.

# 6.3 Management Limits

The ASC NEPM (2013) provides management limits for petroleum hydrocarbons. The purpose of the Management Limits is to 'avoid or minimise' potential effects of petroleum hydrocarbons. NEPM (1999, amended 2013) Schedule B(1) provides these as effects as:

- Formation of observable Light Non-Aqueous Phase Liquid (LNAPL);
- Fire and explosive hazards; and,
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services by hydrocarbons.

Management limits were derived by Canada-Wide Standard for Petroleum Hydrocarbons (CWS-PHC) in Soil (2008) where the lowest limiting value for each effect became the Recommended Management Limit. Based on site specific information, the applicability of management limits as soil investigation levels for the site was reviewed, and is discussed further in Table 6.3 below.

Table 6.3 discusses the derivation of the revised management limits. These management limits will be applied to soils. As described in the ASC NEPM (2013) the magnitude of an exceedance will be considered in the context of whether the exposure pathways are plausible and whether exposure will result in harm. Depending on the level of the exceedance further qualitative or quantitative risk assessment may be required.

TRH Fraction	Basis of Recommended	Appropriateness of Recommended
	Management Limits (coarse soils)	Management Limits for Adopted Criteria
F1 (C6-C10)	Formation of free phase NAPL 700mg/kg	The limiting value of <b>700mg/kg</b> for formation of free phase NAPL is considered appropriate.
	Effects on Workers in Trenches	
	1,000mg/kg	The value for effects on workers is not considered relevant as HSLs have been
	Fire/Explosion Risk 1,400mg/kg	derived for Australian conditions and considered to be more appropriate.

#### Table 6.3: Site Specific Applicability of Management Limits

TRH Fraction	Basis of Recommended Management Limits (coarse soils)	Appropriateness of Recommended Management Limits for Adopted Criteria
F2 (C10-C16)	Effects on Workers in Trenches 1,000mg/kg Formation of free-phase Total F1 to F3 10,000mg/kg Fire/Explosion Risk 5,200mg/kg	'Effects on Workers in Trenches' is not appropriate for adoption as a criteria. These values are based on occupational exposure limits for gasoline and jet fuel, as there is no relevant acute toxicity endpoints available. CRC Care (2011) has established HSLs for 'Intrusive Maintenance Worker' for both vapour intrusion and direct contact of 'Not Limiting' and 20,000mg/kg respectively. HSLs are considered more appropriate for Australian conditions and the robustness in which they are derived.
		The limiting value of <b>5,200mg/kg</b> for explosion risk to intrusive maintenance workers is considered appropriate.
F3 (C16-C34)	Effectiveness of bioremediation 3,500mg/kg Formation of free phase NAPL Total F1 to F3 10,000mg/kg	'Effectiveness of bioremediation' is not appropriate as a validation criteria, rather more of a guide for assessing whether bioremediation may be a viable option. It should be noted that this criterion was developed based on Canadian conditions, where bioremediation may not be as accelerated compared to the generally warmer Australian climate. The limiting value of <b>10,000mg/kg</b> for
		formation of free phase NAPL is considered appropriate.
F4 (C34-C40)	Formation of free phase NAPL 10,000mg/kg	The limiting value of <b>10,000mg/kg</b> for formation of free phase NAPL is considered appropriate.

# 6.4 **PFAS Criteria**

The health investigation levels for PFAS in soil, presented in the PFAS National Environmental Management Plan (January 2020) HEPA 2020 (referred to as PFAS NEMP 2020) are used in NSW when selecting investigation levels for PFAS.

The PFAS NEMP (2020) "Provides guidance about per- and poly-fluoroalkyl substances referred to as PFOS, PFOA, and perfluorohexane sulfonate (PFHxS), and their direct and indirect precursors, as these are the most widely studied PFA compounds." The guidance includes investigation levels for human health.

Similar to the ASC NEPM (2013), the health investigation levels are applicable to the first stage (Tier 1) of site assessment and are used to assist in the iterative development of a Conceptual Site Model (CSM). They are adopted as concentrations of a contaminant above which either

further appropriate investigation and/or evaluation will be required, or development of an appropriate management strategy (including remediation).

Based on the proposed rezoning, the criteria for residential land use have been adopted, and are shown in Table 6.5, below.

# 6.5 Adopted Soil Investigation Criteria

The adopted soil criteria are presented in Table 6.5 below.

Table	6.5 -	Adopted	Soil	Criteria
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Contaminant	HIL / HSL^ A (mg/kg) <sup>1</sup>	EIL / ESL A <sup>2</sup>	Management Limits
Arsenic	100	100	-
Cadmium	20	-	-
Chromium (total)	100	330*	-
Copper	6,000	120*	-
Lead	300	1,100	-
Nickel	400	25*	-
Zinc	7,400	370*	-
Mercury	40	-	-
Benzene	0.7	50	-
Toluene	480	85	-
Ethylbenzene	NL	70	-
Xylenes	110	105	-
Naphthalene	5	170	-
TRH C6-C10	-	180	700
TRH C6-C10 minus BTEX	50	-	-
TRH >C10-C16	-	120	5,200
TRH >C10-C16 minus naphthalene	280	-	-
TRH >C16-C34	NL	1,300	10,000
TRH >C34-C40	NL	5,600	10,000

Contaminant	HIL / HSL^ A (mg/kg) <sup>1</sup>	EIL / ESL A <sup>2</sup>	Management Limits
Benzo(a)pyrene	-	0.7	-
Benzo(a)pyrene TEQ	3	-	-
Total PAHs	300	_	-
Phenol	3,000	-	-
Pentachlorophenol	100	-	-
Cresols	400	-	-
Asbestos	Detected	-	-
Bonded ACM %	0.01%	-	-
FA and AF %	0.001%	-	-
All forms of asbestos	No visible evidence for surface soil (top 10cm)	-	-
Perfluorooctanoic Acid (PFOA)	0.1	10	-
Sum (PFHxS + PFOS)	0.01	-	-
PFOS	-	1	

Notes:

\* EIL based on an average pH of 5.8, a CEC of 4meq/100ml and Clay content 5%, and using Ambient Background Concentration obtained from Olszowy et al (1995) using urban soils, old suburbs with high traffic, 50% percentile.

1 – ASC NEPM (2013) - Health Investigation and Screening Levels- HIL A / HSL A

2 - ASC NEPM - Soil Health Screening Levels for Vapour Intrusion, Residential, Sand 0m to <1m 3 - ASC NEPM (2013) - Ecological Investigation and Screening Levels, Urban Residential/Public Open Space, Coarse textured

# 7.0 1Quality Assurance/Quality Control

Sampling activities were undertaken in accordance with normal, industry accepted practices and standards. The assessment of field and laboratory quality assurance / quality control (QA / QC) procedures is provided below, and a data validation report is presented in Appendix L.

In order to assess field quality assurance / quality control (QA/QC) procedures, the following quality control samples were collected and analysed:

QC Sample	Туре	Lab	Analysis
D.2.7.24	Duplicate of WBT01 0.0-0.1	Eurofins	TRH, BTEX, PAH, Metals
T.2.7.24	Triplicate of WBT01 0.0-0.1	SGS	TRH, BTEX, PAH, Metals
TB.2.7.24	Trip Blank	Eurofins	BTEX

Primary and intra lab duplicate samples were analysed by the NATA-accredited laboratory Eurofins, and inter-lab triplicate samples were analysed by the NATA-accredited laboratory SGS.

Table 2, Appendix J, presents the relative percentage differences (RPDs) between the primary, duplicate, and triplicate samples. A review of the Qualtest QA / QC results indicates that RPDs were within the acceptable range (30%). It is noted that low concentrations can exaggerate the percentage differences with respect to small total concentrations, therefore where results for primary, duplicate, and triplicate samples were less than 10 time the LOR, the RPDs have been disregarded.

Table 2, Appendix I, presents the trip blank results. The trip blank reported concentrations below the laboratory detection limit.

The laboratory internal QA/QC reports indicated that the appropriate laboratory QA / QC procedures and rates were undertaken for contamination studies, and that:

- Laboratory blank samples were free of contamination;
- Matrix spike recoveries were within the laboratory control limits;
- Laboratory duplicate RPDs were recorded within the control limits.
- Surrogates and laboratory control samples were within the laboratories acceptable range, with the exception of a surrogate for PAHs (p-Terphenyl-d14) was not reported for sample D.2.7.24. The lab quoted code Q09 which states: "The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC." Based on this, the surrogate recovery is not considered to affect the data usability.

Based on the above, and the data validation report in Appendix L, it is considered that the field and laboratory methods for soil sampling are appropriate and that the data obtained is usable and considered to reasonably represent the concentrations at the sampling points at the time of sampling.

# 8.0 Results

# 8.1 Subsurface Conditions

The soil profiles observed during test pitting are summarised below in Tables 8.1.1 and 8.1.2. The test pit logs are attached in Appendix I.

Table 8.1.1 – Summary	of Soil	Units	and	Types
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Unit	Soil Type	Description
	Sandy GRAVEL/GRAVEL - fine to coarse grained, sub-rounded to rounded, pale brown, brown, dark brown, pale grey, grey, fine to medium grained sand, with trace fines of low plasticity.	
		Sandy Clayey GRAVEL – fine to coarse grained, rounded, grey to grey- brown, pale brown, orange-brown, low to medium plasticity fines, medium to coarse grained sand.
1	Fill	Gravelly CLAY – medium to high plasticity, dark grey, brown, and pale brown, fine to medium grained, sub-rounded to rounded gravel.
		Sandy CLAY – medium to high plasticity, brown, orange-brown, pale grey-white, dark brown, fine to medium grained sand, with some gravel.
		CLAY – medium to high plasticity, brown, with some fine to medium grained, sub-rounded to rounded gravel.
		SAND - fine to medium grained, brown, grey-brown, orange-brown and dark brown, with some fines of low plasticity and gravel.
		Sandy GRAVEL - fine to coarse grained, sub-rounded to rounded, pale brown to brown, pale grey-white, with trace fines of low plasticity.
		Sandy Gravelly CLAY - medium to high plasticity, brown, pale brown, fine to medium grained rounded gravel, medium to coarse grained sand.
2	Residual Soils	CLAY - medium to high plasticity, brown, with some fine to medium grained, sub-rounded to rounded gravel.
		Silty CLAY – medium plasticity, grey to pale grey, orange-brown, red- brown.
		SAND – fine to medium grained, pale grey-white, with some fines of low plasticity.
		Extremely Weathered Sandstone – breaks down into SAND, fine to medium grained, brown to orange-brown.
3 Weathered Rock		Highly to Moderately Weathered Sandstone.
	Weathered Rock	Extremely Weathered Conglomerate – breaks down into Sandy GRAVEL, fine to coarse grained, sub-rounded to rounded, medium to coarse grained sand.
		Highly Weathered Conglomerate.
		Extremely Weathered Siltstone – breaks down into Silty CLAY, low to medium plasticity, grey.

Location	Unit 1	Unit 2	Unit 3
	Fill	<b>Residual Soil</b>	Weathered Rock
		Depth in metres (m)	
AST1	0.0-0.5	0.5-1.0	-
TPQ01	0.0-1.3	1.3-1.8	-
TPQ02	0.0-2.0	2.0-2.7	-
TPQ03	0.0-0.1	0.1-0.7	-
TPQ04	0.0-0.1	0.1-1.2	-
TPQ05	0.0-0.6	0.6-1.2	-
TPQ06	0.0-1.5	1.5-2.1	-
TPQ07	0.0-0.2	0.2-0.8	-
TPQ08	0.0-1.8	1.8-2.2	-
TPQ09	0.0-0.8	0.8-1.1	-
TPQ10	0.0-0.8	0.8-1.0	-
TPQ11	0.0-0.8	0.8-1.7	-
TPS1	0.0-1.5	1.5-2.0	-
TPS3	0.0-2.3	2.3-2.7	-
TPS4	-	0.0-0.15	0.15-0.2
TPS5	0.0-0.05	0.05-0.7	-
TPS6	0.0-0.5	0.5-1.0	-
TPS7	0.0-0.05	0.05-0.6	-
TPS8	0.0-1.0	-	1.0-1.1
TPW1	0.0-0.2	0.2-0.7	-
TPW2	0.0-0.2	0.2-0.6	-
TPW3	0.0-0.2	0.2-1.0	-
TPW4	0.0-0.2	0.2-1.0	-
WBTP01	0.0-1.3	1.3-1.5	-
WBTP02	0.0-0.3	-	0.3-0.4
WBY1	0.0-0.5	0.5-1.0	-
WBY1	0.0-0.5	0.5-1.0	-
WPP1	-	-	0.0-0.5
WPP2	0.0-0.3	0.3-0.9	0.9-1.3
WPP3	0.0-0.2	0.2-0.6	-
WPP4	0.0-0.2	0.2-0.9	-

Table 8.1.2 – Summary of Soil Units Encountered at Test Locations

One fragment of potential asbestos containing material was observed on the surface in the area of test pit QTP05. The fragment was about 50mm x 40mm in size and was not crushable with hand pressure. The results of gravimetric asbestos testing are included in Section 8.3 below.

No groundwater inflows were observed during test pitting to depths of 0.7m to 2.7m during the short time the test pits were left open.

# 8.2 PID Results

For soil samples collected around the bunded AST and the wash bay, PIDs were recorded between 0.2ppm to 2.2ppm, which indicates a negligible potential for volatile contamination to be present. The PID results are presented in Table 8.2 below.

Sample ID	Soil Description	PID (ppmv)
AST1 0.0-0.1m	Fill: Sandy Gravel, fine to coarse grained, pale brown to	2.2
AST1 0.4-0.5m	brown, with lines of low plasticity.	0.2
AST1 0.5-0.6m	Residual Soil: Sandy Gravel, fine to coarse grained, pale brown to brown, with fines of low plasticity	0.2
WBY1 0.0-0.1m	Fill: Sandy Gravel, fine to coarse grained, pale brown to	2.1
WBY1 0.4-0.5m	blown, with lines of low plasticity.	1.8
WBY1 0.6-0.7m	Residual Soil: Sandy Gravel, fine to coarse grained, pale brown to brown, with fines of low plasticity	0.2
WBY2 0.0-0.1m	Fill: Sandy Gravel, fine to coarse grained, pale brown to	1.5
WBY2 0.4-0.5m		0.8
WBY2 0.9-1.0m	Residual Soil: Sandy Gravel, fine to coarse grained, pale brown to brown, with fines of low plasticity	0.2

Table 8.2 -	Summary of	of PID	Results
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# 8.3 Laboratory Results

Soil analytical results are summarised in Table 1 and Table 3, Appendix H, including the results of the EMM (2014 and 2015) assessments. The laboratory analytical reports are also included in Appendix K.

The laboratory results were compared to the investigation levels described in Sections 6. The analytical results indicated that concentrations of contaminants were reported below the adopted criteria, with the exception of:

AEC	Concentrations Above Adopted Criteria
1&2	Human Health
	<ul> <li>Concentrations of TRH C10-C16 minus naphthalene exceeded the HSL (110mg/kg) in EMM (2014) sample SS3 (430mg/kg) and EMM (2015) sample 1-2.0 (850mg/kg).</li> </ul>
	Ecological
	<ul> <li>Concentrations of TRH C10-C16 exceeded the ESL (120mg/kg) in EMM (2014) sample SS3 (430mg/kg) and EMM (2015) sample 1-2.0 (850mg/kg);</li> </ul>

	<ul> <li>Concentrations of TRH C16-C34 exceeded the ESL (300mg/kg) in EMM (2014) samples SS1 (430mg/kg), SS2 (490mg/kg), SS3 (22,000mg/kg), SS4 (710mg/kg), and EMM (2015) sample 1-2.0 (2,970mg/kg); and,</li> </ul>						
	<ul> <li>Concentrations of TRH C34-C40 exceeded the ESL (2,800mg/kg) in EMM (2014) sample SS3 (6,350mg/kg).</li> </ul>						
	Management Limits						
	<ul> <li>Concentrations of TRH C16-C34 exceeded the management limits (10,000mg/kg) in EMM (2014) sample SS3 (22,000mg/kg).</li> </ul>						
8	Human Health						
	<ul> <li>Concentrations of lead were equal to the HIL (300mg/kg) in sample TPQ5 0.0-0.1m (300mg/kg); and,</li> </ul>						
	• Chrysotile and amosite asbestos was detected in a fragment of bonded fibre cement material adjacent to QTP5. The fragment could not be crushed with hand pressure. The fragment weight showed ACM was above the HSL in soil sample TPQ5 0.0-0.1m.						

It is noted that the ACM fragment at location TPQ5 was removed as part of the sampling, and no other fragments were found in the test pit, or on the site surface around TPQ5. Excavation of test pits around TPQ5 was limited by the presence of vegetation planted as part of the quarry rehabilitation that were not permitted to be disturbed.

# 9.0 Conceptual Site Model

Based on the results of the preliminary and detailed site investigation carried out on the site, a Conceptual Site Model (CSM) has been developed, and is presented in Table 9 below.

#### Table 9.0 – Conceptual Site Model

AEC	COPC	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential Mechanisms of Exposure	Sampling Completed	Pote
<ol> <li>Former diesel AST drum storage in bunded area:         <ul> <li>Bunded area where AST (now removed) was located;</li> <li>Storage of oil drums;</li> <li>Stains and liquids with sheens in bund.</li> </ul> </li> <li>2. Wash Bay:         <ul> <li>Located adjacent to bunded AST (now removed);</li> <li>Washing of vehicles, and potential leaks/spills of fuel/oils/lubricants.</li> </ul> </li> </ol>	TRH, PAH	<ul> <li>Top-down leaks/spills from ASTs, drums and bund.</li> <li>Leaching of soil contaminants to surface water and groundwater.</li> <li>Top-down release of contaminated wash water from wash bay</li> <li>Top-down leaks/spills from wash bay.</li> <li>Leaching of soil contaminants to</li> </ul>	<ul> <li>Soils</li> <li>Surface water</li> <li>Groundwater</li> </ul>	<ul> <li>Site users</li> <li>Soil biota/plants and transitory wildlife</li> <li>Onsite surface water – Process Pond located approximately 10m north of the AST bund and wash-bay.</li> <li>Offsite surface water – unnamed creek which has its headwater onsite, and bisects the Process Pond, and Lower and Upper Lily Ponds.</li> <li>Groundwater dependent ecosystems – Newrybar Swamp about 3km south of the site.</li> </ul>	<ul> <li>Direct dermal contact with contaminated soil and/or surface water</li> <li>Ingestion of contaminated soil and/or surface water</li> <li>Inhalation of hydrocarbon vapours</li> <li>Leaching of soil contaminants to surface water and/or groundwater</li> <li>Surface water discharge unnamed creek, and eventually Newry Bar swamp.</li> <li>Groundwater discharae to</li> </ul>	Soil: Soil: SS1 to SS5 (EMM, 2014) Target 1 - 1-1.0, 1-1.1, 1-2.0, 1-2.1, 1-3.0, 1-3.1 (EMM, 2015) AST1, S5 Surface water SW1 to SW5 (EMM, 2014) Soil: SS1 to SS5 (EMM, 2014) Target 1 - 1-1.0, 1-1.1, 1-2.0, 1-2.1, 1-3.0, 1-3.1 (EMM, 2015) WBY1, WBY2	•
		surface water and groundwater.			Newrybar Swamp.	<ul> <li>Surface water</li> <li>SW1 to SW5 (EMM, 2014)</li> </ul>	

#### ential & Complete Exposure Pathways

Complete exposure pathway for site users due to concentrations of TRH in surface soil samples down-gradient of AST and wash-bay.

Potentially complete exposure pathway for ecological receptors due to concentrations of TRH in surface soil samples down-gradient of AST and wash-bay.

Incomplete exposure pathway for Process Pond and unnamed creek as hydrocarbons reported concentrations <LOR in surface water samples from Process Pond and Upper Lily Pond.

Likely incomplete exposure pathway for groundwater due to expected depth of groundwater (>5m bgs), and top-down nature of contamination.

AEC	COPC	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential Mechanisms of Exposure	Sampling Completed	Pote
<ul> <li>3. Workshop, machinery shed:</li> <li>Storage and use of fuels, oils and chemicals</li> <li>Spills/leaks of fuels, oils and chemicals</li> </ul>	TRH, PAH, Metals	<ul> <li>Top-down leaks/spills.</li> <li>Leaching of soil contaminants to surface water and groundwater</li> </ul>	<ul> <li>Soils</li> <li>Surface water</li> <li>Groundwater</li> </ul>	<ul> <li>Site users</li> <li>Soil biota/plants and transitory wildlife</li> <li>Onsite surface water – Process Pond located approximately 10-15m north of northern workshop.</li> <li>Offsite surface water – unnamed creek which has its headwater onsite, and bisects the Process Pond, and Lower and Upper Lily Ponds.</li> <li>Groundwater dependent ecosystems – Newrybar Swamp about 3km south of the site.</li> </ul>	<ul> <li>Direct dermal contact with contaminated soil and/or surface water</li> <li>Ingestion of contaminated soil and/or surface water</li> <li>Inhalation of hydrocarbon vapours</li> <li>Leaching of soil contaminants to surface water and/or groundwater</li> <li>Surface water discharge unnamed creek, and eventually Newry Bar swamp.</li> <li>Groundwater discharge to Newrybar Swamp.</li> </ul>	Soil: • TPW1 to TPW4, S4 Surface water • SW1 to SW5 (EMM, 2014)	•

Likely incomplete exposure pathway for site users, as no contamination identified. Further assessment in building footprints required post-demolition to check for potential contamination under buildings.

Incomplete exposure pathway for ecological receptors as no contamination identified.

Incomplete exposure pathway for Process Pond and unnamed creek as no soil contamination identified. In addition, hydrocarbons reported concentrations <LOR in surface water samples from Process Pond and Upper Lily Pond.

Likely incomplete exposure pathway for groundwater due to expected depth of groundwater (>5m bgs), and no contamination identified.

AEC	COPC	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential Mechanisms of Exposure	Sampling Completed	Pote
<ul> <li>4. Wet-processing plants:</li> <li>"Current" and former wet-processing plants. Note "current" plant now removed.</li> <li>Use of hydraulic fluids.</li> </ul>	TRH, PAH	<ul> <li>Top-down leaks/spills of hydraulic fluids.</li> <li>Leaching of fill contaminants to surface water and groundwater.</li> </ul>	<ul> <li>Soils</li> <li>Surface water</li> <li>Groundwater</li> </ul>	<ul> <li>Site users</li> <li>Soil biota/plants and transitory wildlife</li> <li>Onsite surface water – Lower Lily Pond located approximately 60m west of "current" plant.</li> <li>Offsite surface water – unnamed creek which has its headwater onsite, and bisects the Process Pond, and Lower and Upper Lily Ponds.</li> <li>Groundwater dependent ecosystems – Newrybar Swamp about 3km south of the site.</li> </ul>	<ul> <li>Direct dermal contact with contaminated soil and/or surface water</li> <li>Ingestion of contaminated soil and/or surface water</li> <li>Inhalation of hydrocarbon vapours</li> <li>Leaching of soil contaminants to surface water and/or groundwater</li> <li>Surface water discharge unnamed creek, and eventually Newry Bar swamp.</li> <li>Groundwater discharge to Newrybar Swamp.</li> </ul>	Soil: • Target 3 – 3.1.0, 3-1.1 (EMM, 2015) • WPP1 to WPP4 ("current plant") • TPQ6 (old plant) Surface water • SW1 to SW5 (EMM, 2014)	<ul> <li>I</li> <li>I</li></ul>

- Incomplete exposure pathway for site users, as no contamination identified.
- Incomplete exposure pathway for ecological receptors as no contamination identified.
- Incomplete exposure pathway for Lower Lily Pond and unnamed creek as no soil contamination identified. In addition, hydrocarbons reported concentrations <LOR in surface water samples from Process Pond and Upper Lily Pond.
- Likely incomplete exposure pathway for groundwater due to expected depth of groundwater (>5m bgs), and no contamination identified.

AEC	COPC	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential Mechanisms of Exposure	Sampling Completed	Pote
<ul> <li>5. Former weighbridge and office:</li> <li>Storage and use of fuels, oils</li> <li>Spills/leaks of fuels, oils</li> </ul>	TRH, PAH	<ul> <li>Top-down leaks/spills fuels/oils.</li> <li>Leaching of fill contaminants to surface water and groundwater.</li> </ul>	<ul> <li>Soils</li> <li>Surface water</li> <li>Groundwater</li> </ul>	<ul> <li>Site users</li> <li>Soil biota/plants and transitory wildlife</li> <li>Onsite surface water – Lower Lily Pond located approximately 200m west of weighbridge.</li> <li>Offsite surface water – unnamed creek which has its headwater onsite, and bisects the Process Pond, and Lower and Upper Lily Ponds.</li> <li>Groundwater dependent ecosystems – Newrybar Swamp about 3km south of the site.</li> </ul>	<ul> <li>Direct dermal contact with contaminated soil and/or surface water</li> <li>Ingestion of contaminated soil and/or surface water</li> <li>Inhalation of hydrocarbon vapours</li> <li>Leaching of soil contaminants to surface water and/or groundwater</li> <li>Surface water discharge unnamed creek, and eventually Newry Bar swamp.</li> <li>Groundwater discharge to Newrybar Swamp.</li> </ul>	Soil: • WBTP1, WBTP2 Surface water • SW1 to SW5 (EMM, 2014)	

- Incomplete exposure pathway for site users, as no contamination identified.
- Incomplete exposure pathway for ecological receptors as no contamination identified.
- Incomplete exposure pathway for Lower Lily Pond and unnamed creek as no soil contamination identified. In addition, hydrocarbons reported concentrations <LOR in surface water samples from Process Pond and Upper Lily Pond.
- Likely incomplete exposure pathway for groundwater due to expected depth of groundwater (>5m bgs), and no contamination identified.

AEC	COPC	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential Mechanisms of Exposure	Sampling Completed	Pote
<ul> <li>6. Former "dumping yard" identified by EMM:</li> <li>Storage of waste materials</li> </ul>	TRH, BTEX, PAH, Metals, Asbestos	<ul> <li>Top-down leaks/spills, flakes/fibres onto soil.</li> <li>Leaching of fill contaminants to surface water and groundwater.</li> </ul>	<ul> <li>Soils</li> <li>Surface water</li> <li>Groundwater</li> </ul>	<ul> <li>Site users</li> <li>Soil biota/plants and transitory wildlife</li> <li>Onsite surface water – Process Pond located approximately 200m south-west of area.</li> <li>Offsite surface water – unnamed creek which has its headwater onsite, and bisects the Process Pond, and Lower and Upper Lily Ponds.</li> <li>Groundwater dependent ecosystems – Newrybar Swamp about 3km south of the site.</li> </ul>	<ul> <li>Direct dermal contact with contaminated soil and/or surface water</li> <li>Ingestion of contaminated soil and/or surface water</li> <li>Inhalation of hydrocarbon vapours</li> <li>Inhalation of asbestos fibres</li> <li>Leaching of soil contaminants to surface water and/or groundwater</li> <li>Surface water discharge unnamed creek, and eventually Newry Bar swamp.</li> <li>Groundwater discharge to Newrybar Swamp.</li> </ul>	Soil: • Target 2 - 2-1.0 (EMM, 2015) • QTP4 Surface water • SW1 to SW5 (EMM, 2014)	•   •   •   •   •   •   •   •

- Incomplete exposure pathway for site users, as no contamination identified.
- Incomplete exposure pathway for ecological receptors as no contamination identified.
- Incomplete exposure pathway for Process Pond and unnamed creek as no soil contamination identified. In addition, hydrocarbons reported concentrations <LOR in surface water samples from Process Pond and Upper Lily Pond.
- Likely incomplete exposure pathway for groundwater due to expected depth of groundwater (>5m bgs), and no contamination identified.

AEC	COPC	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential Mechanisms of Exposure	Sampling Completed	Pote
<ul> <li>7. Quarrying activities, including importation of "topsoil" fill for processing and on-selling</li> <li>Potential importation of fill of unknown origin and quality</li> <li>Spills/leaks of diesel/lubricants from excavators, dozers, trucks</li> </ul>	TRH, BTEX, PAH, Metals, Asbestos	<ul> <li>Potential importation of fill of unknown origin and quality</li> <li>Spills/leaks of diesel/lubricants from excavators, dozers, trucks</li> <li>Leaching of fill contaminants to surface water and groundwater.</li> </ul>	<ul> <li>Fill material</li> <li>Soils</li> <li>Surface water</li> <li>Groundwater</li> </ul>	<ul> <li>Site users</li> <li>Soil biota/plants and transitory wildlife</li> <li>Onsite surface water – Process Pond, and Lower and Upper Lily Ponds located in southern portion of site.</li> <li>Offsite surface water – unnamed creek which has its headwater onsite, and bisects the Process Pond, and Lower and Upper Lily Ponds.</li> <li>Groundwater dependent ecosystems – Newrybar Swamp about 3km south of the site.</li> </ul>	<ul> <li>Direct dermal contact with contaminated soil and/or surface water</li> <li>Ingestion of contaminated soil and/or surface water</li> <li>Inhalation of hydrocarbon vapours</li> <li>Inhalation of asbestos fibres</li> <li>Leaching of soil contaminants to surface water and/or groundwater</li> <li>Surface water discharge unnamed creek, and eventually Newry Bar swamp.</li> <li>Groundwater discharge to Newrybar Swamp.</li> </ul>	Soil: • R1, R2, R2.05, R3, R4, R5, R6, R7, R8, R8.05, R9, R10, R11 (EMM, 2015) • TPQ01 to TPQ11 and TPS1 and TPS3 to TPS8 Surface water • SW1 to SW5 (EMM, 2014)	•

- Incomplete exposure pathway for site users, as no contamination identified.
- Incomplete exposure pathway for ecological receptors as no contamination identified.
- Incomplete exposure pathway for onsite surface water and unnamed creek as no soil contamination identified. In addition, hydrocarbons reported concentrations <LOR in surface water samples from Process Pond and Upper Lily Pond, and metals were at regional background concentrations.
- Likely incomplete exposure pathway for groundwater due to expected depth of groundwater (>5m bgs), and no contamination identified.

AEC	COPC	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential Mechanisms of Exposure	Sampling Completed	Pote
<ul> <li>8. Filling on site:</li> <li>Potential importation of fill of unknown origin and quality</li> </ul>	TRH, BTEX, PAH, Metals, Asbestos	<ul> <li>Potential importation of fill of unknown origin and quality</li> <li>Leaching of fill contaminants to surface water and groundwater.</li> </ul>	<ul> <li>Fill material</li> <li>Soils</li> <li>Surface water</li> <li>Groundwater</li> </ul>	<ul> <li>Site users</li> <li>Soil biota/plants and transitory wildlife</li> <li>Onsite surface water – Process Pond, and Lower and Upper Lily Ponds located in southern portion of site.</li> <li>Offsite surface water – unnamed creek which has its headwater onsite, and bisects the Process Pond, and Lower and Upper Lily Ponds.</li> <li>Groundwater dependent ecosystems – Newrybar Swamp about 3km south of the site.</li> </ul>	<ul> <li>Direct dermal contact with contaminated soil and/or surface water</li> <li>Ingestion of contaminated soil and/or surface water</li> <li>Inhalation of hydrocarbon vapours</li> <li>Inhalation of asbestos fibres</li> <li>Leaching of soil contaminants to surface water and/or groundwater</li> <li>Surface water discharge unnamed creek, and eventually Newry Bar swamp.</li> <li>Groundwater discharge to Newrybar Swamp.</li> </ul>	Soil: AST1, WBY1, WBY2, TPW1 to TPW4, WPP2 to WPP4, TPQ01 to TPQ11, TPS1, TPS3, TPS5 to TPS8, WBTP1, WBTP2, S1 to S5	

Note: <LOR = concentrations were less than the laboratory limit of reporting.

## ential & Complete Exposure Pathways

Complete exposure pathway for site users, as ACM contamination, and elevated lead concentrations, identified on/in surface soils at location.

Incomplete exposure pathway for ecological receptors as no contamination above EILs/ESLs identified.

Incomplete exposure pathway for onsite surface water and unnamed creek as no soil contamination above EILs/ESLs identified.

Likely incomplete exposure pathway for groundwater due to expected depth of groundwater (>5m bgs), and contamination/impacts located on surface.

# **10.0 Conclusions and Recommendations**

The site history assessment indicated the site was used for quarrying since at least the 1920s, until circa 2018 when operations ceased. The quarry was then significantly rehabilitated between 2018 and 2019 via land-forming, and planting of vegetation. The main quarry area is now vegetated. The southern portion of the site contains remnant infrastructure, including: workshop and office buildings; concrete bund of former diesel AST now containing oil drums; wash-bay; concrete structure which previously supported wet-processing plant and concrete water tanks; and former weighbridge area and office.

Eight Areas of Environmental Concern (AECs) were identified based on the site history and site observations. The AECs related to:

- 9. Former diesel AST and bunded area;
- 10. Wash-bay;
- 11. Workshop and machinery sheds;
- 12. Current and former wet-processing plants;
- 13. Former weighbridge and office;
- 14. Former "dumping yard" identified by EMM (no waste present at time of Qualtest site visit);
- 15. Quarrying activities; and,
- 16. Filling on the site.

Sampling and analysis targeted the AECs listed above. The assessment identified fill material in most sample locations. The fill material generally appeared to be re-worked natural soils on the site, or imported quarry products (i.e. road base). In one location, TPQ05, a fragment of Asbestos Containing Material (ACM) was identified on the surface of the fill.

The laboratory results showed concentrations of contaminants below the adopted criteria (residential land use with accessible soil), with the exception of:

- TRH contamination exceeding the human and ecological criteria in several soil samples down-gradient from the AST bund and wash-bay; and,
- Elevated lead concentrations on the human health criteria, and ACM above the human health criteria in fill in one quarry fill location, TPQ05. Further assessment around TPQ05 was limited during the field investigations due to the presence of vegetation which was not permitted to be destroyed due to rehabilitation requirements of the quarry.

The Conceptual Site Model (CSM) indicated that there was a complete exposure pathway for human and ecological receptors due to petroleum hydrocarbon contamination in surface soils down-gradient of the AST bund and wash-bay, and ACM and lead in surface soils in an area of fill in the quarry (location TPQ05).

It is considered that the site can be made suitable for residential land use, if the following recommendations are implemented:

- Preparation and implementation of a Remediation Action Plan. The RAP would include:
  - Outline of the additional assessment required in the area of fill around TPQ05;
  - Outline of additional assessment of the workshop, AST bund and wash-bay footprints after demolition of the buildings/structures; and,

- The remedial strategy for the identified contamination.
- Preparation of an Unexpected Finds Procedure (UFP) to be implemented during remediation, vegetation clearing, and earthworks for the subdivision.

Based on the assessment completed and the contamination identified, it is considered that preparation of the RAP and UFP could be made a condition of consent for future development application(s). If this was adopted then the RAP and UFP would not be required for the rezoning application.

This report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPC 2013, Canberra (referred to as ASC NEPM 2013). This report comprises a Stage 1 Preliminary Site Investigation and Stage 2 Detailed Site Investigation as described in SEPP (Resilience and Hazards) 2021, Chapter 4.

# 11.0 Limitations

This report has been prepared by Qualtest for Darley Pty Ltd atf GWR Trust & Crisjoy Pty Ltd atf The Lighthouse Unit Trust based on the objectives and scope of work list in Sections 1.1 and 1.2. No warranty, expressed or implied, is made as to the information and professional advice included in this report. Anyone using this document does so at their own risk and should satisfy themselves concerning its applicability and, where necessary, should seek expert advice in relation to their particular situation.

The opinions, conclusions and recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. Qualtest has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

In preparing this report Qualtest has relied on information contained in reports, documents and plans by others, and has assumed that the information provided in those reports is accurate. In preparing this report Qualtest has relied on information contained in searches of government websites and has not independently verified or checked the data contained on these websites.

In preparing this report, current guidelines for assessment and management of contaminated land were followed. The conclusions reached in this report are dependent on the limitations inherent in all subsurface investigations where horizontal and vertical variation in contaminant concentrations can occur. No subsurface assessment can accurately predict the contaminant concentration at all points.

Site conditions may change after the date of this Report. Qualtest does not accept responsibility arising from, or in connection with, any change to the site conditions.

# 12.0 References

**NSW Department of Primary Industries (Office of Water)** Registered Groundwater Bore Map, accessed from <u>http://allwaterdata.water.nsw.gov.au/water.stm</u>.

**NSW Land and Property Information**, Spatial Information eXchange (SIX) Maps - Topographic Map, accessed from <u>https://maps.six.nsw.gov.au/</u>.

NSW and Department of Planning, Industry and Environment, 2021, accessed from espade.environment.nsw.gov.au.

NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land.

**NEPC (2013)** National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), Canberra (ASC NEPM 2013).

NSW EPA (2022) Sampling Design Part 1 – Application

NSW EPA (2022) Sampling Design Part 2 – Interpretation

HEPA (2020) PFAS National Environmental Management Plan

**WA DoH (2009)** Guidelines of the assessment and management of asbestos contaminated sites in Western Australia, WA Department of Health and Department of Environment and Conservation

Broken Head Quarry website - https://www.brokenheadquarry.com.au/

**R. W. Corkey & Co. Pty Ltd (RWCC)** (1997) Environmental Impact Statement for the Extension of an Existing Sand Quarry at Suffolk Park, report no. 314/04 dated October 1997

**Extract of: EMM Consulting Pty Ltd (EMM) (2014)** Proposed Community Title Subdivision, Broken Head Quarry, Statement of Environmental Effects, ref: J11032RP1, dated June 2014

**SLR Consulting Australia Pty Ltd (SLR) (2023)** Planning Proposal, Amend Byron Bay Local Environmental Plan 2014, Part of the Former Broken Head Quarry, Suffolk Park, ref: 631.30868.00000-R01.v1.0, dated March 2023

# APPENDIX A: Figures





Client:	The Lighthouse Unit Trust	Drawing No:	FIGURE 1
Project:	Proposed Rezoning	Project No:	NEW24P-0141
Location:	Broken Head Road, Suffolk Park	Scale:	NTS
Title:	Site Location Plan	Date:	24/06/2024



Date:

24/06/2024



Client:	The Lighthouse Unit Trust
Project:	Proposed Rezoning
Location:	Broken Head Road, Suffolk Park
Title:	Lot Layout Plan





Image from Nearmaps (https://www



Client:	The Lighthouse Unit Trust	Drawing No:	FIGURE 4
Project:	Proposed Rezoning	Project No:	NEW24P-0141-AA
Location:	Broken Head Road, Suffolk Park	Scale:	N.T.S.
Title:	Site Features Plan - South	Date:	24/06/2024



Image obtained from Nearmaps, image dated 12 October 2023



Client:	The Lighthouse Unit Trust	Drawing No:	FIGURE 5
Project:	Proposed Rezoning		NEW24P-0141-AA
Location:	Broken Head Road, Suffolk Park	Scale:	N.T.S.
Title:	Site Features Plan - North	Date:	9/07/2024







ient:	The Lighthouse Unit Trust
oject:	Proposed Rezoning
cation:	Broken Head Road, Suffolk Park
e:	EMM Targeted Sampling Locations May 2015 (EMM, SCA, 2015)







Client:	The Lighthouse Unit Trust	Drawing No:	FIGURE 8
Project:	Proposed Rezoning	Project No:	NEW24P-0141-AA
Location:	Broken Head Road, Suffolk Park	Scale:	N.T.S.
Title:	EMM Random Sampling Locations May 2015 (EMM, SCA, 2015)	Date:	24/06/2024

Random sampling site locations Supplementary Contamination Assessment Broken Head Quarry Figure 6.1

Image from EMM (2015) SCA, Figure 6.1







# APPENDIX B: Groundwater Bore Search

All Groundwater Site Details

# ALL GROUNDWATER MAP

All data times are Eastern Standard Time

Map Info



bookmark this page

Scale = 1 : 1693

# WaterNSW Work Summary

#### GW071160

Licence: 30WA309671 Licence Status: CURRENT Authorised Purpose(s): DOMESTIC Intended Purpose(s): STOCK, DOMESTIC Work Type: Work Status: Construct.Method: Rotary **Owner Type: Commenced Date:** Final Depth: 115.00 m Completion Date: 14/09/1993 Drilled Depth: 115.00 m Contractor Name: William Douglas JACKWITZ Driller: William Douglas Jackwitz Assistant Driller: Property: N/A Broken Head Rd BROKEN HEAD Standing Water Level 2481 NSW (m): GWMA: -Salinity Description: Good GW Zone: -Yield (L/s): 0.550

#### Site Details

Site Chosen By:

		Form A: Licensed:	County ROUS ROUS	<b>Parish</b> NEWRYBAR NEWRYBAR	<b>Cadastre</b> LT1 DP700806 Whole Lot 1//700806
Region:	30 - North Coast	СМА Мар:	9640-4S		
River Basin: Area/District:	203 - RICHMOND RIVER	Grid Zone:		Scale	:
Elevation: Elevation Source:	70.00 m (A.H.D.) Est. Contour 8-15M.	Northing: Easting:	6825436.000 558117.000	Latitude: Longitude:	: 28°41'49.3"S : 153°35'41.8"E
GS Map:	-	MGA Zone:	56	Coordinate Source	GD.,ACC.MAP

#### Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Туре	From	То	Outside	Inside	Interval	Details
				(m)	(m)	Diameter	Diameter		
						(mm)	(mm)		
1		Hole	Hole	0.00	115.00	168			Rotary Air
1	1	Casing	Pvc Class 9	-0.30	105.00	160			Driven into Hole, Glued
1	1	Opening	Slots - Vertical	56.00	105.00	160		1	Mechanically Slotted, PVC Class 9, SL: 0.1mm, A:
									3.00mm

#### Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Туре	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
58.00	60.00	2.00	Consolidated			0.25			
102.00	107.00	5.00	Fractured			0.30		01:00:00	

# **Drillers Log**

6/19/24, 3:25 PM

 $real time data.waternsw.com.au/wgen/users/1c40dc3cba7a482aaef45ced46ee0286/gw071160.agagpf\_org.wsr.htm?1718774715382...$ 

From	То	Thickness	Drillers Description	Geological Material	Comments
(m)	(m)	(m)			
0.00	12.00	12.00	Clay	Clay	
12.00	18.00	6.00	Sandstone & gravel	Sandstone	
18.00	32.00	14.00	Clay	Clay	
32.00	50.00	18.00	Sandstone - soft	Sandstone	
50.00	56.00	6.00	Clay - red	Clay	
56.00	70.00	14.00	Sandstone	Sandstone	
70.00	110.00	40.00	Shale	Shale	
110.00	115.00	5.00	Shale	Shale	

#### \*\*\* End of GW071160 \*\*\*

Warning To Clients: This raw data has been supplied to the WaterNSW by drillers, licensees and other sources. WaterNSW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

# WaterNSW Work Summary

#### GW305125

Licence:	30WA310252	Li	cence Status:	CURREN	Г	
		Authorise Intende	ed Purpose(s): ed Purpose(s):	INDUSTR INDUSTR	IAL - SAND & GRAVE IAL - SAN	L
Work Type:	Bore					
Work Status:						
Construct.Method:						
Owner Type:						
Commenced Date: Completion Date:			Final Depth: Drilled Depth:	25.00 m		
Contractor Name:	(None)					
Driller:						
Assistant Driller:						
Property:	CRISJOY PTY LIMITED Broken Head	Standin	g Water Level			
GWMA:	-	Salinit	(m): y Description:			
GW Zone:	-		Yield (L/s):			
Site Details						
Site Chosen By:						
			County	F	Parish	Cadastre
		Form A: Licensed:	ROUS	E	JNKNOWN BYRON	Whole Lot 1//123302
<b>Region:</b> 30 -	North Coast	CMA Map:				
River Basin: - Un Area/District:	known	Grid Zone:			Scale	
Elevation: 0.00 Elevation Source: Unk	m (A.H.D.) nown	Northing: Easting:	6825443.000 558357.000		Latitude: Longitude:	28°41'49.0"S 153°35'50.7"E
GS Map: -		MGA Zone:	56		Coordinate Source	Map Interpre

#### Remarks

01/07/2005: Form A Remarks:

The site manager advised the bore has been existing for approx. nine years and is estimated to be at a depth of 25 metres. Casing is PVC 50mm diameter.

#### \*\*\* End of GW305125 \*\*\*

Warning To Clients: This raw data has been supplied to the WaterNSW by drillers, licensees and other sources. WaterNSW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.
# **APPENDIX C:** Historical Titles

## **ADVANCE LEGAL SEARCHERS PTY LTD**

(ACN 147 943 842) ABN 82 147 943 842

18/36 Osborne Road, Manly NSW 2095 Mobile: +61412 169 809 Email: search@alsearchers.com.au

24<sup>th</sup> June, 2024

QUALTEST LABORATORY (NSW) PTY LTD 2 Murray Dwyer Circuit, MAYFIELD WEST NSW 2304

Attention: Emma Coleman,

RE:

## Broken Head Road, Suffolk Park

Note 1:	Lot 1	DP 123302	(page 1)
Note 2:	Lot 2	DP 700806	(page 4)

Note 1:

## **Current Search**

Folio Identifier 1/123302 (title attached) DP 123302 (plan attached) Dated 20<sup>th</sup> June, 2024 Registered Proprietor: **DARLEY PTY LTD** (ACN 001 261 061) **CRISJOY PTY LIMITED** (ACN 102 915 560)

# Title Tree Lot 1 DP 123302

Folio Identifier 1/123302

Certificate of Title Volume 8488 Folio 114

Certificate of Title Volume 6756 Folio's 198 & 199

Certificate of Title Volume 4646 Folio 35

Crown Land

\*\*\*\*

Index

T – Transfer G – Grant

# Summary of proprietor(s) Lot 1 DP 123302

Year

## Proprietor(s)

	(Lot 1 DP 123302)	
29 Feb 2024	Darley Pty Ltd (ACN 001 261 061)	Т
	Crisjoy Pty Limited (ACN 102 915 560)	
12 Mar 2003	Crisjoy Pty Limited (ACN 102 915 560)	Т
18 Sep 1989	Batson Land and Gravel Pty Limited	
	(Part Portion 207 Parish Byron – Area 75 Acres 0 Rood 23	
	Perches – CTVol 8488 Fol 114)	
08 Jul 1985	Batson Land and Gravel Pty Limited	Т
04 Dec 1968	R & B Batson Pty Limited	Т
10 Jan 1964	Gordon Alan Duncombe, contractor	Т
	(Part Portion 207 Parish Byron and other lands – Area 75 Acres	
	1 Rood 23 Perches – CTVol 6756 Fol's 198 & 199)	
17 Dec 1953	Walter Cyril Duncombe, contractor	
	Gordon Alan Duncombe, contractor	
	(Portion 207 Parish Byron – Area 137 Acres – CTVol 4646 Fol	
	35)	
26 May 1948	Robert Bertram Trimble, cream carrier	Т
26 May 1948	Thomas Charles Sleep, farmer	Т
05 Sep 1934	The Rural Bank of New South Wales	G
	(mortgagor Thomas Charles Sleep, farmer)	
	(Portion 207 Parish Byron – Area 137 Acres)	
Prior to 05 Sep	Crown Land	
1934		
(1905 to 05 Sep	(Conditional Purchase 1905/18, Lismore)	
1934)		

### Note 2:

## **Current Search**

Folio Identifier 2/700806 (title attached) DP 700806 (plan attached) Dated 20<sup>th</sup> June, 2024 Registered Proprietor: **DARLEY PTY LTD** (ACN 001 261 061) **CRISJOY PTY LIMITED** (ACN 102 915 560)

## Title Tree Lot 2 DP 700806

Folio Identifier 2/700806

**(a)** 

**(b)** 

CTVol 7041 Folio 128

CTVol 7041 Folio 129

Certificate of Title Volume 6727 Folio's 36 & 37

Certificate of Title Volume 6709 Folio 33

Certificate of Title Volume 4646 Folio 35

Crown Land

\*\*\*\*

### Index

 $\begin{array}{c} T-Transfer\\ G-Grant \end{array}$ 

# Summary of proprietor(s) Lot 2 DP 700806

### Year

**Proprietor(s)** 

	(Lot 2 DP 700806)	
29 Feb 2024	Darley Pty Ltd (ACN 001 261 061)	Т
	Crisjoy Pty Limited (ACN 102 915 560)	
12 Mar 2003	Crisjoy Pty Limited (ACN 102 915 560)	Т
31 Aug 1984	Batson Land and Gravel Pty Limited	Т
26 Mar 1984	Derek Beckner	
	Michael Robert Birch	
	R & B Batson Pty Limited	

## See Notes (a) & (b)

## Note (a)

	(Lot C DP 392638 – Area 17 Acres 1 Rood 33 Perches – CTVol	
	7041 Fol 128)	
04 Feb 1982	Derek Beckner	Т
	Michael Robert Birch	
03 Aug 1972	Evelyn May Hofford, hospital supervisor	Т
	John Francis Hofford, draftsman	
31 Oct 1955	Clarence Milton Irvine, banana grower	
	(Land in DP 383212 – Area 29 Acres 2 Roods 3 ½ Perches –	
	CTVol 6727 Fol' 36 & 37)	
08 Oct 1953	Robert Bertram Trimble, carrier	Т
	Jouke de Maar, garage proprietor	
	(DP 383211 – Area 61 Acres 3 Roods 17 Perches – CTVol 6709	
	Fol 33)	
26 Aug 1953	Clarence Richmond Millard, farmer	Т
	(Portion 207 Parish Byron – Area 137 Acres – CTVol 4646 Fol	
	35)	
26 May 1948	Robert Bertram Trimble, cream carrier	Т
26 May 1948	Thomas Charles Sleep, farmer	Т
05 Sep 1934	The Rural Bank of New South Wales	G
	(mortgagor Thomas Charles Sleep, farmer)	
	(Portion 207 Parish Byron – Area 137 Acres)	
Prior to 05 Sep	Crown Land	
1934		
(1905 to 05 Sep	(Conditional Purchase 1905/18, Lismore)	
1934)		

```
Note (b)
```

	(Lot D DP 392638 – Area 12 Acres 0 Rood 11 Perches – CTVol 7041 Fol 129)	
23 Feb 1976	R & B Batson Pty Limited	Т
18 Jul 1972	Frederick Charles Chalker, fruit inspector	T
29 Jun 1966	Clarence Milton Irvine, clerk	Т
13 Oct 1958	Jean de Maar, wife of Jouke de Maar, garage proprietor	Т
31 Oct 1955	Jouke de Maar, garage proprietor	Т
	(Land in DP 383212 – Area 29 Acres 2 Roods 3 ½ Perches – CTVol 6727 Fol' 36 & 37)	
08 Oct 1953	Robert Bertram Trimble, carrier	Т
	(DP 383211 – Area 61 Acres 3 Roods 17 Perches – CTVol 6709 Fol 33)	
26 Aug 1953	Clarence Richmond Millard, farmer	Т
	(Portion 207 Parish Byron – Area 137 Acres – CTVol 4646 Fol 35)	
26 May 1948	Robert Bertram Trimble, cream carrier	Т
26 May 1948	Thomas Charles Sleep, farmer	Т
05 Sep 1934	The Rural Bank of New South Wales	G
	(mortgagor Thomas Charles Sleep, farmer)	
	(Portion 207 Parish Byron – Area 137 Acres)	
Prior to 05 Sep 1934	Crown Land	
(1905 to 05 Sep 1934)	(Conditional Purchase 1905/18, Lismore)	



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NSW LAND REGISTRY		Cadastral Records End Locality : SUFFOLK PARK	quiry Report : Lo	ot 1 DP 123302 Parish : BYRON	Ref : NOUSER
	SERVICES	LGA : BYRON		County : ROUS	
		Status	Surv/Comp	Purpose	
DP172558					
Lot(s): 1	D1005600	DECISTEDED			
	JP1085623	REGISTERED	COMPILATION	EASEMENT	
Lot(s): 1. 3					
E 💭 🖳 🗌	DP815022	HISTORICAL	SURVEY	SUBDIVISION	
Lot(s): 1					
	DP270373	REGISTERED	SURVEY	COMMUNITY	SUBDIVISION PLAN
DP286240	4 5				
	DP606347	HISTORICAL	SURVEY	SUBDIVISION	
DP383212					
Lot(s): 1					
	DP1085623	REGISTERED	COMPILATION	EASEMENT	
DP700806					
	DP1085623	REGISTERED	COMPILATION	EASEMENT	
DP802746					
Lot(s): 2	D4000405	DECIOTEDED			
	JP1293405	REGISTERED	SURVEY	SURDIVISION	
Lot(s): 11					
	DP506689	HISTORICAL	SURVEY	SUBDIVISION	
📃 E	DP559900	HISTORICAL	SURVEY	SUBDIVISION	
📃 C	DP1074790	HISTORICAL	SURVEY	SUBDIVISION	
DP1217735 Lot(s): 1	5				
<mark>چ</mark> ت د ل	NSW GAZ. CLOSED ROAD OT 1 DP12177	20-05-201 35	6	Folio : 1112	
DP1219598 Lot(s): 3	3				
. E	DP258158	HISTORICAL	SURVEY	SUBDIVISION	
	DP610382	HISTORICAL	SURVEY	SUBDIVISION	
	DP879695	HISTORICAL	SURVEY	SUBDIVISION	
	DP1065730	HISTORICAL	SURVEY	SUBDIVISION	
	DP1273708	REGISTERED	COMPILATION	EASEMENT	
Lot(s): 2					
	DP857882	HISTORICAL	SURVEY	SUBDIVISION	
🧾 📃 C	DP1131866	HISTORICAL	SURVEY	SUBDIVISION	
📃 C	DP1254061	REGISTERED	COMPILATION	EASEMENT	
📃 🛄	DP1258687	REGISTERED	SURVEY	EASEMENT	
	DP1260006	REGISTERED	SURVEY	EASEMENT	
	DP1266021	REGISTERED	SURVEY	EASEMENT	
	DP1271176	REGISTERED	SURVEY	EASEMENT	
DP1293405	)				
	DP802746	HISTORICAL	SURVEY	SUBDIVISION	
Road					
Polygon Id(	s): 107183065				1000
	DF1306456				
	s). 168252404	PRE-ALLOGATED	UNAVAILABLE		OCREATION
	NSW GAZ.	18-07-200	8	Folio : 7212	
٦	RANSFER OF	CROWN ROAD TO COUNCIL			

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 ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps.



Locality : SUFFOLK PARK LGA : BYRON Parish : BYRON County : ROUS

Plan	Surv/Comp	Purpose
DP11632	SURVEY	UNRESEARCHED
DP30037	SURVEY	UNRESEARCHED
DP42375	COMPILATION	CROWN FOLIO CREATION
DP123302	COMPILATION	DEPARTMENTAL
DP172558	SURVEY	UNRESEARCHED
DP184443	SURVEY	UNRESEARCHED
DP245605	SURVEY	CROWN FOLIO CREATION
DP245836	SURVEY	CROWN FOLIO CREATION
DP258562	SURVEY	SUBDIVISION
DP270373	SURVEY	COMMUNITY PLAN
DP270373	SURVEY	COMMUNITY SUBDIVISION PLAN
DP286240	SURVEY	NEIGHBOURHOOD PLAN
DP383212	SURVEY	UNRESEARCHED
DP563373	SURVEY	SUBDIVISION
DP571758	SURVEY	SUBDIVISION
DP616521	COMPILATION	CONSOLIDATION
DP700806	SURVEY	SUBDIVISION
DP703416	COMPILATION	SUBDIVISION
DP755695	COMPILATION	CROWN ADMIN NO.
DP802745	SURVEY	SUBDIVISION
DP802746	SURVEY	SUBDIVISION
DP830202	SURVEY	SUBDIVISION
DP838451	SURVEY	SUBDIVISION
DP879695	SURVEY	SUBDIVISION
DP1091051	SURVEY	SUBDIVISION
DP1217735	COMPILATION	CROWN ROAD ENCLOSURE
DP1219598	SURVEY	SUBDIVISION
DP1246381	SURVEY	SUBDIVISION
DP1293405	SURVEY	SUBDIVISION
SP54098	COMPILATION	STRATA PLAN

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 ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps.

#### **System Document Identification**

Form Number:01T-e Template Number:t\_nsw18 ELN Document ID:2362888322 ELN NOS ID: 2362888324

## TRANSFER

New South Wales Real Property Act 1900 Land Registry Document Identification



#### Stamp Duty: 10771403-001

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

#### LODGED BY:

Responsible Subscriber:	DOMAIN LEGAL ABN 48111963467
Address:	G, SE G01, 25-29 Berry ST North Sydney 2060
Email:	george@domainlegal.com.au
ELNO Subscriber Number:	19666
Customer Account Number:	502140H
<b>Document Collection Box:</b>	1W
Client Reference:	KM:Dar:10669

#### LAND TITLE REFERENCE

2/700806 1/123302 1/245836

#### TRANSFEROR

CRISJOY PTY LIMITED ACN 102915560 Registered company

Total share transferred: 1/2

#### TRANSFEREE

DARLEY PTY LTD ACN 001261061 Registered company Share of whole of land/interest: 1/2 CRISJOY PTY LIMITED ACN 102915560 Registered company Share of whole of land/interest: 1/2

Tenancy: Tenants in Common

#### CONSIDERATION

The transferor acknowledges receipt of the consideration of \$1,805,500.00

#### ESTATE TRANSFERRED

FEE SIMPLE

The Transferor transfers to the Transferee the Estate specified in this Instrument and acknowledges receipt of any Consideration shown.

#### SIGNING FOR TRANSFEROR

I certify that:

- 1. The Certifier has taken reasonable steps to verify the identity of the transferor or his, her or its administrator or attorney.
- 2. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
- 3. The Certifier has retained the evidence supporting this Registry Instrument or Document.
- 4. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.

#### Party Represented by Subscriber:

CRISJOY PTY LIMITED

Signed By: Stuart Peter Dixon-SmithSigner Capacity: Practitioner CertifierELNO Signer Number: 58187Digital Signing Certificate Number:

Signed for Subscriber: PARTNERS OF KING & WOOD MALLESONS ABN 22041424954 KING & WOOD MALLESONS

 Subscriber Capacity:Representative Subscriber

 ELNO Subscriber Number: 9387

 Customer Account Number: 501426

 Date: 29/02/2024

#### SIGNING FOR TRANSFEREE

I certify that:

- 1. The Certifier has taken reasonable steps to verify the identity of the transferee or his, her or its administrator or attorney.
- 2. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
- 3. The Certifier has retained the evidence supporting this Registry Instrument or Document.
- 4. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.

#### Party Represented by Subscriber:

DARLEY PTY LTD

Signed By: George Germanos ELNO Signer Number: 45542		Signer Capacity: Practitioner Certifie	
		Digital Signing Certificate Number:	
Signed for Subscriber:	DOMAIN LEGAL PTY LIMITE DOMAIN LEGAL	ED ABN 48111963467	
Subscriber Capacity:R	epresentative Subscriber		
ELNO Subscriber Num	<b>iber:</b> 19666	Customer Account Number:502140	

Date: 29/02/2024







Req:R603721 /Doc:DP 0700806 P /Rev:26-Aug-1992 /NSW LRS /Pgs:ALL /Prt:20-Jun-2024 10:53 /Seq:1 of 1 © Office of the Registrar-General /Src:GlobalX /Ref:advlegs





NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE 20/6/2024 10:53AM

FOLIO: 1/123302

\_\_\_\_

First Title(s): VOL 4646 FOL 35 Prior Title(s): VOL 8488 FOL 114

Recorded	Number	Type of Instrument	C.T. Issue
18/9/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
20/2/2003	9395172	DEPARTMENTAL DEALING	
21/2/2003	9397165	CAVEAT	
12/3/2003 12/3/2003	9442096 9442097	TRANSFER MORTGAGE	EDITION 1
19/2/2018	AN129289	DISCHARGE OF MORTGAGE	EDITION 2
1/2/2019	AP36345	MORTGAGE	EDITION 3
29/2/2024 29/2/2024	AT871065 AT871066	DISCHARGE OF MORTGAGE TRANSFER	EDITION 4

\*\*\* END OF SEARCH \*\*\*

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE 20/6/2024 10:53AM

FOLIO: 2/700806

\_\_\_\_

First Title(s): VOL 4646 FOL 35 Prior Title(s): VOL 7041 FOLS 128-129

Recorded	Number	Type of Instrument	C.T. Issue
26/3/1984	DP700806	DEPOSITED PLAN	FOLIO CREATED EDITION 1
31/8/1984 31/8/1984	V321832 V321833	DISCHARGE OF MORTGAGE TRANSFER	EDITION 2
8/7/1985 8/7/1985	V775380 V775381	DISCHARGE OF MORTGAGE TRANSFER	EDITION 3
21/2/2003	9397165	CAVEAT	
12/3/2003 12/3/2003	9442096 9442097	TRANSFER MORTGAGE	EDITION 4
14/7/2005	DP1085623	DEPOSITED PLAN	EDITION 5
19/2/2018	AN129289	DISCHARGE OF MORTGAGE	EDITION 6
1/2/2019	AP36345	MORTGAGE	EDITION 7
29/2/2024 29/2/2024	AT871065 AT871066	DISCHARGE OF MORTGAGE TRANSFER	EDITION 8

\*\*\* END OF SEARCH \*\*\*

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 1/123302

\_\_\_\_\_

SEARCH DATE	TIME	EDITION NO	DATE
20/6/2024	10:53 AM	4	29/2/2024

#### LAND

LOT 1 IN DEPOSITED PLAN 123302 AT BYRON BAY LOCAL GOVERNMENT AREA BYRON PARISH OF BYRON COUNTY OF ROUS TITLE DIAGRAM DP123302

FIRST SCHEDULE

DARLEY PTY LTD IN 1/2 SHARE CRISJOY PTY LIMITED IN 1/2 SHARE AS TENANTS IN COMMON

(T AT871066)

SECOND SCHEDULE (1 NOTIFICATION)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

\*\*\* END OF SEARCH \*\*\*

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2/700806

\_\_\_\_

SEARCH DATE	TIME	EDITION NO	DATE
20/6/2024	10:53 AM	8	29/2/2024

#### LAND

LOT 2 IN DEPOSITED PLAN 700806 AT BYRON BAY LOCAL GOVERNMENT AREA BYRON PARISH OF BYRON COUNTY OF ROUS TITLE DIAGRAM DP700806

FIRST SCHEDULE

DARLEY PTY LTD IN 1/2 SHARE CRISJOY PTY LIMITED IN 1/2 SHARE AS TENANTS IN COMMON

(T AT871066)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND

- CONDITIONS IN FAVOUR OF THE CROWN SEE CROWN GRANT(S)
- 2 DP1085623 RIGHT OF CARRIAGEWAY 20 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN DP1085623

NOTATIONS

-----

UNREGISTERED DEALINGS: NIL

\*\*\* END OF SEARCH \*\*\*

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# APPENDIX D: Aerial Photographs



Aerial Photograph A.1 extracted from EMM (2015) Supplementary Contamination Assessment. Approximate site location overlaid by Qualtest.





















# APPENDIX E: Site Photographs



Photograph 1 - Reshaped and revegetated area around the Central Dam in former quarry.



Photograph 2 - Reshaped and revegetated area located in the north-eastern portion of former quarry.



Photograph 3 - Reshaped and revegetated area located in the northern portion of former quarry.

	Client:	The Lighthouse Unit Trust	Project No:	NEW24P-0141-AA
	Project:	Proposed Rezoning	Date taken:	9/07/2024
	Location:	Broken Head Road, Suffolk Park	No	1 +0 2
	Title:	Site Photographs	NO.	1 10 3



Photograph 4 - Densely vegetated eastern portion of site.



Photograph 5 - Densely vegetated northern portion of site.



Photograph 6 - Densely vegetated western portion of site.

	Client:	The Lighthouse Unit Trust	Project No:	NEW24P-0141-AA
	Project:	Proposed Rezoning	Date taken:	9/07/2024
	Location:	Broken Head Road, Suffolk Park	No	4 to 6
	Title:	Site Photographs	190.	410 0



Photograph 7 - Access track located in the central portion of the site.



Photograph 8 - Access track located in the northern portion of the site



	Cilotii.		појсство.	11211241-0141-701
	Project:	Proposed Rezoning	Date taken:	9/07/2024
	Location:	Broken Head Road, Suffolk Park	No:	7 to 9
	Title:	Site Photographs	190.	7 10 7







Photograph 16 - Showing Upper Lilypond.



Photograph 17 - Showing northern side of Workshops.



Photograph 18 - Demountable sheds to south of Workshops.

	Client:	The Lighthouse Unit Trust	Project No:	NEW24P-0141-AA
	Project:	Proposed Rezoning	Date taken:	9/07/2024
	Location:	Broken Head Road, Suffolk Park	No:	16 to 19
	Title:	Site Photographs	NO.	101010



Photograph 19 - Former diesel AST concrete bunded area with drums, staining and sheens.



Photograph 20 - Former wash bay.



Photograph 21 - Steel structure filled with water runoff.

	Client:	The Lighthouse Unit Trust	Project No:	NEW24P-0141-AA
	Project:	Proposed Rezoning	Date taken:	9/07/2024
	Location:	Broken Head Road, Suffolk Park	No	10 to 21
	Title:	Site Photographs	140.	171021


Photograph 22 - Steel and plastic materials on southern side of Process Pond.



Photograph 23 - Inground concrete water storage tank, located south of Workshops.



Photograph 24 - Showing "current"" wet processing plant remnant infrastructure.

	Client:	The Lighthouse Unit Trust	Project No:	NEW24P-0141-AA
	Project:	Proposed Rezoning	Date taken:	9/07/2024
EABORATORY (NSW) PTY LTD	Location:	Broken Head Road, Suffolk Park	No	22 to 24
	Title:	Site Photographs	190.	22 10 24



Photograph 25 - "Current" wet processing plant remnant infrastructure.



Photograph 26 - Concrete water tanks next to "current" wet-processing plant area.



Photograph 27 - Showing offices adjacent to former weigh bridge.

	Client:	The Lighthouse Unit Trust	Project No:	NEW24P-0141-AA
	Project:	Project: Proposed Rezoning		9/07/2024
LABORATORY (NSW) PTY LTD	Location:	Broken Head Road, Suffolk Park	No:	25 to 27
	Title:	Site Photographs	190.	25 10 27



Photograph 28 - Showing former weigh bridge area.



Photograph 29 - Stored 44 gallon oil drums on western side of southern Workshop.



Photograph 30 - Stored small herbicide drums.

	Client:	The Lighthouse Unit Trust	Project No:	NEW24P-0141-AA
	Project:	Proposed Rezoning	Date taken:	9/07/2024
	Location:	Broken Head Road, Suffolk Park	No:	20 to 20
	Title:	Site Photographs	NO:	2010.30

# APPENDIX F: SafeWork NSW Records

#### **Emma Coleman**

From:	Licensing <licensing@safework.nsw.gov.au></licensing@safework.nsw.gov.au>
Sent:	Monday, 24 June 2024 10:41 AM
То:	Emma Coleman
Subject:	SafeWork NSW: 00994376 –Site Search application – Result not found [
-	thread::OfFooTxEcaGsajgn4PO1N3w:: ]

Caution! This message was sent from outside your organization.

#### Security Classification: Sensitive Personal Please do not amend the subject line of this email

Dear Emma

#### **Re: Site Search for Schedule 11 Hazardous Chemicals on premises Application – Result not found**

I refer to your application for a Site Search for Schedule 11 Hazardous Chemicals on premises, received by SafeWork NSW on 20 June 2024 for the following site: DP 123302 Broken Head Road Suffolk Park NSW 2481.

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

If you have any further information or if you have any questions, please use one of the following options, quoting the SafeWork NSW enquiry reference number: 00994376

- Email: <u>licensing@safework.nsw.gov.au</u>
- Phone: 13 10 50

Kind regards May

May Neill Licensing Representative | Safework Licensing Safework NSW p 13 10 50 | e may.neill@customerservice.nsw.gov.au | www.customerservice.nsw.gov.au Level 3, 32 Mann Street, Gosford, NSW 2250



# APPENDIX G: NSW EPA Records

#### Search results

Your search for:	Suburb: SUFFOLK PARK	Matched 2 notic	es relating to 1 site.
		Search Again	Refine Search
Suburb	Address	Site Name	Notices related to this site
SUFFOLK PARK	Cnr Broken Head Road & Beech DRIVE	Suffolk Park dip site	2 former

Page 1 of 1





### Search results

Your search for:	<b>POEO Licences</b>	with the	following criteria
------------------	----------------------	----------	--------------------

Suburb - suffolk park

returned 1 results

Export to ex	cel	1 of 1 Pages			Search Again
Number	<u>Name</u>	Location	Туре	<u>Status</u>	Issued date
4860	LEADSHINE PTY. LIMITED	BROKEN HEAD ROAD,	POEO licence	Surrender	ed 27 Apr 2000
		SUFFOLK PARK, NSW 2481			

21 June 2024

### Licence conditions for pollution studies and reduction program

Search Again

Return to Licence Summary

#### Licence conditions for pollution studies and reduction programs

Summary

Licence number: 4860 Title: Management of imported spoil material Start date: 22 Jul 2019

#### Licence Condition

The licensee must conduct appropriate sampling and testing of all spoil material imported into the premises to determine if it meets the chemical concentration limits of Excavated Natural Material (ENM). Any material which does not meet the ENM classification must be lawfully disposed of offsite to a licenced waste facility.

The Licensee must install appropriate erosion and sediment controls to ensure any runoff from areas containing stockpiles of imported spoil material does not cause dirty water to discharge from the premises.

Characterisation of the imported spoil material must be completed by 30 August 2019. Evidence of compliance with this date must be provided in the final report. Any material which requires disposal must be removed from site by 27 September 2019. Evidence of compliance with this date must be provided in the final report. The Licensee must provide a report summarising the characterisation and management of the imported spoil material to the EPA by 31 October 2019. The report must include the volume / quantity of material which will remain on site and the volume / quantity of material which will be disposed of. The report must include receipts for any material which is disposed of at a licenced waste facility. The report must also include photos of the implemented erosion and sediment controls for managing runoff from any imported spoil stockpiles. Compliance date: 31 October 2019 The report required by this condition is to be submitted to the north.coast@epa.nsw.gov.au email address.

#### Annual Returns

Start date	End date	Date received	Non-com	pliance LBL data	
10-Mar-2024	01-May-2024	Not received			Complete annual return via eConnectif
10-Mar-2023	09-Mar-2024	Not received			Complete annual return via eConnectif
10-Mar-2022	09-Mar-2023	Not received			Complete annual return via eConnect®
10-Mar-2021	09-Mar-2022	Not received			Complete annual return via eConnect®
10-Mar-2020	09-Mar-2021	Not received			Complete annual return via eConnect®
10-Mar-2019	09-Mar-2020	21-May-2020	yes	Not available	
10-Mar-2018	09-Mar-2019	21-Nov-2019	No	Not available	
10-Mar-2017	09-Mar-2018	15-Jun-2018	yes	Not available	
10-Mar-2016	09-Mar-2017	10-May-2017	yes	Not available	
10-Mar-2015	09-Mar-2016	12-May-2016	No	Not available	
10-Mar-2014	09-Mar-2015	05-May-2015	No	Not available	
10-Mar-2013	09-Mar-2014	12-May-2014	No	Not available	
10-Mar-2012	09-Mar-2013	22-Apr-2013	No	Not available	
10-Mar-2011	09-Mar-2012	08-May-2012	No	Not available	
10-Mar-2010	09-Mar-2011	09-May-2011	<u>yes</u>	Not available	
10-Mar-2009	09-Mar-2010	10-May-2010	<u>yes</u>	Not available	
10-Mar-2008	09-Mar-2009	11-May-2009	No	Not available	
10-Mar-2007	09-Mar-2008	12-May-2008	No	Not available	
10-Mar-2006	09-Mar-2007	09-May-2007	<u>yes</u>	Not available	
10-Mar-2005	09-Mar-2006	01-May-2008	yes	Not available	
10-Mar-2004	09-Mar-2005	06-May-2005	No	Not available	
10-Mar-2003	09-Mar-2004	07-May-2004	No	Not available	
10-Mar-2002	09-Mar-2003	09-May-2003	No	Not available	
10-Mar-2001	09-Mar-2002	09-May-2002	No	Not available	
10-Mar-2000	09-Mar-2001	28-Aug-2001	yes	Not available	

Section 80(1) Protection of the Environment Operations Act 1997

# Approval of the Surrender of a Licence



Licence - 4860

LEADSHINE PTY. LIMITED 5 PUNCH STREET BALMAIN NSW 2041

Attention: Stuart Dixon-Smith

Notice Number 1637805

File Number EF13/4226

Date 01-May-2024

#### **APPROVAL OF THE SURRENDER OF LICENCE NO. 4860**

#### BACKGROUND

The following licensee(s):

#### LEADSHINE PTY. LIMITED

applied to the Environment Protection Authority ("EPA") to surrender Environment Protection Licence No. 4860 ("the licence") issued under the Protection of the Environment Operations Act 1997 ("the Act"). The licence authorises the carrying out of activities at BROKEN HEAD ROAD, SUFFOLK PARK, NSW, 2481.

- A. The EPA received the application on 15-Mar-2024.
- B. On 18 March 2024 EPA Officers inspected the premises. The premises was well rehabilitated. Three issues were observed during the inspection and will require actions to remediate the site. The issues observed were;
  - 1. The storage of diesel and chemical drums unbunded and unsecured adjacent to the machinery shed.
  - 2. Several old 200L drums and spilt oil within the bund presenting a risk of hydrocarbon seepage occurring.
  - 3. Diesel pump adjacent to Basin 1 with potential for seepage of legacy hydrocarbon materials from the pump system.

#### APPROVAL OF THE SURRENDER OF A LICENCE

### Approval of the Surrender of a Licence



- 1. The surrender of the licence is approved.
- 2. The approval of the surrender is subject to the following conditions:
  - A. The licensee must provide the EPA with an Annual Return in relation to compliance with the conditions of the licence during the period beginning on the last licence anniversary date and ending on the date that the surrender of the licence takes effect as set out in point 3 below.
  - B. The Annual Return must be supplied to the EPA within 60 days of the date from which this notice operates (see note at the end of this notice).
  - C. The content and form of the Annual Return must be in accordance with the applicable reporting conditions in the licence before it was surrendered.
  - D. The Annual Return must be signed in accordance with the applicable reporting conditions in the licence before it was surrendered.
  - E. The discharge point from Basin 2 (eastern side of quarry) must continue to allow downstream flow to Basin 1 to maximise sediment retention time.
  - F. All unsecured bunded and unbunded diesel and chemical containers are to be removed and disposed of at a place that can lawfully receive the waste containers.
  - G. Diesel pump adjacent to Basin 1 is to be removed and stored undercover within a bunded area or taken offsite.
  - H. Provide photos of the completed works outlined in 2(F) and 2(G) to info@epa.nsw.gov.au by 30 June 2024.
- 3. Except as provided by section 84(2) of the Act, the approval of the surrender of the licence by this notice operates from the date of this notice.

Stan Viney Operations Officer <u>Environment Protection Authority</u> (by Delegation)

#### INFORMATION ABOUT THIS NOTICE

## Approval of the Surrender of a Licence



- On the date that the surrender of your licence takes effect the current licence fee period comes to an end. However, the surrender of your licence does not affect your liability to pay fees owing to the EPA for that licence fee period or for any earlier licence fee period.
- If you have not already paid the administrative fee for the licence fee period which has just come to an end on the surrender of your licence you must still do so. The administrative fee for a licence fee period must be paid no later than 60 days after the beginning of that licence fee period (clause 36(1) of the *Protection of the Environment Operations (General) Regulation 2009*).
- Any load-based fees payable in relation to the licence fee period ending on the surrender of the licence must be paid no later than 90 days after the surrender of the licence takes effect (clause 37(1) of the *Protection of the Environment Operations (General) Regulation 2009*).
- Details provided in this notice will be available on the EPA's Public Register in accordance with section 308 of the Act.
- The reporting period on your Annual Return must be filled in to reflect the appropriate dates beginning on the last licence anniversary date and ending on the date that the surrender of the licence takes effect.
- The completed Annual Return must be sent by Registered Post no later than 60 days from the end of the reporting period to:

Regulatory and Compliance Support Unit Environment Protection Authority (EPA) Locked Bag 5022 PARRAMATTA NSW 2124

• This notice is issued under section 80(1) of the Act.

#### Appeals against this decision

• You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

#### When this notice begins to operate

- The surrender of the licence specified in this notice begins to operate immediately from the date of this notice, unless another date is specified in this notice.
- If an appeal is made against this decision to approve the surrender of the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).

Current investigations are focused on sites where it is likely that large quantities of PFAS have been used. The EPA is currently investigating PFAS at these sites:



#### Fact sheet March 2021

# Butler Street Reserve, Byron Bay: PFAS investigations

### **Key points**

- Byron Shire Council is undertaking a PFAS investigation at the Butler Street Reserve, Byron Bay after detecting PFAS within groundwater and the adjacent drain.
- Butler Street Reserve was formerly used as an unlicensed landfill up until the mid-1970s and is considered a legacy contaminated site.
- As part of Council's investigation, the Environment Protection Authority (EPA) and Byron Shire Council are undertaking a water use survey and sampling registered bores in the general vicinity of the Butler Street Reserve. This is to increase understanding of local groundwater use and to determine if PFAS is present in the groundwater.
- The EPA will assist Council in keeping the community informed of any developments with Council's investigation.

### What are PFAS?

PFAS (per- and poly-fluoroalkyl substances) are a group of manufactured chemicals that include perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS).

Due to their fire retardant, waterproofing and stain resistant qualities, these chemicals were widely used in some types of firefighting foams and other industrial products worldwide. PFAS can also be found in low concentrations in many consumer products like food packaging, non-stick cookware, fabric, furniture and carpet stain protection applications, clothing and shampoo.

The most common and prevalent sources of PFAS in the environment are where firefighting foams were used for training purposes, particularly on Department of Defence bases and at firefighting training facilities.

PFAS are very stable chemicals that do not easily break down and can persist in the environment.

Products containing PFAS are being phased out around the world.

# What is known about PFAS at the Butler Street Reserve?

Byron Shire Council has detected PFAS in groundwater and in the adjacent drain at the Butler Street Reserve.

Council is investigating the presence and extent of PFAS within the groundwater beyond the Butler Street Reserve.

### Do residents need to do anything?

Finding PFAS in the environment does not mean there is a human health risk. It is important to assess if there are exposure pathways through which people might ingest PFAS, such as drinking contaminated groundwater or consuming food products watered with contaminated groundwater.

Regardless of PFAS detections, NSW Health recommends that people do not use groundwater for drinking, cooking and personal hygiene (including cleaning teeth and bathing) without testing and appropriate treatment.

The EPA and Byron Shire Council are undertaking a water use survey and sampling registered bores in the general vicinity of the Butler Street Reserve. This is to increase understanding of local groundwater use and determine if PFAS is present in the groundwater. This investigation will form the initial phase of information gathering and you will be kept informed of the findings.

### Are PFAS a health risk?

Finding PFAS in the environment does not necessarily mean there is a human health risk. Expert advice released by the Australian Government in June 2019<sup>1</sup> states PFAS has not been shown to cause disease in humans and "probably has minimal impact on human health".

However, the Australian Government's PFAS Expert Health Panel recommends limiting exposure to PFAS as a precaution until further research into health effects is completed. The NSW Government adopts this precautionary approach to assess and limit exposure pathways to PFAS.

Typically, this approach means assessing and minimising human exposure pathways, such as the consumption of groundwater and home grown produce where threshold levels of PFAS are present.

Dermal (skin) contact, inhalation including dust inhalation, and incidental ingestion of PFAS impacted soil are not primary exposure pathways for PFAS.

### What are the next steps?

NSW Government agencies, including the EPA and Department of Planning, Industry and Environment (DPIE) will use the water use survey and the results from the sampling program to determine if precautionary dietary advice is required to minimise exposure to PFAS.

The EPA will oversee the investigation process to ensure it is conducted in a timely and scientifically robust manner and will keep you informed of any developments.

### Where can I find more information?

More information on the NSW Government's response to PFAS can be found at <u>https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program</u>.

If you or your neighbours have any questions or concerns, call the 24/7 NSW Environment Line on **131 555.** 

### References

1. The 2019 enHealth Guidance Statements and a fact sheet providing more information on PFAS and human health effects by the Department of Health are available at: <u>https://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas.htm#enHealth</u>

#### **NSW Environment Protection Authority**

Email: <u>info@epa.nsw.gov.au</u> Website: <u>www.epa.nsw.gov.au</u> ISBN 978 1 922447 49 4 | EPA 2021P2880 March 2021 The EPA <u>disclaimer</u> and <u>copyright</u> information is available on the EPA website.

# APPENDIX H: Section 10.7 Certificates

Certificate No: 20240810 Date: 09/07/2024 Receipt No: BSCCERT-10281 Your Reference: Broken Head Road



Qualtest Laboratory (NSW) Pty Ltd emmacoleman@qualtest.com.au

#### PLANNING CERTIFICATE PURSUANT TO SECTION 10.7(2) & 10.7(5) ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

**Broken Head Road SUFFOLK PARK 2481 Property:** Description: LOT: 1 DP: 123302 Parish: Byron County: Rous Parcel No: 161420

Names of relevant planning instruments and DCPs 1

(1) The name of each environmental planning instrument and development control plan that applies to the carrying out of development on the land.

Byron Local Environmental Plan 1988

Byron Local Environmental Plan 2014

State Environmental Planning Policies – refer to Annexure 1

State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 -Coastal Management (part of lot)

Byron Shire Development Control Plan (DCP) 2010 applies to the part of the land to which Byron LEP 1988 applies.

Byron Shire Development Control Plan (DCP) 2014 applies to the part of the land to which Byron LEP 2014 applies.

The name of each proposed environmental planning instrument and draft (2) development control plan, which is or has been subject to community consultation or public exhibition under the Act, that will apply to the carrying out of development on the land.

Draft State Environmental Planning Policies – refer to Annexure 1

Planning Proposals – refer to Annexure 2.



2 Zoning and land use under relevant planning instruments.

The following matters for each environmental planning instrument or draft environmental planning instrument that includes the land in a zone, however described:

- (a) the identity of the zone, whether by reference to -
  - (i) a name, such as "Residential Zone" or "Heritage Area" or
  - (ii) a number, such as "Zone No 2(a)",
- (b) the purposes for which development in the zone -
  - (iii) may be carried out without development consent, and
  - (iv) may not be carried out except with development consent, and
  - (v) is prohibited.
- (c) whether additional permitted uses apply to the land,
- (d) whether development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the fixed minimum land dimensions,
- (e) whether the land is in an area of outstanding biodiversity value under the *Biodiversity Conservation Act 2016*,
- (f) whether the land is in a conservation area, however described,
- (g) whether an item of environmental heritage, however described, is situated on the land.

#### **BYRON LOCAL ENVIRONMENTAL PLAN 1988**

2(a) – (b) Land zoning & permissibility of development

#### ZONE No. 7(d) (SCENIC/ESCARPMENT ZONE)

#### 1. Objectives of zone

The objectives are-

- to protect and enhance the scenic qualities of the Shire of Byron which enhance the visual amenity by controlling the choice and colour of building materials, position and bulk of buildings, access roads and landscaping;
- (b) to prohibit development within the zone that is likely to have a visually disruptive effect on the scenic quality and visual amenity of the Shire;
- (c) to enable development for certain purposes where such development would not have a detrimental effect on the scenic quality and visual amenity of the Shire; om Amd.90 22/3/02
- (d) to minimise soil erosion from escarpment areas and prevent development in geologically hazardous zones; and
- (e) to enable the careful control of noxious plants and weeds by means not likely to be significantly detrimental to the native ecosystem. **Ins Amd.90 22/3/02**

#### 2. Without development consent

- Nil. ins/om Amd.55 17/7/98
- 3. Only with development consent

Agriculture; bed and breakfast establishments; bushfire hazard reduction; car parks; clearing of land; drainage; dwelling-houses; environmental facilities; home industries; primitive camping grounds; restaurant; roads; utility installations. **Om Amd.90 22/3/02; om/ins Amd.103 14/11/03** 

#### 4. Prohibited

Any purpose other than a purpose specified in item 2 or 3.

All land within Byron Shire Council area is affected by a Tree Preservation Order adopted under clause 52 of Byron Local Environmental Plan 1988.

Regard must be had for other clauses in Byron Local Environmental Plan 1988, which may affect the purpose for which development may be carried out.

- 2(c) No additional permitted uses apply to the land.
- 2(d) The dimensions of the land have no bearing as to whether or not a dwelling-house may be erected on the land. Further information in regard to whether a dwelling-house is permissible with the consent of council is contained in Section 10.7(5) of this certificate (if applied for).
- 2(e) The land is not in an area of outstanding biodiversity value under the *Biodiversity Conservation Act 2016*
- 2(f) The land is not in a conservation area
- 2(g) An item of environmental heritage is not situated on the land

#### **BYRON LOCAL ENVIRONMENTAL PLAN 2014**

2(a) – (b) Land zoning & permissibility of development

#### **Zone C2 Environmental Conservation**

#### 1 Objectives of zone

- To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.
- To prevent development that could destroy, damage or otherwise have an adverse effect on those values.

#### 2 Permitted without consent

Environmental protection works

#### 3 Permitted with consent

Environmental facilities; Extensive agriculture; Oyster aquaculture; Recreation areas; Roads

#### 4 Prohibited

Business premises; Hotel or motel accommodation; Industries; Multi dwelling housing; Pond-based aquaculture; Recreation facilities (major); Residential accommodation; Residential flat buildings; Restricted premises; Retail premises; Seniors housing; Service stations; Tank-based aquaculture; Warehouse or distribution centres; Any other development not specified in item 2 or 3.

#### Zone RU1 Primary Production

#### 1 Objectives of zone

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To encourage consolidation of lots for the purposes of primary industry production.
- To enable the provision of tourist accommodation, facilities and other small-scale rural tourism uses associated with primary production and environmental conservation consistent with the rural character of the locality.
- To protect significant scenic landscapes and to minimise impacts on the scenic quality of the locality.

#### 2 Permitted without consent

Environmental protection works; Extensive agriculture; Home-based child care; Home occupations

#### 3 Permitted with consent

Agriculture; Airstrips; Animal boarding or training establishments; Aquaculture; Business identification signs; Camping grounds; Community facilities; Dual occupancies; Dwelling houses; Environmental facilities; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Helipads; Home businesses; Home industries; Industrial retail outlets; Industrial training facilities; Intensive livestock agriculture; Intensive plant agriculture; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural workers' dwellings; Secondary dwellings; Tourist and visitor accommodation; Veterinary hospitals

#### 4 Prohibited

Backpackers' accommodation; Hotel or motel accommodation; Serviced apartments; Any other development not specified in item 2 or 3

Regard must be had for other clauses in Byron Local Environmental Plan 2014, which may affect the purpose for which development may be carried out.

- 2(c) No additional permitted uses apply to the land.
- 2(d) The dimensions of the land have no bearing as to whether or not a dwelling-house may be erected on the land. Further information in regard to whether a dwelling-house is permissible with the consent of council is contained in Section 10.7(5) of this certificate (if applied for).
- 2(e) The land is not in an area of outstanding biodiversity value under the *Biodiversity* Conservation Act 2016

- 2(f) The land is not in a conservation area
- 2(g) An item of environmental heritage is not situated on the land

#### 3 Contributions plans

- (1) The name of each contributions plan under the Act, Division 7.1 applying to the land, including draft contributions plans.
- (2) If the land is in a special contributions area under Division 7.1, the name of the area.
- (1) Applications lodged after 21 November, 2001 and prior to 1 January 2013 are subject to contributions levied in accordance with the Byron Shire Council Section 94 Development Contributions Plan 2005 (incorporating Amendment No 1) for community facilities, open space, roads, car parking, cycleways, civic and urban improvements, shire support facilities and administration. The Byron Shire Council Section 94 Development Contributions Plan 2005 (incorporating Amendment No 1) remains in force for the purposes of collection of contributions levied under its terms.

Applications lodged after 1 January 2013 are subject to contributions levied in accordance with the Byron Shire Developer Contributions Plan 2012 (Amendment No 2). The plan is split into two parts, Part A being the Byron Section 94 plan that applies to all residential development and Part B being the Byron Section 94A plan that applies to all non residential development.

(2) The land is not in a special contributions area under Division 7.1.

#### 4 Complying Development

- (1) If the land is land on which complying development may be carried out under each of the complying development codes under *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*, because of that Policy, clause 1.17A (1) (c) - (e), (2), (3) or (4), 1.18(1)(c3) or 1.19.
- (2) If complying development may not be carried out on the land because of 1 of those clauses, the reasons why it may not be carried out under the clause.
- (3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that—

 (a) a restriction applies to the land, but it may not apply to all of the land, and
(b) the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

(4) If the complying development codes are varied, under that Policy, clause 1.12, in relation to the land.

#### Complying development under General Housing Code

#### Land subject to Byron LEP 1988

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Land subject to Byron LEP 2014

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Complying development under Low Rise Housing Diversity Code

#### Land subject to Byron LEP 1988

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Land subject to Byron LEP 2014

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Complying development under the Greenfield Housing Code

#### Land subject to Byron LEP 1988

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Land subject to Byron LEP 2014

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Note:

From 6 July 2021 Complying Development on Greenfield Housing sites may only take place under the Greenfield Housing Code and not the Housing Code.

#### Complying development under the Rural Housing Code

#### Land subject to Byron LEP 1988

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Land subject to Byron LEP 2014

- Complying development may be carried out on the part of the land in the RU1 zone that is not identified by an environmental planning instrument as being within a buffer area.
- Complying development may not be carried out on the part of the land in the RU1 zone that is identified by an environmental planning instrument as being within a buffer area because of the provisions of clause 1.19 of SEPP (Exempt & Complying Development Codes) 2008.

And

 Complying development may be carried out on the part of the land in the RU1 zone that is not identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map.

- Complying development may not be carried out on the part of the land in the RU1 zone identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 Coastal Management Coastal Wetlands and Littoral Rainforests Area Map because of the provisions of clause 1.17A(1)(e) of SEPP (Exempt & Complying Development Codes) 2008.
- Complying development may not be carried out on any part of the land in the C2 zone due to the zoning of the land.

#### Complying development under the Agritourism and Farm Stay Accommodation Code

#### Land subject to Byron LEP 1988

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Land subject to Byron LEP 2014

- Complying development may be carried out on the part of the land in the RU1 zone that is not identified by an environmental planning instrument as being within a buffer area.
- Complying development may not be carried out on the part of the land in the RU1 zone that is identified by an environmental planning instrument as being within a buffer area because of the provisions of clause 1.19 of SEPP (Exempt & Complying Development Codes) 2008.

And

- Complying development may be carried out on the part of the land in the RU1 zone that is not identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map.
- Complying development may not be carried out on the part of the land in the RU1 zone identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 Coastal Management Coastal Wetlands and Littoral Rainforests Area Map because of the provisions of clause 1.17A(1)(e) of SEPP (Exempt & Complying Development Codes) 2008.
- Complying development may not be carried out on any part of the land in the C2 zone due to the zoning of the land.

#### Complying development under the Industrial and Business Buildings Code

#### Land subject to Byron LEP 1988

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Land subject to Byron LEP 2014

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Complying development under the Container Recycling Facilities Code

#### Land subject to Byron LEP 1988

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Land subject to Byron LEP 2014

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Complying development under the General Development Code and Housing Alterations Code

#### Land subject to Byron LEP 1988

Complying development may be carried out on any part of the land.

#### Land subject to Byron LEP 2014

- Complying development may be carried out on the part of the land that is not identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map.
- Complying development may not be carried out on the part of the land identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map because of the provisions of clause 1.17A(1)(e) of SEPP (Exempt & Complying Development Codes) 2008.

#### Complying development under the Industrial & Business Alterations Code, Subdivision Code, Demolition Code and Fire Safety Code

#### Land subject to Byron LEP 1988

Complying development may be carried out on any part of the land.

#### Land subject to Byron LEP 2014

- Complying development may be carried out on the part of the land that is not identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map.
- Complying development may not be carried out on the part of the land identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map because of the provisions of clause 1.17A(1)(e) of SEPP (Exempt & Complying Development Codes) 2008.

#### 5 Exempt development

(1) If the land is land on which exempt development may be carried out under each of the exempt development codes under *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*, because of that Policy, clause 1.16(1)(b1)-(d) or 1.16A.

(2) If exempt development may not be carried out on the land because of 1 of those clauses, the reasons why it may not be carried out under the clause.

If the council does not have sufficient information to ascertain the extent to which exempt development may or may not be carried out on the land, a statement that—

- (a) a restriction applies to the land, but it may not apply to all of the land, and
- (b) the council does not have sufficient information to ascertain the extent to which exempt development may or may not be carried out on the land.
- (3) If the exempt development codes are varied, under that Policy, clause 1.12, in relation to the land.

Exempt development may be carried out on the land.

- 6 Affected building notices and building product rectification orders
  - (1) Whether the council is aware that -
    - (a) an affected building notice is in force in relation to the land, or
    - (b) a building product rectification order is in force in relation to the land that has not been fully complied with, or
    - (c) a notice of intention to make a building product rectification order given in relation to the land is outstanding.
  - (2) In this section -

affected building notice has the same meaning as in the Building Products (Safety) Act 2017, Part 4. building product rectification order has the same meaning as in the Building Products (Safety) Act 2017

- (1) The council is not aware of any affected building notice (within the meaning of Part 4 of the *Building Products (Safety) Act 2017*) that is in force with respect to the land.
- (2) Council is not aware of any outstanding notice of intention to make a building product rectification (within the meaning of the Building Products (Safety) Act 2017) having been given with respect to the land.
- 7 Land reserved for acquisition Whether an environmental planning instrument or proposed environmental planning instrument referred to in section 1 makes provision in relation to the acquisition of the land by an authority of the State, as referred to in the Act, section 3.15.

#### **BYRON LOCAL ENVIRONMENTAL PLAN 1988**

No provision is made for acquisition of the land.

#### BYRON LOCAL ENVIRONMENTAL PLAN 2014

No provision is made for acquisition of the land.

#### PROPOSED ENVIRONMENTAL PLANNING INSTRUMENT

Not applicable.

#### 8 Road widening and road realignment Whether the land is affected by any road widening or road realignment under—

(a) Division 2 of Part 3 of the Roads Act 1993, or

Not affected

(b) any environmental planning instrument, or

Not affected

(c) any resolution of the council

Not affected

#### 9 Flood related development controls

### (1) If the land or part of the land is within the flood planning area and subject to flood related development controls.

The land is not within the flood planning area and not subject to flood related development controls

# (2) If the land or part of the land is between the flood planning area and the probable maximum flood and subject to flood related development controls.

The land is not between the flood planning area and the probable maximum flood boundaries and therefore not subject to flood related development controls applying to this area.

#### (3) In this section—

flood planning area has the same meaning as in the Flood Risk Management Manual.

*Flood Risk Management Manual* means the *Flood Risk Management Manual*, ISBN 978-1-923076-17-4, published by the NSW Government in June 2023.

*probable maximum flood* has the same meaning as in the Flood Risk Management Manual.

#### 10 Council and other public authority policies on hazard risk restrictions

- (1) Whether any of the land is affected by an adopted policy that restricts the development of the land because of the likelihood of land slip, bush fire, tidal inundation, subsidence, acid sulfate soils, contamination, aircraft noise, salinity, coastal hazards, sea level rise or another risk, other than flooding.
- (2) In this section—

adopted policy means a policy adopted—

- (a) by the council, or
- (b) by another public authority, if the public authority has notified the council that the policy will be included in a planning certificate issued by the council.

(a) The land is affected by a policy adopted by the council or another public authority and notified to the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soil and any other risk (other than flooding) known as:

Contaminated Land Management Policy 2024.

The land or part of the land is identified as bush fire prone land in Council's records.

(b) The land is not affected by a policy adopted by another public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulfate soil and any other risk (other than flooding).

#### 11 Bush fire prone land

- (1) If any of the land is bush fire prone land, designated by the Commissioner of the NSW Rural Fire Service under the Act, section 10.3, a statement that all or some of the land is bush fire prone land.
- (2) If none of the land is bush fire prone land, a statement to that effect.

The land or part of the land is identified as bush fire prone land in Council's records.

#### 12 Loose-fill asbestos insulation

# If the land includes residential premises, within the meaning of the *Home Building Act 1989*, Part 8, Division 1A, that are listed on the Register kept under that Division, a statement to that effect.

The land does not include any residential premises (within the meaning of Division 1A of Part 8 of the *Home Building Act 1989*) that are listed on the register that is required to be maintained under that Division.

#### 13 Mine subsidence

## Whether the land is declared to be a mine subsidence district, within the meaning of the *Coal Mine Subsidence Compensation Act 2017*.

The land is not proclaimed to be a mine subsidence district.

#### 14 Paper subdivision information

(1) The name of a development plan adopted by a relevant authority that —

(a) applies to the land, or

(b) that is proposed to be subject to a ballot.

(2) The date of any subdivision order that applies to the land.

Words and expressions used in this section have the same meaning as in this Regulation, Part 10 and the Act, Schedule 7.

(1) Not applicable.

(2) Not applicable.

#### 15 **Property vegetation plans**

If the land is land in relation to which a property vegetation plan is approved and in force under the *Native Vegetation Act 2003*, Part 4, a statement to that effect, but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act.

A property vegetation plan under the *Native Vegetation Act 2003* or private native forestry plan under the *Local Land Services Act* 2013 does not apply to the land.

#### 16 Biodiversity stewardship sites

If the land is a biodiversity stewardship site under a biodiversity stewardship agreement under the Biodiversity Conservation Act 2016, Part 5, a statement to that effect, but only if the council has been notified of the existence of the agreement by the Biodiversity Conservation Trust.

**Note**— Biodiversity stewardship agreements include biobanking agreements under the Threatened Species Conservation Act 1995, Part 7A that are taken to be biodiversity stewardship agreements under the Biodiversity Conservation Act 2016, Part 5.

The land is not a biodiversity stewardship site under a biodiversity stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* 

#### 17 Biodiversity certified land

# If the land is biodiversity certified land under the *Biodiversity Conservation Act* 2016, Part 8, a statement to that effect.

**Note**— Biodiversity certified land includes land certified under the *Threatened Species Conservation Act 1995*, Part 7AA that is taken to be certified under the *Biodiversity Conservation Act 2016*, Part 8.

The land is not biodiversity certified land

#### 18 Orders under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

An order under the Trees (Disputes Between Neighbours) Act 2006 has not been made.

## 19 Annual charges under *Local Government Act 1993* for coastal protection services that relate to existing coastal protection works.

- (1) If the *Coastal Management Act 2016* applies to the council, whether the owner, or a previous owner, of the land has given written consent to the land being subject to annual charges under the *Local Government Act 1993*, section 496B, for coastal protection services that relate to existing coastal protection works.
- (2) In this section —

### existing coastal protection works has the same meaning as in the Local Government Act 1993, section 553B.

Note — Existing coastal protection works are works to reduce the impact of coastal hazards on land, such as seawalls, revetments, groynes and beach nourishment, that existed before 1 January 2011.

Council is not aware of such a consent.

#### 20 State Environmental Planning Policy (Western Sydney Aerotropolis) 2020

Whether under State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 the land is—

- (a) in an ANEF or ANEC contour of 20 or greater, as referred to in that Policy, clause 19, or
- (b) shown on the Lighting Intensity and Wind Shear Map, or
- (c) shown on the Obstacle Limitation Surface Map, or
- (d) in the "public safety area" on the Public Safety Area Map, or
- (e) in the "3 kilometre wildlife buffer zone" or the "13 kilometre wildlife buffer zone" on the Wildlife Buffer Zone Map.

State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 does not apply to the land.

#### 21 Development consent conditions for seniors housing

If *State Environmental Planning Policy (Housing) 2021*, Chapter 3, Part 5 applies to the land, any conditions of a development consent granted after 11 October 2007 in relation to the land that are of the kind set out in that Policy, clause 88(2).

Council is not aware of any development consent conditions State Environmental Planning Policy (Housing) 2021, Chapter 3, Part 5 that would apply to the land

## 22 Site compatibility certificates and development consent conditions for affordable rental housing

- (1) Whether there is a current site compatibility certificate under *State Environmental Planning Policy (Housing) 2021*, or a former site compatibility certificate, of which the council is aware, in relation to proposed development on the land and, if there is a certificate—
  - (a) the period for which the certificate is current, and

(b) that a copy may be obtained from the Department.

(2) If *State Environmental Planning Policy (Housing) 2021*, Chapter 2, Part 2, Division 1 or 5 applies to the land, any conditions of a development consent in relation to the land that are of a kind referred to in that Policy, clause 21(1) or 40(1).

- (3) Any conditions of a development consent in relation to land that are of a kind referred to in *State Environmental Planning Policy (Affordable Rental Housing)* 2009, clause 17(1) or 38(1).
- (4) In this section former site compatibility certificate means a site compatibility certificate issued under State Environmental Planning Policy (Affordable Rental Housing) 2009.
- (1) Council is not aware of any current site compatibility certificate (affordable rental housing) in respect of proposed development on the land.
- (2) No terms referred to in clause 21(1) or 40(1) of *State Environmental Planning Policy* (*Housing*) 2021 have been imposed as conditions of consent to a development application in respect of the land
- (3) No terms referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as conditions of consent to a development application in respect of the land.

#### NOTE: The following matters are prescribed by section 59 (2) of the <u>Contaminated</u> <u>Land Management Act 1997</u> as additional matters to be specified in a planning certificate:

- (a) that the land to which the certificate relates is significantly contaminated if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,
- (b) that the land to which the certificate relates is subject to a management order if it is subject to such an order at the date when the certificate is issued,
- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal if it is the subject of such an approved proposal at the date when the certificate was issued,
- (d) that the land to which the certificate relates is subject to an ongoing maintenance order if it is subject to such an order at the date when the certificate is issued,
- (e) that the land to which the certificate relates is the subject of a site audit statement
  if a copy of such a statement has been provided at any time to the local authority issuing the certificate.
- (a) The land (or part of the land) **is not** significantly contaminated as at the date this certificate is issued.
- (b) The land **is not** subject to a management order as at the date this certificate is issued.
- (c) The land **is not** the subject of an approved voluntary management proposal as at the date this certificate is issued.
- (d) The land **is not** subject to an ongoing maintenance order as at the date this certificate is issued.
- (e) The land **is not** the subject of a site audit statement as at the date this certificate is issued.

Note: Absence of notification from the EPA under Section 59 of the Contaminated Land Management Act 1997 does not necessarily mean that the land is not subject to some type of contamination

The answer given above only relates to "significantly contaminated" land as defined under the Contaminated Land Management Act 1997. If Council holds sufficient information about whether or not land is contaminated land (as defined under Schedule 6 of the Environmental Planning and Assessment Act 1979), this information will be given in the 10.7(5) certificate

In accordance with s10.7(5) of the *Environmental Planning & Assessment Act 1979* as amended, Council provides the following additional advice on other relevant matters that it is aware.

1. Dwelling entitlement

Is a dwelling-house permitted to be erected on the land with the development consent of Council pursuant to Byron Local Environmental Plan 1988?

No

<u>Note:</u> Other legislation including Part 4, Division 4.11 Existing Uses of the *Environmental Planning & Assessment Act 1979* and State Environmental Planning Policy (SEPP) Exempt and Complying Development Codes 2009 contain provisions that may allow a dwelling house to be erected on the land under certain circumstances. Please consult those provisions to determine if they apply to the land.

## Is a dwelling-house permitted to be erected on land with the development consent of Council pursuant to Byron LEP 2014?

No, in the C2 zone

No, in the RU1 zone, in accordance with Byron LEP clause 4.2A(3) Yes, in the RU1 zone in accordance with Byron LEP clause 4.2A(5) (note: these provisions only concern the replacement of a lawfully erected dwelling house with another)

<u>Note:</u> Other legislation including Part 4, Division 4.11 Existing Uses of the *Environmental Planning & Assessment Act 1979* and State Environmental Planning Policy (SEPP) Exempt and Complying Development Codes 2009 contain provisions that may allow a dwelling house to be erected on the land under certain circumstances. Please consult those provisions to determine if they apply to the land.

#### 2. Contaminated Land

Council records do not have sufficient information about previous use of the land subject of this certificate to determine whether or not the land is contaminated as defined in Schedule 6 of the *Environmental Planning & Assessment Act 1979*. Restrictions imposed by State Legislation including SEPP (Resilience & Hazards), and Council's Contaminated Land Management Policy 2024 will need to be considered in respect of any proposal to develop, remediate or rezone the land.

#### 3. Burials on Private Land

Not applicable.

#### 4. Biodiversity Conservation Agreements

This land is not subject to a conservation agreement under Part 5.20 of the *Biodiversity Conservation Act 2016.* 

#### 5. Land Proposed to be Subject to an Affordable Housing Contribution Scheme

The subject land is not identified in the Byron Shire Affordable Housing Contribution Scheme.

#### 6. **Voluntary House Purchase Scheme**

The land is not identified in a voluntary house purchase scheme.

Any advice provided pursuant to S10.7(5) of the Environmental Planning & Assessment Act, 1979 as amended, has been taken from Council's records, after a search thereof, but Council cannot accept responsibility for any omission or inaccuracy.

Any statement made or information given in this certificate does not relieve the property owner of obtaining Council's approval required under the Local Government Act 1993, the Environmental Planning & Assessment Act 1979 as amended, or any other Act.

Mark Arnold General Manager

Per My Cause

# State Environmental Planning Policies and Draft State Environmental Planning Policies applicable to land within Byron Shire

SEPP TITLE	LAND AFFECTED
State Environmental Planning Policy (Resilience and Hazards) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Industry and Employment) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy No 65 — Design Quality of Residential Apartment Development	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Building Sustainability Index: Basix) 2004	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Resources and Energy) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Transport and Infrastructure) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Planning Systems) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Primary Production) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Housing) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Sustainable Buildings) 2022	Applies to the State (unless otherwise noted in the SEPP)

#### DRAFT STATE ENVIRONMENTAL PLANNING POLICIES PLACED ON EXHIBITION PURSUANT TO SCHEDULE 4 1(2) OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2000

26.2020.1.1 - Amendment to State Environmental Planning Policy (Housing) 2021- Planning Proposal to:

- introduce a mapping overlay for the Byron LGA known as the Byron Shire Short-term Rental Accommodation (STRA) Area Map to identify precincts where non-hosted STRA is permitted 365 days per year.
- include a new clause that limits non-hosted STRA in the Byron LGA to 90-days in any 365day period where a dwelling is located on land outside a mapped precinct. The Byron LGA to be removed from the list of "prescribed areas" under Clause 112(3) of the SEPP (Housing) for this provision to have effect.
- 3. provide a 12-month transition period deferring commencement in the Byron Shire local government area.

#### DRAFT LOCAL ENVIRONMENTAL PLAN/S No/S PLACED ON EXHIBITION PURSUANT TO SCHEDULE 4 1(4) OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2000

26.2023.2.1 – Amendment to Byron LEP 2014 – Planning Proposal relating to the Former Mullumbimby Hospital Site. The objective of this planning proposal is to facilitate the provision of residential and community uses on the site.

26.2022.9.1 - Amendment to Byron LEP 2014 – Planning Proposal to list seventeen (17) new heritage items in Part 1 of Schedule 5 Environmental Heritage and identify such items on the appropriate Heritage LEP Maps. The items have been assessed against the NSW Heritage criteria for local listings.

26.2021.5.1 – Amendment to Byron LEP 2014 - Planning Proposal relating to 114 Stewarts Road Clunes. The objective of this planning proposal is to permit a dwelling on the site with development consent. There is an existing unauthorised dwelling on the site and the site does not have a dwelling entitlement.

26.2023.7.1 – Amendment to Byron LEP 2014 – Planning Proposal to transition land located within the West Byron Urban Release Area from Local Environmental Plan 1988 (BLEP 1988) into the Byron Local Environmental Plan 2014 (BLEP 2014). The relevant provisions of 'Part 4 West Byron Bay Site' in BLEP 1988 will also be transitioned into BLEP 2014. The planning proposal will result in both mapping and policy changes to BLEP 1988 and BLEP 2014, consistent with the court-determined development approvals for the West Byron Urban Release Area.

26.2021.7.1 – Amendment to Byron LEP 2014 - Planning Proposal relating to 55 Settlement Road Main Arm. The objective of this planning proposal is to permit a dual occupancy (detached) on the site with development consent. There is an existing unauthorised dual occupancy (detached) on the site and the site does not have a dwelling entitlement.
**Certificate No: 20240812** Date: 09/07/2024 Receipt No: BSCCERT-10282 Your Reference: Broken Head Road



Qualtest Laboratory (NSW) Pty Ltd emmacoleman@gualtest.com.au

### PLANNING CERTIFICATE PURSUANT TO SECTION 10.7(2) & 10.7(5) ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

Natural Lane COOPERS SHOOT 2481 **Property:** Description: LOT: 2 DP: 700806 Parish: **Byron** County: Rous Parcel No: 111830

#### 1 Names of relevant planning instruments and DCPs

#### (1) The name of each environmental planning instrument and development control plan that applies to the carrying out of development on the land.

Byron Local Environmental Plan 2014

State Environmental Planning Policies – refer to Annexure 1

State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 -Coastal Management (part of lot)

Byron Shire Development Control Plan (DCP) 2014

The name of each proposed environmental planning instrument and draft (2) development control plan, which is or has been subject to community consultation or public exhibition under the Act, that will apply to the carrying out of development on the land.

Draft State Environmental Planning Policies - refer to Annexure 1

Planning Proposals – refer to Annexure 2.



2 Zoning and land use under relevant planning instruments.

The following matters for each environmental planning instrument or draft environmental planning instrument that includes the land in a zone, however described:

- (a) the identity of the zone, whether by reference to -
  - (i) a name, such as "Residential Zone" or "Heritage Area" or
  - (ii) a number, such as "Zone No 2(a)",
- (b) the purposes for which development in the zone -
  - (iii) may be carried out without development consent, and
  - (iv) may not be carried out except with development consent, and
  - (v) is prohibited.
- (c) whether additional permitted uses apply to the land,
- (d) whether development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the fixed minimum land dimensions,
- (e) whether the land is in an area of outstanding biodiversity value under the *Biodiversity Conservation Act 2016*,
- (f) whether the land is in a conservation area, however described,
- (g) whether an item of environmental heritage, however described, is situated on the land.

### **BYRON LOCAL ENVIRONMENTAL PLAN 2014**

2(a) – (b) Land zoning & permissibility of development

#### **Zone C2 Environmental Conservation**

#### 1 Objectives of zone

- To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.
- To prevent development that could destroy, damage or otherwise have an adverse effect on those values.

#### 2 Permitted without consent

Environmental protection works

#### 3 Permitted with consent

Environmental facilities; Extensive agriculture; Oyster aquaculture; Recreation areas; Roads

#### 4 Prohibited

Business premises; Hotel or motel accommodation; Industries; Multi dwelling housing; Pond-based aquaculture; Recreation facilities (major); Residential accommodation; Residential flat buildings; Restricted premises; Retail premises; Seniors housing; Service stations; Tank-based aquaculture; Warehouse or distribution centres; Any other development not specified in item 2 or 3.

### **Zone RU1 Primary Production**

#### 1 Objectives of zone

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To encourage consolidation of lots for the purposes of primary industry production.
- To enable the provision of tourist accommodation, facilities and other small-scale rural tourism uses associated with primary production and environmental conservation consistent with the rural character of the locality.
- To protect significant scenic landscapes and to minimise impacts on the scenic quality of the locality.

#### 2 Permitted without consent

Environmental protection works; Extensive agriculture; Home-based child care; Home occupations

#### 3 Permitted with consent

Agriculture; Airstrips; Animal boarding or training establishments; Aquaculture; Business identification signs; Camping grounds; Community facilities; Dual occupancies; Dwelling houses; Environmental facilities; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Helipads; Home businesses; Home industries; Industrial retail outlets; Industrial training facilities; Intensive livestock agriculture; Intensive plant agriculture; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural workers' dwellings; Secondary dwellings; Tourist and visitor accommodation; Veterinary hospitals

#### 4 Prohibited

Backpackers' accommodation; Hotel or motel accommodation; Serviced apartments; Any other development not specified in item 2 or 3

Regard must be had for other clauses in Byron Local Environmental Plan 2014, which may affect the purpose for which development may be carried out.

- 2(c) No additional permitted uses apply to the land.
- 2(d) The dimensions of the land have no bearing as to whether or not a dwelling-house may be erected on the land. Further information in regard to whether a dwelling-house is permissible with the consent of council is contained in Section 10.7(5) of this certificate (if applied for).
- 2(e) The land is not in an area of outstanding biodiversity value under the *Biodiversity Conservation Act 2016*
- 2(f) The land is not in a conservation area
- 2(g) An item of environmental heritage is not situated on the land

#### 3 Contributions plans

(1) The name of each contributions plan under the Act, Division 7.1 applying to the land, including draft contributions plans.

## (2) If the land is in a special contributions area under Division 7.1, the name of the area.

(1) Applications lodged after 21 November, 2001 and prior to 1 January 2013 are subject to contributions levied in accordance with the Byron Shire Council Section 94 Development Contributions Plan 2005 (incorporating Amendment No 1) for community facilities, open space, roads, car parking, cycleways, civic and urban improvements, shire support facilities and administration. The Byron Shire Council Section 94 Development Contributions Plan 2005 (incorporating Amendment No 1) remains in force for the purposes of collection of contributions levied under its terms.

Applications lodged after 1 January 2013 are subject to contributions levied in accordance with the Byron Shire Developer Contributions Plan 2012 (Amendment No 2). The plan is split into two parts, Part A being the Byron Section 94 plan that applies to all residential development and Part B being the Byron Section 94A plan that applies to all non residential development.

(2) The land is not in a special contributions area under Division 7.1.

#### 4 Complying Development

- (1) If the land is land on which complying development may be carried out under each of the complying development codes under *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*, because of that Policy, clause 1.17A (1) (c) - (e), (2), (3) or (4), 1.18(1)(c3) or 1.19.
- (2) If complying development may not be carried out on the land because of 1 of those clauses, the reasons why it may not be carried out under the clause.
- (3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that—

(a) a restriction applies to the land, but it may not apply to all of the land, and
(b) the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

(4) If the complying development codes are varied, under that Policy, clause 1.12, in relation to the land.

#### Complying development under General Housing Code

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Complying development under Low Rise Housing Diversity Code

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Complying development under the Greenfield Housing Code

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Note:

From 6 July 2021 Complying Development on Greenfield Housing sites may only take place under the Greenfield Housing Code and not the Housing Code.

#### Complying development under the Rural Housing Code

- Complying development may be carried out on the part of the land in the RU1 zone that is not identified by an environmental planning instrument as being within a buffer area.
- Complying development may not be carried out on the part of the land in the RU1 zone that is identified by an environmental planning instrument as being within a buffer area because of the provisions of clause 1.19 of SEPP (Exempt & Complying Development Codes) 2008.

#### And

- Complying development may be carried out on the part of the land in the RU1 zone that is not identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map.
- Complying development may not be carried out on the part of the land in the RU1 zone identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 Coastal Management Coastal Wetlands and Littoral Rainforests Area Map because of the provisions of clause 1.17A(1)(e) of SEPP (Exempt & Complying Development Codes) 2008.
- Complying development may not be carried out on any part of the land in the C2 zone due to the zoning of the land.

#### Complying development under the Agritourism and Farm Stay Accommodation Code

- Complying development may be carried out on the part of the land in the RU1 zone that is not identified by an environmental planning instrument as being within a buffer area.
- Complying development may not be carried out on the part of the land in the RU1 zone that is identified by an environmental planning instrument as being within a buffer area because of the provisions of clause 1.19 of SEPP (Exempt & Complying Development Codes) 2008.

And

- Complying development may be carried out on the part of the land in the RU1 zone that is not identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map.
- Complying development may not be carried out on the part of the land in the RU1 zone identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 Coastal Management Coastal Wetlands and Littoral Rainforests Area Map because of the provisions of clause 1.17A(1)(e) of SEPP (Exempt & Complying Development Codes) 2008.
- Complying development may not be carried out on any part of the land in the C2 zone due to the zoning of the land.

#### Complying development under the Industrial and Business Buildings Code

Complying development may not be carried out on any part of the land due to the zoning of the land.

### Complying development under the Container Recycling Facilities Code

Complying development may not be carried out on any part of the land due to the zoning of the land.

#### Complying development under the General Development Code and Housing Alterations Code

- Complying development may be carried out on the part of the land that is not identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map.
- Complying development may not be carried out on the part of the land identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map because of the provisions of clause 1.17A(1)(e) of SEPP (Exempt & Complying Development Codes) 2008.

#### Complying development under the Industrial & Business Alterations Code, Subdivision Code, Demolition Code and Fire Safety Code

- Complying development may be carried out on the part of the land that is not identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map.
- Complying development may not be carried out on the part of the land identified as "proximity area for coastal wetlands" on the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2 – Coastal Management Coastal Wetlands and Littoral Rainforests Area Map because of the provisions of clause 1.17A(1)(e) of SEPP (Exempt & Complying Development Codes) 2008.

#### 5 Exempt development

- (1) If the land is land on which exempt development may be carried out under each of the exempt development codes under *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*, because of that Policy, clause 1.16(1)(b1)-(d) or 1.16A.
- (2) If exempt development may not be carried out on the land because of 1 of those clauses, the reasons why it may not be carried out under the clause.

If the council does not have sufficient information to ascertain the extent to which exempt development may or may not be carried out on the land, a statement that—

- (a) a restriction applies to the land, but it may not apply to all of the land, and
- (b) the council does not have sufficient information to ascertain the extent to which exempt development may or may not be carried out on the land.
- (3) If the exempt development codes are varied, under that Policy, clause 1.12, in relation to the land.

Exempt development may be carried out on the land.

- 6 Affected building notices and building product rectification orders
  - (1) Whether the council is aware that -
    - (a) an affected building notice is in force in relation to the land, or
    - (b) a building product rectification order is in force in relation to the land that has not been fully complied with, or
    - (c) a notice of intention to make a building product rectification order given in relation to the land is outstanding.
  - (2) In this section -

affected building notice has the same meaning as in the Building Products (Safety) Act 2017, Part 4. building product rectification order has the same meaning as in the Building Products (Safety) Act 2017

- (1) The council is not aware of any affected building notice (within the meaning of Part 4 of the *Building Products (Safety) Act 2017*) that is in force with respect to the land.
- (2) Council is not aware of any outstanding notice of intention to make a building product rectification (within the meaning of the Building Products (Safety) Act 2017) having been given with respect to the land.

#### 7 Land reserved for acquisition

Whether an environmental planning instrument or proposed environmental planning instrument referred to in section 1 makes provision in relation to the acquisition of the land by an authority of the State, as referred to in the Act, section 3.15.

**BYRON LOCAL ENVIRONMENTAL PLAN 2014** 

No provision is made for acquisition of the land.

#### PROPOSED ENVIRONMENTAL PLANNING INSTRUMENT

Not applicable.

- 8 Road widening and road realignment Whether the land is affected by any road widening or road realignment under—
  - (a) Division 2 of Part 3 of the Roads Act 1993, or

Not affected

(b) any environmental planning instrument, or

Not affected

(c) any resolution of the council

Not affected

9 Flood related development controls

## (1) If the land or part of the land is within the flood planning area and subject to flood related development controls.

It is undetermined if the land or part of the land is within the flood planning area and subject to flood related development controls.

# (2) If the land or part of the land is between the flood planning area and the probable maximum flood and subject to flood related development controls.

It is undetermined if the land or part of the land is between the flood planning area and the probable maximum flood boundaries and subject to flood related development controls.

#### (3) In this section—

flood planning area has the same meaning as in the Flood Risk Management Manual.

*Flood Risk Management Manual* means the *Flood Risk Management Manual*, ISBN 978-1-923076-17-4, published by the NSW Government in June 2023.

*probable maximum flood* has the same meaning as in the Flood Risk Management Manual.

#### 10 Council and other public authority policies on hazard risk restrictions

- (1) Whether any of the land is affected by an adopted policy that restricts the development of the land because of the likelihood of land slip, bush fire, tidal inundation, subsidence, acid sulfate soils, contamination, aircraft noise, salinity, coastal hazards, sea level rise or another risk, other than flooding.
- (2) In this section—

adopted policy means a policy adopted—

- (a) by the council, or
- (b) by another public authority, if the public authority has notified the council that the policy will be included in a planning certificate issued by the council.
- (a) The land is affected by a policy adopted by the council or another public authority and notified to the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soil and any other risk (other than flooding) known as:

Contaminated Land Management Policy 2024.

The land or part of the land is identified as bush fire prone land in Council's records.

(b) The land is not affected by a policy adopted by another public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulfate soil and any other risk (other than flooding).

#### 11 Bush fire prone land

- (1) If any of the land is bush fire prone land, designated by the Commissioner of the NSW Rural Fire Service under the Act, section 10.3, a statement that all or some of the land is bush fire prone land.
- (2) If none of the land is bush fire prone land, a statement to that effect.

The land or part of the land is identified as bush fire prone land in Council's records.

#### 12 Loose-fill asbestos insulation

If the land includes residential premises, within the meaning of the *Home Building Act 1989*, Part 8, Division 1A, that are listed on the Register kept under that Division, a statement to that effect.

The land does not include any residential premises (within the meaning of Division 1A of Part 8 of the *Home Building Act 1989*) that are listed on the register that is required to be maintained under that Division.

#### 13 Mine subsidence

## Whether the land is declared to be a mine subsidence district, within the meaning of the *Coal Mine Subsidence Compensation Act 2017*.

The land is not proclaimed to be a mine subsidence district.

#### 14 Paper subdivision information

(1) The name of a development plan adopted by a relevant authority that —

(a) applies to the land, or

(b) that is proposed to be subject to a ballot.

(2) The date of any subdivision order that applies to the land.

Words and expressions used in this section have the same meaning as in this Regulation, Part 10 and the Act, Schedule 7.

- (1) Not applicable.
- (2) Not applicable.

#### 15 Property vegetation plans

If the land is land in relation to which a property vegetation plan is approved and in force under the *Native Vegetation Act 2003*, Part 4, a statement to that effect, but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act.

A property vegetation plan under the *Native Vegetation Act 2003* or private native forestry plan under the *Local Land Services Act* 2013 does not apply to the land.

#### 16 Biodiversity stewardship sites

If the land is a biodiversity stewardship site under a biodiversity stewardship agreement under the Biodiversity Conservation Act 2016, Part 5, a statement to that

## effect, but only if the council has been notified of the existence of the agreement by the Biodiversity Conservation Trust.

**Note**— Biodiversity stewardship agreements include biobanking agreements under the Threatened Species Conservation Act 1995, Part 7A that are taken to be biodiversity stewardship agreements under the Biodiversity Conservation Act 2016, Part 5.

The land is not a biodiversity stewardship site under a biodiversity stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* 

#### 17 Biodiversity certified land

## If the land is biodiversity certified land under the *Biodiversity Conservation Act* 2016, Part 8, a statement to that effect.

**Note**— Biodiversity certified land includes land certified under the *Threatened Species Conservation Act 1995*, Part 7AA that is taken to be certified under the *Biodiversity Conservation Act 2016*, Part 8.

The land is not biodiversity certified land

#### 18 Orders under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

An order under the Trees (Disputes Between Neighbours) Act 2006 has not been made.

- 19 Annual charges under *Local Government Act* 1993 for coastal protection services that relate to existing coastal protection works.
  - (1) If the *Coastal Management Act 2016* applies to the council, whether the owner, or a previous owner, of the land has given written consent to the land being subject to annual charges under the *Local Government Act 1993*, section 496B, for coastal protection services that relate to existing coastal protection works.
  - (2) In this section existing coastal protection works has the same meaning as in the Local Government Act 1993, section 553B.
  - Note Existing coastal protection works are works to reduce the impact of coastal hazards on land, such as seawalls, revetments, groynes and beach nourishment, that existed before 1 January 2011.

Council is not aware of such a consent.

#### 20 State Environmental Planning Policy (Western Sydney Aerotropolis) 2020

Whether under State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 the land is—

- (a) in an ANEF or ANEC contour of 20 or greater, as referred to in that Policy, clause 19, or
- (b) shown on the Lighting Intensity and Wind Shear Map, or

- (c) shown on the Obstacle Limitation Surface Map, or
- (d) in the "public safety area" on the Public Safety Area Map, or
- (e) in the "3 kilometre wildlife buffer zone" or the "13 kilometre wildlife buffer zone" on the Wildlife Buffer Zone Map.

State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 does not apply to the land.

#### 21 Development consent conditions for seniors housing

If *State Environmental Planning Policy (Housing) 2021*, Chapter 3, Part 5 applies to the land, any conditions of a development consent granted after 11 October 2007 in relation to the land that are of the kind set out in that Policy, clause 88(2).

Council is not aware of any development consent conditions State Environmental Planning Policy (Housing) 2021, Chapter 3, Part 5 that would apply to the land

- 22 Site compatibility certificates and development consent conditions for affordable rental housing
  - (1) Whether there is a current site compatibility certificate under *State Environmental Planning Policy (Housing) 2021*, or a former site compatibility certificate, of which the council is aware, in relation to proposed development on the land and, if there is a certificate—

(a) the period for which the certificate is current, and

(b) that a copy may be obtained from the Department.

- (2) If *State Environmental Planning Policy (Housing) 2021*, Chapter 2, Part 2, Division 1 or 5 applies to the land, any conditions of a development consent in relation to the land that are of a kind referred to in that Policy, clause 21(1) or 40(1).
- (3) Any conditions of a development consent in relation to land that are of a kind referred to in *State Environmental Planning Policy (Affordable Rental Housing)* 2009, clause 17(1) or 38(1).
- (4) In this section former site compatibility certificate means a site compatibility certificate issued under State Environmental Planning Policy (Affordable Rental Housing) 2009.
- (1) Council is not aware of any current site compatibility certificate (affordable rental housing) in respect of proposed development on the land.
- (2) No terms referred to in clause 21(1) or 40(1) of State Environmental Planning Policy (Housing) 2021 have been imposed as conditions of consent to a development application in respect of the land
- (3) No terms referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as conditions of consent to a development application in respect of the land.

NOTE: The following matters are prescribed by section 59 (2) of the <u>Contaminated</u> <u>Land Management Act 1997</u> as additional matters to be specified in a planning certificate:

- (a) that the land to which the certificate relates is significantly contaminated if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,
- (b) that the land to which the certificate relates is subject to a management order if it is subject to such an order at the date when the certificate is issued,
- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal if it is the subject of such an approved proposal at the date when the certificate was issued,
- (d) that the land to which the certificate relates is subject to an ongoing maintenance order if it is subject to such an order at the date when the certificate is issued,
- (e) that the land to which the certificate relates is the subject of a site audit statement
   if a copy of such a statement has been provided at any time to the local authority issuing the certificate.
- (a) The land (or part of the land) **is not** significantly contaminated as at the date this certificate is issued.
- (b) The land **is not** subject to a management order as at the date this certificate is issued.
- (c) The land **is not** the subject of an approved voluntary management proposal as at the date this certificate is issued.
- (d) The land **is not** subject to an ongoing maintenance order as at the date this certificate is issued.
- (e) The land **is not** the subject of a site audit statement as at the date this certificate is issued.

Note: Absence of notification from the EPA under Section 59 of the Contaminated Land Management Act 1997 does not necessarily mean that the land is not subject to some type of contamination

The answer given above only relates to "significantly contaminated" land as defined under the Contaminated Land Management Act 1997. If Council holds sufficient information about whether or not land is contaminated land (as defined under Schedule 6 of the Environmental Planning and Assessment Act 1979), this information will be given in the 10.7(5) certificate

In accordance with s10.7(5) of the *Environmental Planning & Assessment Act 1979* as amended, Council provides the following additional advice on other relevant matters that it is aware.

1. Dwelling entitlement

Is a dwelling-house permitted to be erected on land with the development consent of Council pursuant to Byron LEP 2014?

No, in the C2 zone

Yes, in the RU1 zone, in accordance with Byron LEP clause 4.2A(3) Yes, in the RU1 zone, in accordance with Byron LEP clause 4.2A(5) (note: these provisions only concern the replacement of a lawfully erected dwelling house with another)

<u>Note:</u> Other legislation including Part 4, Division 4.11 Existing Uses of the *Environmental Planning & Assessment Act 1979* and State Environmental Planning Policy (SEPP) Exempt and Complying Development Codes 2009 contain provisions that may allow a dwelling house to be erected on the land under certain circumstances. Please consult those provisions to determine if they apply to the land.

### 2. Contaminated Land

Council records do not have sufficient information about previous use of the land subject of this certificate to determine whether or not the land is contaminated as defined in Schedule 6 of the *Environmental Planning & Assessment Act 1979*. Restrictions imposed by State Legislation including SEPP (Resilience & Hazards), and Council's Contaminated Land Management Policy 2024 will need to be considered in respect of any proposal to develop, remediate or rezone the land.

#### 3. Burials on Private Land

Not applicable.

#### 4. Biodiversity Conservation Agreements

This land is not subject to a conservation agreement under Part 5.20 of the *Biodiversity Conservation Act 2016.* 

#### 5. Land Proposed to be Subject to an Affordable Housing Contribution Scheme

The subject land is not identified in the Byron Shire Affordable Housing Contribution Scheme.

#### 6. Voluntary House Purchase Scheme

The land is not identified in a voluntary house purchase scheme.

Any advice provided pursuant to S10.7(5) of the <u>Environmental Planning & Assessment Act, 1979</u> as amended, has been taken from Council's records, after a search thereof, but Council cannot accept responsibility for any omission or inaccuracy.

Any statement made or information given in this certificate does not relieve the property owner of obtaining Council's approval required under the <u>Local Government Act 1993</u>, the <u>Environmental</u> <u>Planning & Assessment Act 1979</u> as amended, or any other Act.

Mark Arnold General Manager

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## State Environmental Planning Policies and Draft State Environmental Planning Policies applicable to land within Byron Shire

SEPP TITLE	LAND AFFECTED
State Environmental Planning Policy (Resilience and Hazards) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Industry and Employment) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy No 65 — Design Quality of Residential Apartment Development	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Building Sustainability Index: Basix) 2004	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Resources and Energy) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Transport and Infrastructure) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Planning Systems) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Primary Production) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Housing) 2021	Applies to the State (unless otherwise noted in the SEPP)
State Environmental Planning Policy (Sustainable Buildings) 2022	Applies to the State (unless otherwise noted in the SEPP)

#### DRAFT STATE ENVIRONMENTAL PLANNING POLICIES PLACED ON EXHIBITION PURSUANT TO SCHEDULE 4 1(2) OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2000

26.2020.1.1 - Amendment to State Environmental Planning Policy (Housing) 2021- Planning Proposal to:

- introduce a mapping overlay for the Byron LGA known as the Byron Shire Short-term Rental Accommodation (STRA) Area Map to identify precincts where non-hosted STRA is permitted 365 days per year.
- include a new clause that limits non-hosted STRA in the Byron LGA to 90-days in any 365day period where a dwelling is located on land outside a mapped precinct. The Byron LGA to be removed from the list of "prescribed areas" under Clause 112(3) of the SEPP (Housing) for this provision to have effect.
- 3. provide a 12-month transition period deferring commencement in the Byron Shire local government area.

#### DRAFT LOCAL ENVIRONMENTAL PLAN/S No/S PLACED ON EXHIBITION PURSUANT TO SCHEDULE 4 1(4) OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2000

26.2023.2.1 – Amendment to Byron LEP 2014 – Planning Proposal relating to the Former Mullumbimby Hospital Site. The objective of this planning proposal is to facilitate the provision of residential and community uses on the site.

26.2022.9.1 - Amendment to Byron LEP 2014 – Planning Proposal to list seventeen (17) new heritage items in Part 1 of Schedule 5 Environmental Heritage and identify such items on the appropriate Heritage LEP Maps. The items have been assessed against the NSW Heritage criteria for local listings.

26.2021.5.1 – Amendment to Byron LEP 2014 - Planning Proposal relating to 114 Stewarts Road Clunes. The objective of this planning proposal is to permit a dwelling on the site with development consent. There is an existing unauthorised dwelling on the site and the site does not have a dwelling entitlement.

26.2023.7.1 – Amendment to Byron LEP 2014 – Planning Proposal to transition land located within the West Byron Urban Release Area from Local Environmental Plan 1988 (BLEP 1988) into the Byron Local Environmental Plan 2014 (BLEP 2014). The relevant provisions of 'Part 4 West Byron Bay Site' in BLEP 1988 will also be transitioned into BLEP 2014. The planning proposal will result in both mapping and policy changes to BLEP 1988 and BLEP 2014, consistent with the court-determined development approvals for the West Byron Urban Release Area.

26.2021.7.1 – Amendment to Byron LEP 2014 - Planning Proposal relating to 55 Settlement Road Main Arm. The objective of this planning proposal is to permit a dual occupancy (detached) on the site with development consent. There is an existing unauthorised dual occupancy (detached) on the site and the site does not have a dwelling entitlement.

## **APPENDIX I:** Test Pit Logs



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

TEST PIT NO:

**AST1** 1 OF 1

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

JOB NO: LOGGED BY:

PAGE:

DATE:

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### **ENGINEERING LOG - TEST PIT**

**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

TEST PIT NO:

PAGE:

DATE:

JOB NO:

LOGGED BY:

TPQ01 1 OF 1

NEW24P-0141

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**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

TEST PIT NO:

1 OF 1

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NEW24P-0141

JOB NO: LOGGED BY: DATE:

PAGE:

BS 3/7/24

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	Dr	illing and Sar	npling				Material	description and profile in	nformation				Fiel	d Test	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIA cha	L DESCRIPTION: Soil t aracteristics,colour,mino	/pe, plasticity r component:	//particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
EST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07:27 10.03.00.09 Dagel Lab and In Situ Tool</drawingfile>	Not Encountered	0.40m 0.40m 0.50m 0.90m E 1.00m 1.40m 1.40m 2.00m 2.00m 2.00m 2.10m 2.10m				сн сн сн сн сн сн сн сн	0.05m FILL: C some firounde 0.60m	Sandy CLAY - low to merine to medium grained CLAY - medium grained, ad gravel. Sravelly CLAY - medium rown, fine to medium grained, a d gravel. CLAY - medium to high p ine to medium grained, a d gravel. Sravelly CLAY - medium rown, fine to medium grained, a d gravel. Sravelly CLAY - medium rown, fine to medium grained, a d gravel. Sravelly CLAY - medium rown, fine to medium grained, a d gravel. Sravelly CLAY - medium rown, fine to medium grained, a d gravel. Sravelly CLAY - medium rown, fine to medium grained, a d gravel. Sravelly CLAY - medium rown, fine to medium grained, a d gravel. Sravelly CLAY - medium rown, fine to medium grained, a d gravel. Sravelly CLAY - medium rown, fine to medium grained, sub-ro medium to high plastici medium grained, sub-ro erminated at 2.70 m ff Required Investigation	tium plasticity sand lasticity, brow sub-rounded to high plast ained, sub-rounded to high plast ained, sub-rounded to high plast ained, sub-rounded lasticity, brow sub-rounded to high plast ained, sub-rounded to high plast ained, sub-rounded to high plast ained, sub-rounded to high plast ained, sub-rounded to high plast	y, dark	M < Wp				FILL RESIDUAL SOIL
g NON-CORED BOREHOLE - TE S   ▼ ,   S T	EGEND <u>/ater</u> Wa (Da (Da (Da (Da (Da (Da (Da (D	ter Level ater and time s ater Inflow ater Outflow hanges	hown)	I Notes, Sa U₅₀ CBR E ASS B	mples and 50mm Bulk s Enviro (Glass Acid S (Plasti Bulk S	nd Tesi Diame ample f nmenta jar, se ulfate \$ c bag, a ample	ter tube sample for CBR testing al sample aled and chilled Soil Sample air expelled, chi	e I on site) illed)		ConsisterVSVSSFFiStSVStVHHFbFi	Lery Soft oft irm tiff ery Stiff ard riable		<u>U</u> <2 25 50 10 20 >2	25 5 - 50 0 - 100 00 - 200 00 - 400 400	Moisture Condition           D         Dry           M         Moist           W         Wet           Wp,         Plastic Limit           WL         Liquid Limit
QT LIB 1.1.GLB Loc	→ Water Outflow     (Plastic bag, air expelled, chilled)       Strata Changes     B     Bulk Sample      Gradational or transitional strata     Field Tests     PID       Definitive or distict strata change     DCP(x-y)     Dynamic penetrometer test (test depth interval shi HP						ding (ppm) test depth interval shown) S kPa)		Density	V L ME D VD	V Lu D D V	ery Lo bose lediun ense ery D	oose n Dense ense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%	



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

TEST PIT NO:

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**TPQ03** 1 OF 1

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

FOLK PARK LOGGED BY:

3

BS 3/7/24

	EQ	UIPN		E:	5.0 TC	ONNE I	EXCA	VATOR			SURFA	ACE RL:					
	TES	ST P	IT LENGT	H:	2.0 m	W	IDTH:	0.5 m			DATU	VI:					
		Drill	ling and San	npling				Material	description and	d profile informa	ation				Fiel	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAI cha	L DESCRIPTIC aracteristics,col	DN: Soil type, p lour,minor com	lasticity/ ponents	particle	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	Ш	Not Encountered	E 0.10m 0.20m E 0.30m		0. <u>5</u>		GP GC CI	FILL: G 0.10m with so to coars 0.20m Sandy sub-roc of low p Silty CL 0.70m	RAVEL - med me fines of low se grained san Clayey GRAVE inded to round plasticity AY - medium	ium grained, ro r plasticity, with d EL - fine to coar ed, coarse grai  plasticity, grey t	unded, I some n  rse grair ined sar 	brown, nedium ned, nd, fines /  grey.	M - M M - M	-			FILL RESIDUAL SOIL
	LEG	END:			1.0 1.0 - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	nd Tes Diame	ts ter tube sample	erminated at 0. f Required Inve	70 m estigation		<u>Consiste</u> VS V	ncy fery Soft			CS (kPa 25	) <u>Moisture Condition</u> D Dry
		Wat (Dat Wat Wat	ter Level te and time sl ter Inflow ter Outflow <b>anges</b>	CBR E ASS B	Bulk s Envirc (Glass Acid S (Plasti Bulk S	ample to onmenta s jar, se Sulfate S ic bag, Sample	for CBR testing al sample aled and chilled Soil Sample air expelled, chil	on site) lled)		-	S S F F St S VSt V H H Fb F	Soft Firm Stiff Yery Stiff Iard Friable		25 50 10 20 >2	5 - 50 0 - 100 00 - 200 00 - 400 400	M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit	
2 LIU		G tra D st	radational or ansitional stra efinitive or dis rata change	ata stict	PID PID DCP(x-y) HP	<u>ts</u> Photo Dynar Hand	ionisati nic pen Penetro	on detector read etrometer test (t ometer test (UC	ling (ppm) test depth interv S kPa)	al shown)		Density	V L MI D VE	V La D M D D V	ery Lo bose lediun ense ery De	oose n Dense ense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

TEST PIT NO:

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BS

3/7/24

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

E	EQUIPMENT TYPE: TEST PIT LENGTH:			5.0 TC	DNNE	EXCA	VATOR		SURFAC	CE RL:					
TE	EST P	IT LENGTH	1:	2.0 m	w	IDTH:	0.5 m		DATUM	:					
	Dril	ling and Sam	pling				Material desc	ription and profile info	ormation		1		Fiel	d Test	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DE characte	SCRIPTION: Soil typ eristics,colour,minor o	e, plasticity/pa components	article	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
ш	Not Encountered	E 0.20m E 0.30m		- - - - - - - - - - - - - - - - - - -		CL	FILL: Sandy 0.10m brown, fine 1 Silty CLAY some mediu	/ CLAY - low to medii to medium grained si low to medium plast um to coarse grained	Im plasticity, ( and, root affec icity, white wit rounded gra	dark <u>cted.</u> th vel.	M < Wp				FILL RESIDUAL SOIL
	GGEND: ater (Da — Wat	ter Level te and time sh ter Inflow	iown)	1.5 1.5 2.0 2.0 - 2.5 - - - - - - - - - - - - -	mples a 50mm Bulks Envirc (Glass Acid S	nd Tes Diame ample i Dumment is jar, se	Hole Termir Limit Of Rec International Content Limit Of Rec Limit Of Re	nated at 1.20 m quired Investigation		Consister VS V S S F Fi St S VSt V	DCY ery Soft irm tiff ery Stiff		<u>U</u> <2 28 5 5 10 20	CS (kPa 5-50 - 100 00 - 200 00 - 400	) <u>Moisture Condition</u> D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit
	Water Inflow     Water Outflow     Strata Changes     Gradational or     transitional strata     Definitive or distict     strata change			Field Test PID DCP(x-y) HP	ts Photo Dynar Hand	ionisationisationic pen Penetro	on detector reading ( etrometer test (test d ometer test (UCS kPa	ppm) epth interval shown) a)		<u>Density</u>	V L ME D VE	Vi La D M D Vi	ery Lo bose lediun ense ery D	oose n Dense ense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

TEST PIT NO:

**TPQ05** 1 OF 1

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

PAGE: JOB NO: LOGGED BY: DATE:

BS

	EQ	JIPN	IENT TYP	E:	5.0 TC	ONNE I	EXCA	VATOR		SURF	ACE RL:					
	TES	ST PI	T LENGT	H:	2.0 m	W	IDTH:	0.5 m		DATU	M:					
Γ		Drill	ing and Sar	npling				Material	description and p	rofile information				Fiel	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAI cha	_ DESCRIPTION: racteristics,colour	Soil type, plasticity ,minor component	//particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
		ncountered	E 0.10m 0.40m E 0.50m 0.60m		- - - - - - - - - - -		GP	FILL: S sub-rou some o	andy GRAVEL - f Inded to rounded, range-brown, fine	ine to medium grai brown to grey-bro to medium graine	ned, wn, with d sand.	M - M				FILL
		Not E	E (0.70m		- - - 1. <u>0</u> -		SP	SAND - some fi	fine to medium g nes of low plastici	rained, pale grey-v ty.	vhite, with	М				RESIDUAL SOIL
	LEG Watu Stra	END: 21 Wat (Dat Wat ta Cha	er Level te and time si er Inflow er Outflow anges	hown)	1.5 1.5 - - - - - - - - - - - - -	mples a 50mm Bulk s Envirce (Glass Acid S (Plasti Bulk S	nd Tes Diame ample far, se i ar, se c bag, i ample	Hole Te Limit Of Limit Of Limit Of Limit Of Limit Of Limit Of Limi	on site)	m gation	Consister VSVV SSS FFS VStV HF5 F55	ncy /ery Soft Soft /ery Stiff /ery Stiff /ery Stiff /ery Stiff		UI <2 550 10 20 >2	<u>CS (kPa</u> 25 5 - 50 0 - 100 100 - 200 100 - 400	) <u>Moisture Condition</u> D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit
	<u>Strata Changes</u> <u>Gradational or</u> transitional strata <u>Definitive or distict</u> strata change				PID DCP(x-y) HP	Photo Dynar Hand	ionisatio nic pen Penetro	on detector read etrometer test (t ometer test (UCS	ling (ppm) æst depth interval s S kPa)	hown)		L ME D VD	D D V	ediun ediun ense ery De	n Dense ense	Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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**TPQ06** 1 OF 1

NEW24P-0141

BS

Е	QUIPN		:	5.0 T(	ONNE	EXCA	VATOR	SURF	ACE RL:					
Т	EST P	IT LENGTH	1:	2.0 m	w	IDTH:	0.5 m	DATU	M:					
	Dril	lling and Sam	npling				Material description and p	ofile information		-1		Field	d Test	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: characteristics,coloui	Soil type, plasticity minor components	/particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	Not Encountered	E 0.40m E 0.50m 1.50m 1.60m		0. <u>5</u> 1. <u>0</u> 1. <u>5</u>		GP	FILL: Sandy GRAVEL - f sub-rounded to rounded, fine to coarse grained sa	ne to medium grair white to pale grey- nd, with some boul medium grained, white to pale grey- nd	ed, white, ders.	м				FILL RESIDUAL SOIL
	EGEND: <sup>j</sup> ater ∠ Wa (Da — Wa ⊲ Wa trata Ch	ter Level te and time sh ter Inflow ter Outflow anges	nown)	2.5 Notes, Si U <sub>50</sub> CBR E ASS B	amples a 50mn Bulk s Envirc (Glas Acid s (Plas)	Ind Tes n Diame sample 1 onmenta s jar, se Sulfate 3 tic bag, Sample	Hole Terminated at 2.10 Limit Of Required Investi to tube sample iter tube sample al sample al ad and chilled on site) Soil Sample air expelled, chilled)	m gation	Consister VS V S S F F St S VSt V H H Fb Fb	ncy /ery Soft Soft firm Stiff fery Stiff fard riable		U <225 500 100 200 24	CS (kPz 55 5 - 50 0 - 100 00 - 200 100	) <u>Moisture Condition</u> D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit
	G tr D s	Gradational or ansitional stra Definitive or dis trata change	ta stict	Field Tes PID DCP(x-y) HP	<u>ts</u> Photo Dynar Hand	nionisatio mic pen Penetro	on detector reading (ppm) etrometer test (test depth interval s ometer test (UCS kPa)	hown)	<u>Density</u>	V L ME D VD	Vi La D M D D Vi	ery Lo bose ledium ense ery De	oose n Dense ense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



### **ENGINEERING LOG - TEST PIT**

**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST TEST PIT NO:

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**TPQ07** 1 OF 1

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

JOB NO: LOGGED BY:

BS

E			E:	5.0 TC	NNE	EXCA	VATOR		SURF	ACE RL:					
	ESI		H:	2.0 m	<b>vv</b>		0.5 m		DATU	M:					
		rilling and Sar	npling				Material de	escription and pro	file information		1		Fiel	d Test	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL chara	DESCRIPTION: S acteristics,colour,r	Soil type, plasticity, ninor components	/particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
		E 0.10m		-		GP	FILL Sar sub-roun	ndy GRAVEL - fine Ided, brown, fine to	e to medium grain o medium grainec	ed, I sand.					FILL
	countered	E 0.30m		-	×××× • • • • • •	GP	Sandy G sub-roun coarse g	RAVEL - fine to co ded to rounded, p rained.	oarse grained, bale brown, mediu		- M				RESIDUAL SOIL
U	Not En	E 0.50m		- 0. <u>5</u> -		CI	Silty CLA some pa	Y - medium plasti le brown.	city, pale grey to v	white with	M < w <sub>p</sub>				
- TEST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07:27 10.03.00.09 Datgel Lab and in Situ Tool</drawingfile>				1.0			0.80m Hole Ten Limit Of f	minated at 0.80 m Required Investiga	lation						
	EGEN <u>Vater</u> W ([ W	GEND:     Notes, Samples and Tests       tter     Uso     50mm Diameter tube       Water Level     CBR     Bulk sample for CBR       (Date and time shown)     E     Environmental sample       Water Inflow     ASS     Acid Sulfate Soil Sam       Water Outflow     B     Bulk Sample					ter tube sample for CBR testing al sample aled and chilled o Soil Sample air expelled, chille	n site) :d)		Consister VS V S S F F St S VSt V H H Fb F	n <b>cy</b> oft irm tiff ery Stiff lard riable		U <2 25 50 10 20 >2	25 5 - 50 0 - 100 00 - 200 00 - 400 400	Moisture Condition           D         Dry           M         Moist           W         Wet           W <sub>p</sub> Plastic Limit           W <sub>L</sub> Liquid Limit
QT LIB 1.1.GLB Loc	→ Water Outflow     Proof of the proof of t							ng (ppm) st depth interval sho kPa)	own)	<u>Density</u>	V L ME D VD	Ve Lo D M De Ve	ery Lo pose ediun ense ery De	oose n Dense ense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 65 - 85%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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**TPQ08** 1 OF 1

NEW24P-0141

BS

E( Ti	QUIPN EST P	MENT TYPE	:	5.0 TC 2.0 m	ONNE W	EXCA	VATOR 0.5 m	5 [	SURFACE RL: DATUM:					
	Dril	ling and Sam	pling				Material descri	ption and profile informa	tion			Fiel	d Test	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DES character	CRIPTION: Soil type, pla istics,colour,minor comp	asticity/particle onents	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
		E 0.10m		-		СН	FILL; Gravelly brown and pa sub-rounded	y CLAY - medium to high ale brown, fine to mediun to rounded gravel.	n plasticity, n grained,	M < W				FILL
ш	Not Encountered	0.30m E (0.40m)		- 0.5_ - - - - - - - - - - - - - - - - - - -		GP	FILL: Sandy ( sub-rounded to coarse gra	GRAVEL - fine to coarse to rounded, grey to pale ined sand.	grained, grey, medium	м				
יאי ווווובטבר טו גבו וניטטיטיטי למשפו במעמוע אי טיאי יאטי		E 1.40m 1.80m E 1.90m		- 1. <u>5</u> - - - 2. <u>0</u> -		GP	1.80m Sandy GRAV sub-rounded to coarse grai	EL - fine to coarse grain to rounded, grey to pale ined sand.	ed, grey, medium	D - M				RESIDUAL SOIL
	GEND: Note: ater Uso				- - - - - - -	nd Tes	Hole Termina Limit Of Requ	ted at 2.20 m lired Investigation	Consiste	ncy		U	CS (kPa	a) Moisture Condition
	ater Uso ater Uso CBR E (Date and time shown) − Water Inflow ■ Water Outflow rata Changes B Creditional or Field Test				50mm Bulk s Enviro (Glass Acid S (Plast Bulk S	ample f ample f onmenta s jar, se Sulfate s ic bag, s Sample		9)	VS V F F St S VSt V H F Fb F	/ery Soft Soft Stiff /ery Stiff lard Friable	:	<pre>&lt;2 25 50 10 20 </pre>	25 5 - 50 0 - 100 00 - 200 00 - 400 400	
	G tr. D sf	Gradational or ansitional strata lefinitive or disti trata change	a ict	Field Test PID DCP(x-y) HP	<u>ts</u> Photo Dynar Hand	ionisatio nic pen Penetro	on detector reading (pp etrometer test (test de ometer test (UCS kPa)	om) pth interval shown)	<u>Density</u>	V L D VD	Vi La D M D D Vi	ery Lo bose lediun ense ery Do	oose n Dense ense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



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**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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**TPQ09** 1 OF 1

NEW24P-0141

BS 3/7/24

EQUIPMENT TYPE:				5.0 TC	ONNE	EXCA	VATOR		SURFA	CE RL:					
TES	ST PI	IT LENGTH	1:	2.0 m	w	IDTH:	0.5 m		DATUM	l:					
	Drill	ling and Sam	npling				Material des	cription and profile in	ormation			_	Fiel	d Test	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DE charact	ESCRIPTION: Soil ty teristics,colour,minor	oe, plasticity/p components	particle	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
Ш	Not Encountered	E 0.10m 0.40m E 0.50m		- - - 0. <u>5</u> -		CL	FILL: Sand brown, fine top 0.02m. 0.50m FILL: Sand and orange medium gra	y CLAY - low to medi to medium grained s y CLAY - medium to -brown, with some p ained sand, with som	um plasticity, and, root affe high plasticity ale grey-white e gravel.	dark cted , brown e, fine to	> W <sub>P</sub> M < W <sub>P</sub>				FILL
		0.80m E 0.90m		- - 1.0_		GP	0.80m Sandy GRA sub-rounde grained sar	AVEL - fine to mediur ad to rounded, brown nd, trace fines of low	n grained, , medium to co plasticity.	— — — - oarse	Б D-М				RESIDUAL SOIL
	END: er Wat (Dai Wat ta Chi	ter Level te and time sh ter Inflow ter Outflow anges	nown)	1.5 1.5 - 2.0 - 2.0 - - - - - - - - - - - - -	mples a 50mr Bulk s Envirc (Glass Acid S (Plast Bulk S	nd Tes Diame ample i onmenta jar, se ulfate 5 ic bag, i ample	ts ts ter tube sample for CBR testing al sample aled and chilled on s Soil Sample air expelled, chilled)	nated at 1.10 m quired Investigation		Consister VS V S S F Fi St S VSt V H H Fb Fi	ncy ery Soft frim ery Stiff ard ard		UI <2 500 100 20 >2	CS (kP2 55 5-50 0-100 00-2000	) <u>Moisture Condition</u> D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit
 	G tra D st	radational or ansitional stra efinitive or dis rata change	ta stict	PID DCP(x-y) HP	Photo Dynar Hand	ionisatio nic pen Penetro	on detector reading etrometer test (test o ometer test (UCS kP	(ppm) depth interval shown) 'a)		<u></u>	L ME D VD	La D M D	ense ery De	n Dense	Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



### **ENGINEERING LOG - TEST PIT**

**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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**TPQ10** 1 OF 1

NEW24P-0141

BS

-	EQ TES	UIPN ST PI	MENT TYP	E: H:	5.0 TC 2.0 m	NNE E WI	EXCA	VATOR 0.5 m		SURFA DATUN	CE RL: /:					
ľ		Dril	ling and San	npling				Material des	scription and profile inf	ormation				Field	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL D charao	ESCRIPTION: Soil typ cteristics,colour,minor	be, plasticity/p components	particle	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	Е	Not Encountered	E 0.10m 0.40m E 0.50m 0.80m		0.5_		SP	FILL: SAN grey-brow grey-brow <u>0.80m</u> Extremely breaks do	ID - fine to medium gra n and trace orange-bro n and grey, with some Weathered Sandston wn into SAND - fine to	ained, brown own, dark clay and gra	to vvel. 	D - M				FILL EXTREMELY WEATHERED ROCK
Leg NON-CORED BOREHOLE - TEST PTI NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07/28 10/03 00.09 Datgel Lab and in Situ Tool</drawingfile>	LEG Watu	END: er Wat Wat Wat	ter Level ter and time sl ter Inflow ter Outflow anges radational or	hown)	1.0 1.0 - - 1.5 - - 2.0 - - 2.0 - - 2.5 - - - 2.5 - - - - - - - - - - - - -	mples ar 50mm Bulk sa Enviro (Glass Acid S (Plastin Bulk S	nd Tesi Diame ample f nmenta jar, sea ulfate S c bag, a ample	I.00m Hole Terr Limit Of R Ist ter tube sample or CBR testing al sample aled and chilled on Soil Sample air expelled, chilled	site)		Consister VS VS VS V S S F F St S VSt V H H Fb F <b>Density</b>	Icy for the second seco		U	CS (kP2 55 5-50 0-100 00-200 00-400 00-400	<b>Moisture Condition</b> D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit Density Index <15%
QT LIB 1.1.GLE	Strata Changes        Gradational or transitional strata        Definitive or distict strata change			PID DCP(x-y) HP	Photoi Dynan Hand F	onisatio nic pene Penetro	on detector reading etrometer test (test ometer test (UCS k	i (ppm) ≿depth interval shown) Pa)			L ME D VD	D D D	oose ledium ense ery De	n Dense ense	Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%	



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

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**TPQ11** 1 OF 1

BS

3/7/24

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

- H															
	EQ		MENT TYPE:	:	5.0 TC		EXCA	VATOR	SL	JRFACE RL:					
ł		Dril	ling and Samp	lina	2.0 111			Material descri	ntion and profile information				Fiel	d Test	
				Jing			z								
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATIC SYMBOL	MATERIAL DES character	CRIPTION: Soil type, plas istics,colour,minor compo	ticity/particle nents	MOISTURE CONDITION	CONSISTENC) DENSITY	Test Type	Result	Structure and additional observations
igel Lab and In Situ I ool	Ш	LU E 0.10m 0.40m E 0.50m 0.90m E 1.00m 1.30m E 1.40m (0.40m) (0					GP CH	FILL: Sandy G sub-rounded coarse graine medium plast Sandy Gravel brown to pale rounded, med 1.30m Sandy Gravel some pale bro grained, sub- grained, sub- grained sand.	GRAVEL - fine to coarse g to rounded, dark grey, me d sand, with some fines o icity.	rained, dium to f low to f low to plasticity, ained, nd.	M < W <sub>P</sub> M > W <sub>P</sub>				FILL RESIDUAL SÕIL
00 NON-CORED BOREHOLE - LEST PIL NEW24P-0141 LOGS 1P3.0P1 <	LEGEND:         Water         Yuter         Water Level         (Date and time shown)         Water Inflow         Water Outflow         Strate Changes         Creditional or			wn)	2.0	mples a 50mm Bulk s Envice (Glass Acid S (Plasti Bulk S	nd Tes Diame ample s jar, se jufate S ic bag, ample	ts ter tube sample ior CBR testing al sample aled and chilled on site Soil Sample air expelled, chilled)	ted at 1.70 m ired Investigation	Consiste VS V S S F F St S VSt V H F F D T	ncy Rery Soft Soft Yery Stiff Iard		U < 25 50 10 20 >2	CS (kPa 25 5 - 50 0 - 100 00 - 2000 100 - 2000	a) <u>Moisture Condition</u> D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit
21 LIB 1.1.GLB L		–– G tra – D st	radational or ansitional strata efinitive or distio rata change	a ct	PID PID DCP(x-y) HP	Photo Dynar Hand	ionisatio nic pen Penetro	on detector reading (pp etrometer test (test dep ometer test (UCS kPa)	om) oth interval shown)	<u>Density</u>	V L MI D Vr	V La D M D	ery Lo bose lediun ense ery Di	oose n Dense ense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 65 - 100%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

TEST PIT NO:

**TPS1** 1 OF 1

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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EC	UIPN		E:	5.0 T	ONNE	EXCA	VATOR		SURFACE	RL:						
TE	ST P	IT LENGTH	4:	2.0 m	W	IDTH:	0.5 m		DATUM:							
	Dril	ling and San	npling				Material c	description and profile info	ormation				Field	d Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL chai	. DESCRIPTION: Soil type racteristics,colour,minor c	e, plasticity/partic omponents	sle	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations	
	σ	E 0.10m 0.40m E 0.50m		0.5		× × × × × × × × ×	FILL: Sa brown to sand, wi	andy GRAVEL - fine to co o dark grey-brown, fine to ith some fines of low plas	arse grained, dar coarse grained licity.	rk	М				FILL	
ш	Not Encountere	0.90m E 1.00m/		1. <u>0</u>		GC	FILL Sa grained, and orar of low to	ndy Clayey GRAVEL - fin sub-rounded to rounded nge-brown, fine to coarse o medium plasticity.	e to medium , brown, pale bro grained sand, fir and sand, fir and sand	own nes 						
		1.50m E 1.60m		1.5 <u></u>		GP	brown to sand, wi <u>1.50m</u> Silty CL pale bro	o dark grey-brown, fine to ith some fines of low plasi	coarse grained licity. own, red-brown, d-brown and						RESIDUAL SOIL	
				2.0		CL	orange-i	brown.			M < w <sub>p</sub>					
2					-		Hole Tei Limit Of	rminated at 2.00 m Required Investigation								
				2.5	- - -											
LEC	GEND:	I		Notes, Sa	amples a	⊥ Ind Tes	<u>ts</u>		Cons	sistenc	х	l	U	CS (kPa	a) Moisture Condition	
Wa					50mm	1 Diame	ter tube sample		VS	Ver	ry Soft		<2	25	D Dry M Moint	
₹	Wat	ter Level	,	E	Envir	onment:	al sample		5   F	Firr	n		25 50	) - 30 ) - 100	W Wet	
	(Da - Wat	te and time sł ter Inflow	nown)	222	(Glase	s jar, se Sulfate	aled and chilled Soil Sample	on site)	St	Stif	f v Stiff		10	0 - 200	W Plastic Limit	
-	Wat	ter Outflow		700	(Plast	ic bag,	air expelled, chill	ed)	<sup>VSI</sup>   H	Har	rd		>4	100 - 400 100		
<u>Stra</u>	ata Ch	anges		B Field Tea	Bulk S	Sample			Fb	Fria	able	14	anula	0000	Density Index <15%	
	G	radational or	ita	PID	Photo	vionisati	on detector readi	ing (ppm)	Dens	əry	v L	Lc	ery LC Dose	056	Density Index 15 - 35%	
—	D	efinitive or dis	stict	DCP(x-y)	Dynar	nic pen	etrometer test (te	est depth interval shown)			MD	M	ediun	n Dense	e Density Index 35 - 65%	
	st	trata change		ΗΥ	Hand	Penetro	ometer test (UCS	ыкға)			D VD	De Ve	ense ery De	ense	Density Index 65 - 85% Density Index 85 - 100%	



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

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**TPS3** 1 OF 1

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

JOB NO: LOGGED BY: DATE:

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	EQI	JIPN	IENT TYP	E:	5.0 TC	ONNE I	EXCA	VATOR	SUR	FACE RL:					
	TES	ST PI	T LENGTI	H:	2.0 m	W	IDTH:	0.5 m	DAT	UM:					
		Drill	ing and San	npling				Material description	on and profile information				Field	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCR characteristic	RIPTION: Soil type, plastici cs,colour,minor componer	ty/particle its	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	LEGEND: Water Level (Date and time shown) Water Inflow Mater Level (Date and time shown) (Date and time shown)						GC GC	<ul> <li>FILL: Gravelly SA and brown with s grained, rounded FILL: Sandy Clay grained, rounded orange-brown, fit low to medium p</li> <li>Sandy Clay grained, rounded orange-brown, fit low to medium p</li> <li>Gravelly Sandy O brown, trace red medium grained rounded gravel.</li> <li>2.70m</li> <li>Hole Terminated</li> </ul>	ND - fine to coarse graine some orange-brown, fine t d gravel. yey GRAVEL - fine to coal d, brown with some pale b ne to coarse grained sand lasticity.	ed, grey o medium  rse rown, I, fines of asticity, , fine to ned,	M				FILL RESIDUAL SOIL
EOI TIL NEW	LEGEND:							Limit Of Require	d Investigation						
		END: er (Dat (Dat Wat Wat	er Level e and time sl er Inflow er Outflow anges radational or	hown)	Notes, Sa U <sub>50</sub> CBR E ASS B Field Tes	50mm 50mm Bulk s Envirc (Glass Acid S (Plasti Bulk S t <u>s</u>	nd Tes Diame ample onmenta s jar, se sulfate c bag, c bag, ample	ts ter tube sample or CBR testing al sample aled and chilled on site) Soil Sample air expelled, chilled)		Consister VS V S S F F St S VSt V H F Fb F	ncy ery Soft oft tiff ery Stiff lard riable V	Ve	<u>U(</u> <2 50 10 20 >4	CS (kPa 25 5 - 50 0 - 100 00 - 200 00 - 400 400 pose	Moisture Condition         D       Dry         M       Moist         W       Wet         W <sub>p</sub> Plastic Limit         W <sub>L</sub> Liquid Limit         Density Index <15%
		tra Do st	ansitional stra efinitive or dis rata change	ata stict	PID DCP(x-y) HP	Photoi Dynan Hand	ionisati nic pen Penetro	on detector reading (ppm) etrometer test (test depth ometer test (UCS kPa)	interval shown)		L ME D VD	Lo D D Ve	oose edium ense ery De	n Dense ense	Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

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**TPS4** 1 OF 1

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

	EQUIPMENT TYPE: TEST PIT LENGTH:			5.0 TC	NNE E	EXCA	VATOR		SURFA	ACE RL:						
	TE	ST P	IT LENGTI	4:	2.0 m	W	DTH:	0.5 m		DATU	N:					
		Dril	ling and San	npling				Material descri	ption and profile infor	mation				Field	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DES character	CRIPTION: Soil type istics,colour,minor cc	, plasticity/ mponents	particle	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	ш	Intered	8:18Ħ		_	0.0.0. 0.0.0. 0.0.0	GP	Sandy GRAV sub-rounded	EL - fine to medium ( to rounded, fine to co	grained, br barse grain	rown, ned, with	м				RESIDUAL SOIL
		ncor	E 0.20m			000		0.20m CONGLOME	RATE - brown to pale	e brown.						HIGHLY WEATHERED
		Not E			- 0. <u>5</u> -			Hole Termina Limit Of Requ	ited at 0.20 m lired Investigation							<u>(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>
0																
8 10.03.00.09 Datgel Lab and In Situ To																
/24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07::</drawingfile>																
TEST PIT NEW																
1.1.GLB Log NON-CORED BOREHOLE -	LEGEND: Water ✓ Water Level (Date and time shown) → Water Inflow → Water Outflow Strata Changes — Gradational or transitional strata Definitive or distict			Notes, Sar U <sub>50</sub> CBR E ASS B Field Test PID DCP(x-y)	nples ar 50mm Bulk sa Enviro (Glass Acid S (Plastid Bulk S S Photoi Dynar	nd Test Diame ample f nmenta jar, se ulfate S c bag, a ample onisationic peno	s er tube sample or CBR testing I sample aled and chilled on site ioil Sample ir expelled, chilled) n detector reading (pp etrometer test (test dep	∍) om) pth interval shown)	_	ConsisterVSVSSFFiStSVStVHHFbFiDensity	icy ery Soft rm iff ery Stiff ard iable V L MD	Ve Lc	U <2 25 50 10 20 >4 ery Lo pose edium	<b>CS (kPa</b> 25 5 - 50 0 - 100 00 - 200 00 - 400 00 - 400 00 00 - 400 00 00 - 400	Moisture Condition           D         Dry           M         Moist           W         Wet           Wp.         Plastic Limit           WL         Liquid Limit           Density Index <15%         Density Index 15 - 35%           Density Index 35 - 65%         Density Index 35 - 65%	
QT LIB		strata change HP Hand Penetrometer test (UCS kPa)									D VD	De Ve	ense ery De	ense	Density Index 65 - 85% Density Index 85 - 100%	



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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**TPS5** 1 OF 1

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BS

EC TE			E: 1:	5.0 TC 2 0 m	DNNE I W	EXCA	VATOR		SURF.	ACE RL:					
	Drill	ling and Sam	nplina				Material de	scription and profil	e information				Field	d Test	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL D	ESCRIPTION: So	il type, plasticity nor component	//particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
ш	Not Encountered	E <u>0.20m</u> E <u>0.30m</u>		- - - 0. <u>5</u> -		SP	0.05m Sandy CL sand, woo SAND - m brown, wit grained gr	AY - low plasticity, id piece iedium to coarse g h some sub-round avel.	fine to medium rained, brown to ed to rounded,	grained o pale fine	M				FILL — — — — — — — — — — — — — — — — — —
						Hole Terr Limit Of R	ninated at 0.70 m equired Investigati	on							
				- 1. <u>5</u> -	-										
				2.0	-										
				2. <u>5</u> - - -											
	LEGEND: Water ✓ Water Level (Date and time shown) ← Water Inflow ✓ Water Outflow Strata Changes Gradational or transitional strata Definitive or distict strata change			Notes, Sa U <sub>50</sub> CBR E ASS B Field Test PID DCP(x-y) HP	mples a 50mm Bulk s Envirc (Glass Acid S (Plasti Bulk S ts Photo Dynar Hand	nd Tes n Diame ample to nmenta s jar, se Sulfate S ic bag, c bag,	ts ter tube sample for CBR testing al sample alaed and chilled on Soil Sample air expelled, chilled on detector reading etrometer test (test pometer test (UCS k	site) )) I (ppm) I depth interval show Pa)	m)	Consister VS V S S F F St S VSt V H F Fb F Density	Incy /ery Soft imm itiff /ery Stiff lard iriable V L ME D	Ve Lc D M	U 25 50 10 20 >4 ery Lo pose edium ense	CS (kPa 25 5 - 50 0 - 100 00 - 200 00 - 400 00 - 400 00 - 400 00 - 400 00 - 400	a) Moisture Condition D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85%



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**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST TEST PIT NO:

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NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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BS

	EQUIPMENT TYPE: TEST PIT LENGTH:				5.0 TC	ONNE	EXCA	VATOR		SURF	ACE RL:					
┝	TES	ST P		:	2.0 m	W	IDTH:	0.5 m		DATU	M:					
ŀ		Drill	ing and Samp	pling				Material des	scription and profile	information				Fiel	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL D charac	DESCRIPTION: Soil t	type, plasticity, or components	/particle	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	ш	Not Encountered	E 0.10m 0.40m 0.50 E 0.60m		0. <u>5</u> 		GP GP	FILL: San sub-round grained se some cobl 0.50m Sandy GR sub-round orange-br some fines	dy GRAVEL - fine to led to rounded, brow and, with some fines ble. AVEL - fine to coars led to rounded, brow own, fine to coarse of s of low plasticity, wi	coarse graine n, fine to coar of low plastici se grained, n to pale brov grained sand, th some cobbl	ed, ise ty, with with vn, trace with le.	- M				FILL RESIDUAL SÕIL — — — —
	LEG Wato Stra	LEGEND: Water Water Level (Date and time shown) Water Inflow		nwc)		mples a 50mm Bulk s Envirc (Glass Acid S (Plast Bulk S	nd Tes D Diame ample I pomenta s jar, se Sulfate S ic bag, Sample	tote Term Limit Of Ro International Content Inter tube sample for CBR testing al sample aled and chilled on Soil Sample air expelled, chilled	nnated at 1.00 m equired Investigation	n	Consister VS VS F F St S VSt V H H Fb Fb	ncy /ery Soft iim stiff /ery Stiff łard /riable V		UI <22 50 10 20 20 20 20	CS (kP2 55 5-50 0-100 0-2000 1-400 100	a)       Moisture Condition         D       Dry         M       Moist         W       Wet         W       Plastic Limit         WL       Liquid Limit         Density Index <15%
	Gradational or transitional strata Definitive or distict strata change				PID DCP(x-y) HP	Photo Dynar Hand	ionisatio nic pen Penetro	on detector reading etrometer test (test ometer test (UCS kl	g (ppm) t depth interval shown Pa)	)	Density	V L M D V	D D D D D	ory Lo pose lediun ense ery Do	n Dense	Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

TEST PIT NO:

**TPS7** 1 OF 1

NEW24P-0141

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	EQUIPMENT TYPE: TEST PIT LENGTH:			5.0 TC	NNE I	EXCA	VATOR		SUR	RFACE RL:						
┝	IES			<b>-1:</b>	2.0 m	W	וטוH:	0.5 m	deservicition '	DAT	UM:			<b>-</b> : •	ا ، <sub></sub> را	
┝		Dril	ing and San	npling			7	Material	description and p	profile information				Fiel	a l'est	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL cha	. DESCRIPTION racteristics,colou	l: Soil type, plastic ır,minor compone	ity/particle nts	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	ш	Not Encountered	E 0.20m E 0.30m		- - - 0. <u>5</u>		SP	0.05m Sandy ( sand, w SAND - brown, ' grained	CLAY - low plast ood piece medium to coar with some sub-ro gravel.	icity, fine to mediu  se grained, brown ounded to rounded	m grained  n to pale d, fine	M				FILL RESIDUAL SOIL
y NON-CORED BOREHOLE - TEST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07:28 10.03.00.09 Datgel Lab and In Situ Tool</drawingfile>		END: er Wa' (Da Wa' ta Ch	ter Level ter and time sh ter Inflow ter Outflow	nown)		mples a 50mm Bulk s Envirc (Glass Acid S (Plast	nd Tes Diame ample f onmenta sjar, se Suifate S ic bag, a ample	ts ter tube sample for CBR testing al sample aled and chilled Soil Sample air expelled, chil	on site)	) m tigation	Consiste VS S F St St F F b F b	Pincy Very Soft Soft Firm Stiff Very Stiff Hard Triable		U <2 50 10 20 24	CS (kP2 55 5-50 0-100 0-200 0-400 100	) Moisture Condition D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit
QT LIB 1.1.GLB Lc	Gradational or     Gradational or     Gradational strata     Definitive or distict     Strata change			Field Test PID DCP(x-y) HP	<u>s</u> Photo Dynar Hand	ionisatio nic pen Penetro	on detector read etrometer test (t ometer test (UCS	ing (ppm) est depth interval S kPa)	shown)	<u>Density</u>	V L ME D VD	V La D D V	ery Lo bose lediun ense ery Do	oose n Dense ense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%	



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

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NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

JOB NO: LOGGED BY: DATE:

	EQUIPMENT TYPE: TEST PIT LENGTH:			E:	5.0 TC	ONNE E	EXCA	VATOR		SURF	ACE RL:					
	TE	ST P	IT LENGTH	4:	2.0 m	WI	DTH:	0.5 m		DATU	M:			1		
		Dril	ling and San	npling				Material des	scription and profile ir	formation				Field	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL D charao	ESCRIPTION: Soil ty steristics,colour,minor	rpe, plasticity components	/particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	Ш	Not Encountered	E 0.10m 0.40m E 0.50m 0.90m				GC	FILL: Sand grained, rc red-brown to medium	ty Clayey GRAVEL - ounded to sub-rounde fine to medium grain plasticity.	fine to mediu ed, brown to ned sand, fin	um es of low					FILL
			E		1.0			1.00m								
			1.00m					SANDSTC 1.10m	ONE - brown.							HIGHLY TO MODERATELY WEATHERED ROCK
- TEST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07:28 10.03.00.09 Datgel Lab and In Situ Tool</drawingfile>							Limit Of R	equired Investigation								
GLB Log NON-CORED BOREHOL	Wat	er Wai (Da Wai I Wai I Wa I tra G	ter Level te and time sh ter Inflow ter Outflow anges radational or ansitional stra	nown)	U <sub>50</sub> CBR E ASS B Field Test PID	50mm Bulk sa Enviro (Glass Acid S (Plasti Bulk S <u>ts</u> Photoi	Diame ample f nmenta jar, se ulfate \$ c bag, ample onisatio	The rube sample for CBR testing al sample laled and chilled on Soil Sample air expelled, chilled on detector reading	site) ) (ppm)		VS V S S F F St S VSt V H F Fb F Density	/ery Soft Soft Firm Stiff /ery Stiff Hard Friable V L	: Vi	25 25 50 10 20 >4 ery Lco pose	25 5 - 50 0 - 100 00 - 200 00 - 400 400	D     Dry       M     Moist       W     Wet       W <sub>p</sub> Plastic Limit       W <sub>L</sub> Liquid Limit       Density Index <15%     Density Index 15 - 35%
QT LIB 1.1.	transitional strata —— Definitive or distict strata change			stict	DCP(x-y) HP	Dynam Hand F	nic pen Penetro	etrometer test (test ometer test (UCS kl	depth interval shown) Pa)			ME D VD	D M D D V	lediun ense ery De	n Dense ense	<ul> <li>Density Index 35 - 65%</li> <li>Density Index 65 - 85%</li> <li>Density Index 85 - 100%</li> </ul>



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**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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NEW24P-0141

E	QUIP	MENT TYP	E:	5.0 TC	ONNE	EXCA	VATOR		SURI	FACE RL:						
Т	EST I	PIT LENGT	H:	2.0 m	w	IDTH:	0.5 m		DATU	JM:						
	Dr	illing and Sar	npling				Material	description and pr	ofile information				Fiel	d Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAI	_ DESCRIPTION: iracteristics,colour	Soil type, plasticil ,minor componer	ty/particle its	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Struct	ure and additional observations
ш	Encountered	E 0.10m 0.20m E 0.30m		-		× GP	FILL: S sub-rou sand. 0.20m Sandy sub-rou mediun	andy GRAVEL - fi inded to rounded, GRAVEL - fine to inded to rounded, n to coarse grained	ne to coarse grain medium to coars 	ned, e grained 	M				FILL RESIDU/	ĀL SÕIL
	Not I			0.5	0 0 0	GP	0.70m									
				- 1.0_ - - - 1.5_			Hole Te Limit O	erminated at 0.70 (	m gation							
0				- - 2.0_ -	-											
		 ):	L	Notes, Sa	mples a	nd Tes				Consiste	ncy		U	CS (kPa	) <u>Moist</u> u	ure Condition
N	later	ater U <sub>50</sub> 50mm Diameter tube sa		 eter tube sample for CBR testing			VS V	/ery Soft		</td <td>25 5 - 50</td> <td>D</td> <td>Dry Moist</td>	25 5 - 50	D	Dry Moist			
	Water Level     (Date and time shown)     (Class in a control of the shown)     (Class in a control of the shown)				al sample			FF	irm		2: 50	) - 100 ) - 100	W	Wet		
	Water Inflow         (Glass jar, sealed and chilled on s           ASS         Acid Sulfate Soil Sample				on site)		St St VSt V	Stiff /ery Stiff		10 20	00 - 200 00 - 400	W <sub>p</sub> W.	Plastic Limit Liquid Limit			
-	- <b>4</b> W	ater Outflow			(Plast	ic bag,	air expelled, chil	led)		H H	lard		>2	400		
<u>s</u>	trata C	<u>hanges</u> Gradational or		B <u>Field Te</u> s	Bulk \$ <u>ts</u>	Sample				Fb F Density	riable V	Ve	ery Lo	oose	Densit	y Index <15%
-	1	transitional stra	ata	PID	Photo	ionisati	on detector read	ling (ppm)	hown)		L	Lo	odium	n Done -	Densit	y Index 15 - 35%
	 !	Definitive or dis strata change	stict	HP	Hand	Penetro	ometer test (UC	S kPa)	iowit)			Di Di Di	ense ery D	ense	Densit Densit	y Index 35 - 65% y Index 65 - 85% y Index 85 - 100%


**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST TEST PIT NO:

PAGE:

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NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

JOB NO: LOGGED BY: DATE:

				5.0 TC	ONNE	EXCA	VATOR		SURF	ACE RL:							
TES	ST PI	T LENGT	H:	2.0 m	W	IDTH:	0.5 m		DATU	M:							
	Drill	ing and Sar	npling				Material des	scription and profile	information				Fiel	d Test			
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL D	ESCRIPTION: Soil cteristics,colour,mir	type, plasticity or component	//particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structu ol	ire and additional bservations	
Е	Not Encountered	E (0.10m 0.20m E (0.30m		0.5		GP GP	FILL: Sanc sub-round sand. Sandy GR sub-round medium to	dy GRAVEL - fine t ed to rounded, med AVEL - fine to coan ed to rounded, bro coarse grained sa	o coarse grain dium to coarse 	ed, e grained 	м				FILL RESIDUA	L SOIL	
	END: Pr Wat (Dat Wat ta Cha	er Level te and time s er Inflow er Outflow anges	hown)	0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	mples a 50mm Bulk s Envisor Galass Acid S (Plast Bulk S	nd Tes Diame ample Sufate S ic bag, ample	ts ter tube sample for CBR testing al sample ailed and chilled on Soil Sample air expelled, chilled)	inated at 0.60 m equired Investigation	'n	Consister VS V S S F F St S VSt V H H Fb Porsite	ncy Pery Soft im tiff fery Stiff ery Stiff ard		U <2 25 500 20 20	CS (kPz 25 5 - 50 0 - 100 00 - 2000 100 - 2000	1) Moistur D M W Wp WL	re Condition Dry Moist Wet Plastic Limit Liquid Limit	
Gradational or     transitional strata     Definitive or distict     strata change			PID DCP(x-y) HP	Photo Dynar Hand	ionisationisation nic pen Penetro	on detector reading etrometer test (test ometer test (UCS kF	(ppm) depth interval shown <sup>D</sup> a)	n)		L ME D VE	La D M D D V	oose lediun ense ery De	n Dense ense	Density Density Density Density	Index 15 - 35% Index 35 - 65% Index 65 - 85% Index 85 - 100%		



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

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BS

2/7/24

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

	EQ TES	UIPN ST P	IENT TYPI	E: 1:	5.0 TC 2.0 m	DNNE I W	EXCA	VATOR 0.5 m		SURF	ACE RL: M:					
		Dril	ling and Sam	npling				Material de	scription and profile	e information				Field	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL I chara	DESCRIPTION: So cteristics,colour,mi	il type, plasticity nor components	/particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
-	ш	Not Encountered	E 0.20m E 0.30m		- - - 0. <u>5</u> - - - - - - - - - - - - - - - - - - -		GP GP	FILL: San sub-round sand. <u>0.20m</u> Sandy GF sub-round medium to Hole Tem Limit Of R	dy GRAVEL - fine led to rounded, me 	to coarse graine dium to coarse rrse grained, own to grey-brov and.	ed, grained 	м				FILL RESIDUAL SOIL
LB Log NON-CORED BOREHOLE - TEST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07/28 10.03.00.09 Datgel Lab and in Situ Tool</drawingfile>	LEG Watu Stra	END: er (Da Wa Wa ta Ch	ter Level te and time sh ter Inflow ter Outflow anges radational or	nown)		mples a 50mm Bulk s Envirce (Glasti Bulk S Envirce	nd Tesi Diame ample fa jar, se c bag, a ample	Limit Of R	n site)	on	Consister VS V S S F F St S VSt V H F Fb F Density	ncy /ery Soft /ery Stiff /ery Stiff /ard /riable /		UI <22 500 10 20 24	CS (kPa 55 5 - 50 0 - 100 100 - 200 100 - 400	) <u>Moisture Condition</u> D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit Density Index <15% Density Index 15 - 35%
IT LIB 1.1.GLB L		G tr — D si	radational or ansitional stra efinitive or dis rata change	ta stict	PID PID DCP(x-y) HP	<u>ts</u> Photo Dynar Hand	ionisatio nic pene Penetro	on detector reading etrometer test (tes ometer test (UCS k	g (ppm) t depth interval show Pa)	'n)	<u>Density</u>	V L MC D	Vi La Di Vi	ery Lo pose edium ense ery Da	oose n Dense ense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%

$\bigcirc$	ualtest	
	LABORATORY (NSW) PTY LTD	

**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

TEST PIT NO:

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TPW4 1 OF 1

NEW24P-0141 BS

2/7/24

	EQ	Equipment type: Test Pit Length:			5.0 TC	NNE I	EXCA	VATOR		SURF	ACE RL:						
	TES	ST P	IT LENGT	4:	2.0 m	w	IDTH:	0.5 m		DATU	M:						
		Dril	ling and San	npling	-1			Material de	escription and profile	e information		1		Field	d Test		
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL I chara	DESCRIPTION: Soi cteristics,colour,mir	l type, plasticity, nor components	/particle	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structu o	ure and additional bservations
ľ			E 0.10m		-		GP	FILL: Sar sub-round sand.	ndy GRAVEL - fine t ded to rounded, me	to coarse graine dium to coarse	ed, grained					FILL	
	Ε	Not Encountered	0.20m E 0.30m		- - 0. <u>5</u> - - - - - - 1.0		GP	<u>0.20m</u> Sandy Gf sub-round medium t	RAVEL - fine to coa ded to rounded, bro o coarse grained sa	rse grained, wn to grey-brov and.	- — — — - wn,	м				RESIDUA	
CORED BOREHOLE - TEST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07:28 10.03.00.09 Daigel Lab and In Silu Tool</drawingfile>	LEG Wat	END: er Wai (Da Wai	ter Level te and time sh	nown)		mples a 50mm Bulk s Envirc (Glass Acid S	nd Tesi Diame ample f nmenta i jar, se	Hole Terr Limit Of F	ninated at 1.00 m Required Investigatio	n	Consister VS V S S F F St S VSt V	ncy fery Soft		U0 <2 255 50 100	CS (kPa 25 5-50 - 100 0 - 2000 0 - 400	) Moistu D M W W W,	re Condition Dry Moist Wet Plastic Limit Liauid Limit
LIB 1.1.GLB Log NON-	<u>Stra</u>	Wai <u>ta Ch</u> G tr D	ter Outflow anges adational or ansitional stra efinitive or dis trata change	ata stict	B <u>Field Test</u> PID DCP(x-y) HP	(Plasti Bulk S S Photo Dynar Hand	c bag, a ample onisatio nic pene	air expelled, chilled on detector reading etrometer test (tes ometer test (UCS F	d) g (ppm) tt depth interval show kPa)	n)	H H Fb F Density	iard riable V L MI D	Vi La D M	>4 ery Lo ose edium ense	bose n Dense	Density Density Density Density	r Index <15% r Index 15 - 35% r Index 35 - 65% r Index 65 - 85%
д		3										VD	V V	ery De	ense	Density	/ Index 85 - 100%



## **ENGINEERING LOG - TEST PIT**

**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

TEST PIT NO:

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LOGGED BY:

**WBTP01** 

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NEW24P-0141

	EQ TE	UIPN ST P	MENT TYP	E: H:	5.0 TC 2.0 m	DNNE W	EXCA I <b>DTH</b> :	VATOR 0.5 m		SURF. DATU	ACE RL: M:					
Ī		Dril	ling and San	npling				Material des	scription and profile in	formation				Field	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL D charac	ESCRIPTION: Soil typ teristics,colour,minor	pe, plasticity components	/particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	Е	Not Encountered	E 0.40m E 0.50m 0.60m E 0.70m		- - - - - - - - - - - - - - - - - - -		GC SP GP	FILL: Sand sub-round of low to m sand. FILL: Grav 0.50m brown, sub FILL: Sand sub-round of low to m sand.	ty Clayey GRAVEL - 1 ed to rounded, pale b hedium plasticity, fine perelly SAND - fine to m p-rounded to rounded ty Clayey GRAVEL - 1 ed to rounded, pale b hedium plasticity, fine	fine to mediu rown to brov to coarse gr edium graind gravel. fine to mediu rown to brov to coarse gr	um, vn, fines ained	M				FILL
0.09 Datgel Lab and In Situ Tool			E (1.40m		- - 1.5 -		GC	1.30m Sandy Cla sub-round- medium pl 1.50m Hole Term Limit Of Re	yey GRAVEL - fine to ed to rounded, brown asticity, fine to mediuu inated at 1.50 m equired Investigation	medium gra , fines of low m grained sa	ained, v to and.					RESIDUAL SOIL
- TEST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07:28 10.03.00</drawingfile>					- 2.0_ - - - - - - - - - - - - - - - - - - -						Consister					) Maisture Condition
3 Log NON-CORED BOREHOLE	LEG <u>Wat</u> ▼ <u>Stra</u>	iEND: er (Da (Da ∙ Wa I Wa I Wa	ter Level te and time sl ter Inflow ter Outflow <u>anges</u> iradational or	hown)	Notes, Sa U <sub>50</sub> CBR E ASS B Field Test	mples a 50mm Bulk s Enviro (Glass Acid S (Plast Bulk S ts	nd Tesi a Diame ample f onmenta s jar, se Sulfate S ic bag, a Sample	IS ter tube sample or CBR testing al sample aled and chilled on Soil Sample air expelled, chilled	site) )		Consister VS V S S F F St S VSt V H H Fb F Density	ncy ery Soft oft irm tiff ery Stiff lard riable V	V	22 25 50 10 20 >4 ery Lo	<u>CS (kPa</u> 25 5 - 50 0 - 100 00 - 200 00 - 400 00 - 400 00	Moisture Condition         D       Dry         M       Moist         W       Wet         W <sub>p</sub> Plastic Limit         W <sub>L</sub> Liquid Limit         Density Index <15%
QT LIB 1.1.GLE		Gradational or     Field Tests       transitional strata     PID     Photoion       Definitive or distict     DCP(x-y)     Dynamic       strata change     HP     Hand Pe			ionisatio nic pen Penetro	on detector reading etrometer test (test ometer test (UCS kl	(ppm) depth interval shown) <sup>D</sup> a)			L MD D VD	Lo M D V	oose ledium ense ery <u>D</u> e	n Dense ense_	Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%		



## **ENGINEERING LOG - TEST PIT**

**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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**WBTP02** 

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NEW24P-0141 BS

2/7/24

	EQ TES	UIPN ST P	MENT TYP	TYPE:5.0 TONNE EXCAVATORIGTH:2.0 mWIDTH:0.5 m					SURF. DATU	ACE RL: M:						
ŀ		Dri	lling and San	nplina				Material de	scription and profile in	formation				Field	d Test	
-	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL I chara	DESCRIPTION: Soil ty cteristics,colour,minor	pe, plasticity component	//particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	Е	Not Encountered	E 0.10m 0.30m		-		GP	FILL: San sub-round grained sa	dy GRAVEL - fine to c led to rounded, brown and, with some fines fi	coarse grain , fine to coa o low plastic	ed, rse ity.	М				FILL
		~	E			000		CONGLO 0.40m	MERATE - brown to p	ale brown.						HIGHLY WEATHERED ROCK
E - TEST PTT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07/28 10.03.00.09 Dagel Lab and in Situ Tool</drawingfile>			E 0.40m		0.5 0.5 - - 1.0 - - - - - - - - - - - - -			0.40m Hole Tem Limit Of R	hinated at 0.40 m lequired Investigation		Consiste					Noisture Condition
3 1.1.GLB Log NON-CORED BOREHOLE	<u>Wat</u> <u>₩at</u> <u>Stra</u>	er Wa (Da Wa Wa Wa <u>ta Ch</u> tr	ter Level te and time sl ter Inflow ter Outflow ter Outflow ter Outflow anges Gradational or ransitional stra Definitive or dis	hown) ata stict	U <sub>50</sub> CBR E ASS B Field Test PID DCP(x-y)	50mm Bulk s: Enviro (Glass Acid S (Plasti Bulk S S Photoi Dynan	Diame ample f onmenta s jar, se Sulfate S c bag, a c bag, a c bag, a conisationic pen-	ter tube sample ter tube sample or CBR testing al sample aled and chilled or Soil Sample air expelled, chilled on detector reading terometer test (tes	n site) 1) g (ppm) t depth interval shown) Ra)		VS V S S F F St S VSt V H F Fb F Density	very Soft Soft Stiff (ery Stiff lard iriable V L ME	Ve Lc M	<pre>&lt;2 &lt;25 50 10 20 &gt;4 ery Lo cose edium once </pre>	25 5 - 50 0 - 100 00 - 200 00 - 400 400 00 - 400 400	Impostude Contractor       D     Dry       M     Moist       W     Wet       Wp     Plastic Limit       WL     Liquid Limit       Density Index <15%       Density Index 15 - 35%       Density Index 35 - 65%       Density Index 15 - 25%
QT LI.		S	trata change		1.11.				. <i>aj</i>			VD	Ve	ense ery De	ense	Density Index 85 - 100%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

TEST PIT NO:

**WBY1** 1 OF 1

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

PAGE: JOB NO: LOGGED BY: DATE:

EC TE	EQUIPMENT TYPE:5.0 TONNE EXCAVATORTEST PIT LENGTH:2.0 mWIDTH:0.5 m					VATOR 0.5 m	SURF. DATU	ACE RL: M:						
	Dri	lling and Sam	npling				Material description a	nd profile information				Fiel	d Test	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPI characteristics,c	TON: Soil type, plasticity solour,minor component	//particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
ш	Not Encountered	E 0.40m E 0.50m 0.60m E 0.70m				GP GP	FILL: Sandy GRAVI sub-rounded to rour trace fines of low pla 0.50m Sandy GRAVEL - fir sub-rounded to rour trace fines of low pla	EL - fine to coarse grain nded, pale brown to brow asticity. ne to coarse grained, nded, pale brown to brow asticity.	ed, wn, with 	- M				FILL RESIDUAL SOIL
8 Log NON-CORED BOREHOLE - TEST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07:28 10.03:00 09 Dagel Lab and In Situ Tool 25 1 1 人 気 元 1 人 気 元</drawingfile>	GEND: GEND: Wa (Da - Wa Wa atta Ch	ter Level ter Inflow ter Outflow ter Outflow ter Outflow	nown)		mples ar 50mm Bulk s. Enviro (Glass Acid S (Plasti Bulk S S	nd Tesi Diame ample f nmenta jar, se ulfate S c bag, a ample	Fiole Terminated at Limit Of Required In	vestigation	Consister VS V S S F F St S VSt V H F F b F <b>Density</b>	ncy rery Soft oft irm tiff sard riable V		UI <22 50 10 20 20 20 20	CS (kP2 55 5-50 0-100 00-200 00-400 100	) Moisture Condition D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit Density Index <15%
	Gradational or transitional strata Definitive or distict strata change			PID DCP(x-y) HP	Photoi Dynan Hand I	onisatio nic pene Penetro	on detector reading (ppm) etrometer test (test depth inte ometer test (UCS kPa)	rval shown)		L ME D VE	La D M D D V	oose lediun ense ery De	n Dense ense	Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST TEST PIT NO:

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NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

JOB NO: LOGGED BY:

	EQ	UIPN	IENT TYP	E:	5.0 T(	ONNE	EXCA	VATOR		SURF	ACE RL:					
_	TES	ST P	IT LENGTI	H:	2.0 m	w	IDTH:	0.5 m		DATU	M:					
		Dril	ling and San	npling	_		1	Material	description and p	ofile information		-1		Fiel	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIA cha	L DESCRIPTION: aracteristics,colour	Soil type, plasticity ,minor component	//particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	Ш	incountered	E 0.10m 0.40m E		0.5		GP	FILL: S sub-rou trace fir	andy GRAVEL - f	ine to coarse grain pale brown to brov y.	ed, wn, with	- M				FILL
	E	Not E	0.90m E		10		GP	Sandy sub-rou trace fii	GRAVEL - fine to inded to rounded, nes of low plasticit	coarse grained, pale brown to brow y.	wn, with					RESIDUAL SOIL
			(1.00m /		1.0 1.5 2.0 2.5			1.00m Hole Te Limit O	erminated at 1.00 f Required Investi	m gation	Consiste					Moisture Condition
	LEGEND: <u>Water</u> Water Level (Date and time shown) → Water Inflow → Water Outflow <u>Strata Changes</u>			U <sub>50</sub> CBR E ASS B	50mn Bulk s Enviro (Glass Acid s (Plast Bulk s	n Diame sample t onmenta s jar, se Sulfate \$ sic bag, Sample	ter tube sample for CBR testing al sample aled and chilled Soil Sample air expelled, chi	e I on site) Iled)		VS V S S F F St S VSt V H F Fb F	/ery Soft Soft Firm Stiff /ery Stiff Hard Friable		25 25 50 10 20<	25 5 - 50 0 - 100 00 - 200 00 - 400 400	D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit	
20.00	<u>Strata Changes</u> Gradational or transitional strata Definitive or distict strata change				PID DCP(x-y) HP	Photo Dynai Hand	ionisatio nic pen Penetro	on detector read etrometer test ( ometer test (UC	ding (ppm) test depth interval s S kPa)	hown)	Density	L ME D VD	D D D D D	ery Lo bose lediun ense ery Do	n Dense	Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

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NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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	EQUIPMENT TYPE: TEST PIT LENGTH:			5.0 TC	NNE I		VATOR		SURF	FACE RL:						
	15				2.0 m	vv		U.5 III	oprintion and pr		JIVI:			Fiel	d Toot	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL I chara	DESCRIPTION: cteristics,colour	Soil type, plasticit ,minor componen	ty/particle its	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	Е	Not Encountered	8:185 E 0.20m					Extremely properties to coarse pale brow	Weathered Cc :: breaks down i grained, sub-ro n, medium to co	nglomerate with s nto Sandy GRAV unded to roundec parse grained san	soil EL - fine J, brown to Id.	м				EXTREMELY WEATHERED ROCK
sLB Log NON-CORED BOREHOLE - TEST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07:28 10.03.00.09 Dagel Lab and in Situ Tool</drawingfile>	LEG Watu	END: er Wai (Da Wai Wai ta Ch	ter Level ter and time si ter Inflow ter Outflow anges radational or readitional or	hown)	0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	mples a 50mm Bulk s Enviro (Glass Acid S (Plasti Bulk S <b>S</b> Photo	nd Tes: Diame ample f ijar, se sufate S c bag, a iample	0.50m Hole Tem Limit Of R Imit Of R Soft testing for CBR testing for CBR testing alsed and chilled or Soft Sample aled and chilled or Soft Sample air expelled, chilled	ninated at 0.50 lequired Investig	n jation	Consiste VS S F St St St VSt H H F b f Density	Pincy /erry Soft Soft /erry Stiff /erry Stiff -friable V L		U < 25 50 (10 20 20 20 20 20 20 20 20 20 20 20 20 20	CS (kPa 25 5 - 50 0 - 2000 0 - 2000 0 - 400	1) Moisture Condition D Dry M Moist W Wet W p Plastic Limit W_L Liquid Limit Density Index <15% Density Index 15 - 35%
QT LIB 1.1	transitional strata —— Definitive or distict strata change			DCP(x-y) HP	Dynar Hand	nic pen Penetro	etrometer test (tes ometer test (UCS k	t depth interval s Pa)	nown)		ME D VD	0 M D V	lediun ense ery D	n Dense ense	<ul> <li>Density Index 35 - 65%</li> <li>Density Index 65 - 85%</li> <li>Density Index 85 - 100%</li> </ul>	



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

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NEW24P-0141

	EQ TES	UIPN ST PI	MENT TYP	YPE:5.0 TONNE EXCAVATORGTH:2.0 mWIDTH:0.5 m							ACE RL: M:						
ł		Dril	ling and Sar	nplina	2.0			Material de	escription and profil	e information				Fiel	d Test		
-	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL I chara	DESCRIPTION: Sc acteristics,colour,mi	il type, plasticity	/particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and observa	l additional tions
-			E 0.10m		-		GC	FILL: Sar grained, s plasticity,	ndy Clayey GRAVE sub-rounded to rou fine to coarse grai	L - fine to mediu nded, fines of lo ned sand, with s	um w some silt.	M - M				FILL	
	Е	Not Encountered	0.40m E 0.50m		- 0.5		GC	Sandy Cl sub-round coarse gr	ayey GRAVEL - fin ded to rounded, fin rained sand.	e to medium gra	ained, ity, fine to	М					
					1. <u>0</u> -			Extremely breaks do plasticity, 1.30m	y Weathered Siltsto own into Silty CLAY grey.	one with soil prop ′ - low to mediur	perties: n	M < w <sub>p</sub>				EXTREMELY W ROCK	EATHERED
03.00.09 Datgel Lab and In Situ Tool					- 1. <u>5</u> - -			Hole Terr Limit Of F	ninated at 1.30 m Required Investigat	ion							
<drawingfile>&gt; 17/07/2024 07:28 10.</drawingfile>					- 2. <u>0</u> - -												
ST PIT NEW24P-0141 LOGS TPS.GPJ <																	
Log NON-CORED BOREHOLE - TE	LEG Wate	END: er (Da Wat Wat ta Ch	ter Level te and time s ter Inflow ter Outflow anges	hown)	Notes, Sa U <sub>50</sub> CBR E ASS B Field Test	mples a 50mm Bulk s Enviro (Glass Acid S (Plast Bulk S	nd Tesi Diame ample f onmenta s jar, se Sulfate S ic bag, a Sample	ts ter tube sample for CBR testing al sample aled and chilled or Soil Sample air expelled, chilled	n site) d)		Consister VS V S S F F St S VSt V H H Fb F	Lery Soft oft irm tiff ery Stiff ard riable		U <2 25 50 10 20 >4 erv 1 c	<b>CS (kPz</b> 25 5 - 50 0 - 100 00 - 200 00 - 400 400	Moisture Con D Dry M Moist W Wet W <sub>p</sub> Plastic W <sub>L</sub> Liquid	dition c Limit Limit <15%
QT LIB 1.1.GLB	Strata Changes     B        Gradational or transitional strata     Fiel P        Definitive or distict strata change     DC		PID PID DCP(x-y) HP	Photo Dynar Hand	ionisatio nic pen Penetro	on detector reading etrometer test (tes ometer test (UCS I	g (ppm) st depth interval shov kPa)	vn)	Density	V L ME D VD	D D D D	ery Lo bose lediun ense ery Do	n Dense ense	Density Index Density Index Density Index Density Index Density Index	<ul> <li>15%</li> <li>15 - 35%</li> <li>35 - 65%</li> <li>65 - 85%</li> <li>85 - 100%</li> </ul>		



**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

TEST PIT NO:

PAGE:

DATE:

JOB NO:

LOGGED BY:

1 OF 1

BS

2/7/24

NEW24P-0141

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

	EQUIPMENT TYPE: TEST PIT LENGTH:				5.0 TC 2.0 m	NNE I W	EXCA	VATOR 0.5 m		SURF. DATU	ACE RL: M:					
		Drill	ing and San	nplina				Material des	scription and profi	e information				Field	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL D	DESCRIPTION: So	il type, plasticity	/particle s	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	ш	Not Encountered	E 0.20m E 0.30m		- - - 0. <u>5</u>		GP GP	FILL: San sub-round to coarse i <u>0.20m</u> medium pl Sandy GR sub-round orange-br some fines	dy GRAVEL - fine led to rounded, br grained sand, with lasticity AVEL - fine to me led to rounded, br own, fine to coars s of low to medium	to medium grain own to grey-broo some fines of le dium grained, own to pale e grained sand, n plasticity.	ned, wn, fine ow to 	M				FILL RESIDUAL SOIL
					- - 1.0_ - - - - - - - - - - - - - - - - - - -			Hole Term Limit Of R	inated at 0.60 m equired Investigat	ion						
24F-0141 E0GS 1FS.GFJ < <d 04<="" 07:20="" 08="" 10:00:00="" 18="" 24="" 38="" td=""><td></td><td></td><td></td><td></td><td>- 2.0_ - - - - - - - - - - - - - - - - - - -</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></d>					- 2.0_ - - - - - - - - - - - - - - - - - - -											
	LEG Wate Strat	END: Wat (Dat Wat Wat ta Cha ta Cha tra	er Level e and time sl er Inflow er Outflow anges radational or ansitional stra efinitive or dis	hown) ata stict	Notes, Sa U <sub>50</sub> CBR E ASS B Field Test PID DCP(x-y) HP	mples a 50mm Bulk s Envirc (Glass Acid S (Plasti Bulk S S Photo Dynar Hand	nd Tes Diame ample to nmenta s jar, se sulfate \$ c bag, a c bag, a dample tonisationic pen Penetro	ts ter tube sample for CBR testing al sample aled and chilled on Soil Sample air expelled, chilled on detector reading entormeter test (LCS bill meter test (LCS bill	site) ) ) ( (ppm) c depth interval show	vn)	Consister VS V S S F F St S VSt V H H Fb F Density	ncy fery Soft oft tiff ery Stiff lard riable V L		Ut <2 25 50 10 20 >4 ery Lc cose ediun	CS (kPa 25 5 - 50 0 - 100 00 - 200 00 - 200 00 - 400 400 00 - 400 400	a) <u>Moisture Condition</u> D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 55 - 65%



# **ENGINEERING LOG - TEST PIT**

**PROJECT:** PROPOSED REZONING

CLIENT: THE LIGHTHOUSE UNIT TRUST

LOCATION: BROKEN HEAD ROAD, SUFFOLK PARK

TEST PIT NO:

PAGE:

JOB NO:

WPP4 1 OF 1

NEW24P-0141

LOGGED BY: DATE:

	EQUIPMENT TYPE: 5.0 TEST PIT LENGTH: 2.0			5.0 TC 2.0 m	NNE E	EXCA	VATOR 0.5 m		SUR	FACE RL: JM:						
		Dril	ling and Samp	oling	-			Material	description and	profile information				Fiel	d Test	
	METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIA cha	_ DESCRIPTIOI racteristics,colo	N: Soil type, plastici ur,minor componer	ty/particle Its	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
	ш	Not Encountered	E 0.20m E 0.30m		0.5		GP SP CL	FILL: G to grey to roun SAND brown, mediun 0.70m Silty CL grey ar	AY - low to med degrey white.	fine to coarse grain hedium grained, sut rse grained, brown rounded, with some led gravel.	ed, brown p-rounded to pale fine to	M = M	-			FILL RESIDUAL SOIL
ulb Log NON-CORED BOREHOLE - TEST PIT NEW24P-0141 LOGS TPS.GPJ < <drawingfile>&gt; 17/07/2024 07:28 10.03.00.09 Datgel Lab and In Situ Tool</drawingfile>		END: er (Da Wa' Wa'	ter Level te and time sho ter Inflow ter Outflow anges radational or	wn)	1.0_    1.5_             	nples ar 50mm Bulk s: Enviro (Glassa Acid S (Plasti Bulk S <b>5</b> Photoi	nd Tes Diame ample f nmenta jar, se ulfate S c bag, a ample	Hole Te Limit O	on site) led)	0 m stigation	Consister VS VS S S F F St S VSt V H H Fb F Density	ency /ery Soft Soft /ery Stiff /ery Stiff /ard <u>riable</u> V L		U <25 50 10 20 20 20 20 20 20 20 20 20 20 20 20 20	CS (kP2 25 5 - 50 0 - 100 00 - 2000 400	) <u>Moisture Condition</u> D Dry M Moist W Wet W <sub>p</sub> Plastic Limit W <sub>L</sub> Liquid Limit Density Index <15% Density Index 15 - 35%
QT LIB 1.1	Gradational or     transitional strata     Definitive or distict     strata change			ct	DCP(x-y) HP	Dynan Hand I	nic pen Penetro	etrometer test (i ometer test (UC	est depth interval S kPa)	shown)		ME D VE	D M D D V	lediun ense ery D	n Dense ense	<ul> <li>Density Index 35 - 65%</li> <li>Density Index 65 - 85%</li> <li>Density Index 85 - 100%</li> </ul>

# APPENDIX J: Tables

						Field ID	SS1	SS2	SS3	SS4	SS5	1-1.0	1-1.1	1-2.0	1-2.1	1-3.0	1-3.1	2-1.0	3-1.1	3-1.2	R1	R2	R2.05
						Date	13/05/2014	13/05/2014	13/05/2014	13/05/2014	13/05/2014	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015
Analytes		Units	LOR	HIL/HSL A <sup>1,4</sup>	EIL/ESL A <sup>2,4</sup>	Mgmt Limits				Target 1 - TRH He	otspot (wash-bay,	, north of worl	kshop, diesel A	AST)				Target 2 - "Dumping	Target 3 - W	et-Processing			
													-	-	-			Yard"					
	Arsenic	mg/kg	5	100	100		<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Barium	mg/kg	10				10	20	30	<10	<10	10	60	<10	10	<10	10	10	<10	<10	<10	<10	<10
	Beryllium	mg/kg	1	60			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Boron	mg/kg	50	4500			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Cadmium	mg/kg	1	20			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chromium	mg/kg	2	100	3300*		4	7	17	19	2	8	9	5	4	4	4	4	<2	3	<2	5	4
	Cobalt	mg/kg	2	100			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Metals	Copper	mg/kg	5	6000	120*		<5	8	282	6	<5	6	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Lead	mg/kg	5	300	1100		<5	5	17	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Manganese	mg/kg	5	3800			14	8	84	20	10	<5	9	38	13	6	11	29	<5	<5	22	10	<5
	Nickel	mg/kg	2	400	25*		<2	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Selenium	mg/kg	5	200			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Vanadium	mg/kg	5				14	28	16	10	5	30	31	14	14	10	9	10	<5	7	6	24	16
	Zinc	mg/kg	5	7400	370*		29	35	331	19	7	24	9	10	9	10	7	11	<5	<5	5	12	<5
	Mercury	mg/kg	0.1	40			< 0.1	<0.1	< 0.1	<0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Naphthalene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Anthracene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pyrene	mg/kg	0.5				<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs	Benz(a)anthracene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Chrysene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(b)fluoranthene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	-	33**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ^	mg/kg	0.6	3			0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Indeno(1.2.3-cd)pyrene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenz(a.n)anthracene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(g.n.i)perylene	mg/kg	0.5	200			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
			0.2	300	<u>сг</u>		<0.5	<0.5	1.9	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Telvene	mg/kg	0.2	0.5	105		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BTEX	Ethylhonzono	mg/kg	0.5	100	105		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
		mg/kg	0.5	35 40	125		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Nanhthalong	mg/kg	0.5	+0	45		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
		mg/kg	10	5	170	700	<10	<10	<1	<10	<1	<1	<10	<10	<1	<10	<10	<10	<10	<10	<1	<10	<1
	TRH C6-C10 less BTEX (E1)	mg/kg	10	45	100	700	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
твн	TRH >C10-C16	mg/kg	50	45	120	5200	<50	<50	430	210	<50	<50	<50	850	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	110	120	5200	<50	<50	430	210	<50	<50	<50	850	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TBH >C16-C34	mg/kg	100		300	10000	430	490	22000	710	<100	<100	<100	2970	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH >C34-C40	mg/kg	100		2800	10000	190	180	6350	130	<100	<100	<100	250	<100	<100	<100	<100	<100	<100	<100	<100	<100
	Phenol		0.5	3000			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Chlorophenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	<0.5
	3-& 4-Methylphenol	1	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	2-Nitrophenol		0.5				<0.5	<0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2.4-Dimethylphenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenols	2.4-Dichlorophenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2.6-Dichlorophenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-Methylphenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2.4.6-Trichlorophenol	1	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2.4.5-Trichlorophenol	1	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol		0.5	100			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

\*

EIL based on an averge pH of 5.8, an average CEC of 4 meq/100ml, and Clay content 5%, and using Ambient

Background Concentration obtained from Olszowy et al (1995) using urban soils, old suburbs with high traffic,

50% percentile.

\*\* ESL for benzo(a)pyrene adopted from CRC Care Technical Note 39 (2017)
 ND Not detected
 ^ Benzo(a)pyrene TEQ calculated by Qualtest, using <LOR=0.5\*LOR</li>
 Result Concentration exceeds adopted HIL/HSL A
 Result Concentration exceeds the adopted EIL/ESL A
 Results Concentration exceeds the adopted Mgmt Limits
 1 ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Va

1 ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Vapour Intrusion, Residential, Sand 0m to <1m

2 NEPC (2013) Soil Ecological Investigation & Screening Levels, residential, coarse

3 ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture





						Field ID	R3	R4	R5	R6	R7	R8	R8.05	R10	R11
						Date	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015	21/05/2015
Analytas		Unite		1,4		Mamt Limita	21/05/2015	21/03/2013 Pand		21/05/2015	arid)	21/03/2013	21/05/2015	21/03/2013	21/03/2013
Analytes		Units	LOR	HIL/HSL A	EIL/ESL A	Night Limits		Kallu		approx. 100m	griu)				
	Arsenic	mg/kg	5	100	100		<5	<5	<5	<5	<5	<5	<5	<5	<5
	Barium	mg/kg	10				<10	<10	<10	<10	<10	<10	<10	<10	<10
	Beryllium	mg/kg	1	60			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Boron	mg/kg	50	4500			<50	<50	<50	<50	<50	<50	<50	<50	<50
	Cadmium	mg/kg	1	20			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chromium	mg/kg	2	100	3300*		<2	3	<2	2	<2	<2	<2	3	<2
	Cobalt	mg/kg	2	100			<2	<2	<2	<2	<2	<2	<2	<2	<2
Metals	Conner	mg/kg	5	6000	120*		<5	<5	<5	<5	<5	<5	<5	<5	<5
Wietais	Lead	mg/kg	5	200	1100		<5	<5	<5	<5	<5	<5	<5	<5	<5
	Manganasa	mg/kg	5	2800	1100		<5	<5	< <u>-</u>	<5		< <u>5</u>	<5	< <u>5</u>	<5
	Nielese	mg/kg	2	3800	25*		<5	< 5	< 5	< 2	/	< 5	<5	< 5	< 5
		mg/kg	2	400	25*		<2	<2	<2	<2	<2	<2	<2	<2	<2
	Selenium	mg/kg	5	200			<5	<5	<5	<5	<5	<5	<5	<5	<5
	vanadium	mg/kg	5		e me di		<5	29	<5	12	8	<5	<5	1/	5
	Zinc	mg/kg	5	7400	370*		<5	<5	<5	<5	<5	<5	<5	<5	<5
	Mercury	mg/kg	0.1	40			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Naphthalene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Anthracene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pyrene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DALL	Benz(a)anthracene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHS	Chrysene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(b)fluoranthene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5		33**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEO^	mg/kg	0.6	3			0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenz(a b)anthracene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(g h i)pervlene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
		iiig/ kg	0.5	300			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Ponzono	ma/ka	0.2	0 E	65		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	Telvene	mg/kg	0.2	0.5	05		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BTEX		mg/kg	0.5	160	105		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Ethylbenzene	mg/kg	0.5	55	125		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylenes - Total	mg/кg	0.5	40	45		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	mg/kg	1	3	170		<1	<1	<1	<1	<1	<1	<1	<1	<1
	TRH C6-C10	mg/kg	10		180	700	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C10 less BTEX (F1)	mg/kg	10	45			<10	<10	<10	<10	<10	<10	<10	<10	<10
TRH	TRH >C10-C16	mg/kg	50		120	5200	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	110			<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH >C16-C34	mg/kg	100		300	10000	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH >C34-C40	mg/kg	100		2800	10000	<100	<100	<100	<100	<100	<100	<100	<100	<100
	Phenol		0.5	3000			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Chlorophenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3-& 4-Methylphenol		1				<1	<1	<1	<1	<1	<1	<1	<1	<1
	2-Nitrophenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2.4-Dimethylphenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenols	2.4-Dichlorophenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2.6-Dichlorophenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-Methylphenol		0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2.4.6-Trichlorophenol		0.5				<0.5 20 E	<0.5 20 E	<0.5 20 E	<0.5 20 E	<0.5 20 E	<0.5 20 E	<0.5 <0 ⊑	<0.5 20 E	<0.5
	2.4.5-Trichlorophenol		0.5				<0.5 <0 E	<0.5 20 E	 ∠0 ⊑	<0.5	 ∠0 ⊑	<0.5 20 E	~0.J	<0.5 20 E	<0.J
	Pentachlorophenol		0.5	100			<0.5	<0.5	\U.5 ∠0 ⊑	<0.5	 ∠0 ⊑		<0.5	\U.5 ∠0 F	<0.5 <0.5

\*

EIL based on an averge pH of 5.8, an average CEC of 4 meq/100ml, and Clay content 5%, and using Ambient

Background Concentration obtained from Olszowy et al (1995) using urban soils, old suburbs with high traffic,

50% percentile.

\*\* ESL for benzo(a)pyrene adopted from CRC Care Technical Note 39 (2017)
 ND Not detected
 A Benzo(a)pyrene TEQ calculated by Qualtest, using <LOR=0.5\*LOR</li>
 Result Concentration exceeds adopted HIL/HSL A
 Concentration exceeds the adopted EIL/ESL A
 Concentration exceeds the adopted Mgmt Limits
 1 ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Vapour Intrusion, Residential, Sand

2 NEPC (2013) Soil Ecological Investigation & Screening Levels, residential, coarse

3 ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture





					Field ID	SW1	SW2	SW5	SW3	SM
					Date	13/05/2024	13/05/2024	13/05/2024	13/05/2024	13/05/
Analytes		Units	LOR	Aquatic	Recreational					
Analytes		Units	LOIN	Ecosystem <sup>1,3</sup>	Water <sup>2</sup>		Process Pond		Upper L	ily Pond
	Aluminium	mg/L	0.01	0.055		0.03	0.05	0.07	0.03	0.0
	Arsenic	mg/L	0.001	0.013	0.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0
	Cadmium	mg/L	0.0001	0.0002	0.02	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0
	Chromium	mg/L	0.001	0.001	0.5	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0
Motals	Copper	mg/L	0.001	0.0014	20	0.004	0.006	0.003	0.002	0.0
Ivietais	Iron	mg/L	0.05			0.06	0.06	0.08	0.57	0.3
	Lead	mg/L	0.001	0.0034	0.1	0.001	0.002	0.002	< 0.001	< 0.0
	Selenium	mg/L	0.01	0.011	0.2	<0.01	< 0.01	<0.01	< 0.01	<0.
	Zinc	mg/L	0.005	0.008		0.027	0.061	0.077	0.028	0.0
	Mercury	mg/L	0.0001	0.00006	0.01	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0
	Benzene	ug/L	1	950	0.01	<1	<1	<1	<1	<
DTCV	Toluene	ug/L	2	180	0.8	<2	<2	<2	<2	<
BIEX	Ethylbenzene	ug/L	2	80	0.3	<2	<2	<2	<2	<
	Xylenes	ug/L	2	75	0.6	<2	<2	<2	<2	<
	Naphthalene	ug/L	5	16		<5	<5	<5	<5	<
	TRH C6-C10	ug/L	20			<20	<20	<20	<20	<2
	TRH C6-C10 less BTEX (F1)	ug/L	20			<20	<20	<20	<20	<2
TRH	TRH >C10-C16	ug/L	100			<100	<100	<100	<100	<10
	TRH >C10-C16 less Naphthalene (F2)	ug/L	100			<100	<100	<100	<100	<10
	TRH >C16-C34	ug/L	100			<100	<100	<100	<100	<10
	TRH >C34-C40	ug/L	100			<100	<100	<100	<100	<10
	Naphthalene	ug/l	1			<1.0	<1.0	<1.0	<1.0	<1
	Acenaphthylene	ug/L	1			<1.0	<1.0	<1.0	<1.0	<1
	Acenaphthene	ug/L	1			<1.0	<1.0	<1.0	<1.0	<1
	Fluorene	ug/L	1			<1.0	<1.0	<1.0	<1.0	<1
	Phenanthrene	ug/l	1	0.6		<1.0	<1.0	<1.0	<1.0	<1
	Anthracene	ug/l	1	0.01		<1.0	<1.0	<1.0	<1.0	<1
	Fluoranthene	ug/L	1	1		<1.0	<1.0	<1.0	<1.0	<1
	Pyrene	ug/l	1	-		<1.0	<1.0	<1.0	<1.0	<1
PAHs	Benz(a)anthracene		1			<1.0	<1.0	<1.0	<1.0	<1
	Chrysene	ug/l	1			<1.0	<1.0	<1.0	<1.0	<1
	Benzo(b)fluoranthene	ug/l	1			<1.0	<1.0	<1.0	<1.0	<1
	Benzo(k)fluoranthene	ug/L	1			<1.0	<1.0	<1.0	<1.0	<1
	Benzo(a)pyrene		0.5	0.1	0.1	<0.5	<0.5	<0.5	<0.5	<
	Indeno(1,2,3-cd)pyrene		1	0.1	0.1	<1.0	<1.0	<1.0	<1.0	<1
	Dibenz(a,h)anthracene		1			<1.0	<1.0	<1.0	<1.0	
	Benzo(g.h.i)pervlene	ug/L	1			<1.0	<1.0	<1.0	<1.0	<1
	Phenol	ug/L	1.0	320		<1.0	<1.0	<1.0	<1.0	<1
	2-Chlorophenol		1.0	340		<1.0	<1.0	<1.0	<1.0	
	2-Methylphenol	ug/L	1.0	540		<1.0	<1.0	<1.0	<1.0	
	3-& 4-Methylphenol		2.0			<2.0	<2.0	<2.0	<2.0	
	2-Nitronhenol	110/L	1.0			<1.0	<1.0	<1.0	<1.0	-1
	2 4-Dimethylphenol	υσ/L	1.0	2		~1.0	~1.0	<1.0	<1.0	
Phenols	2.4 Diricity prend	ug/L	1.0	120		~1.0	~1.0	~1.0	~1.0	
	2.4-Dochiorophenol		1.0	120		<1.0	<1.0	<1.0	<1.0	
	4-Chloro-2-Mothylahonol		1.0			<1.0	<1.0		<1.0	
	2.4.6-Trichlorophonol		1.0	2		<1.0		~1.0	<1.0	
	2.4.0- Trichlorophenol	ug/L	1.0	5		<1.0	<1.0		<1.0	
	2.4.3- memor opnenor		2.0	3.6		<1.0	<1.0	< <u>,</u> , , , , , , , , , , , , , , , , , , ,	<1.0	
	n entachiorophenoi	ug/L	2.0	5.0		<2.U	<2.U	<2.0	<2.0	<u>۲</u> ۲

Notes: Results

Results

Italics

Concentration exceeds the Protection of 95-99% of species in fresh water DGVs

Concentration exceeds the recreational water trigger values

LOR exceeds adopted criteria

\*\* ANZECC (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Section 5.2.3. Secondary Contact

# Aesthetic Value

1 ANZECC (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality

2 NHMRC (2011) Australian Drinking Water Guidelines, Table 10.6 Guideline values for physical and chemical characteristics values times 10 for recreational purposes.





						Field ID							CE I	W/RV1 0 0 0 1			
						Field ID	2/07/2024	2/07/2024	12/07/2024	2/07/2024	ASTI 0.0-0.1	ASTI 0.4-0.5	35	2/07/2024	2/07/2024	2/07/2024	2/07/2024
						Date	2/07/2024	2/07/2024	2/07/2024	2/07/2024	2/07/2024	2/07/2024	3/07/2024	2/07/2024	2/07/2024	2/07/2024	2/07/2024
						Matarial	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
						wateria											
				. 14	. 24												
Analytes		Units	LOR	HIL/HSL A <sup>1,4</sup>	EIL/ESL A <sup>2,4</sup>	Mgmt Limits		Workshop & M	achinery Sheds			Bunded AST/C	oil Store and W	Vash Bay Area		Former W	eighbridge
								-				-					
pH & CFC	pH (1:5 Aqueous extract)	pH units	0.1				-	-	-	-	-	-	-	-	-	6.3	-
p. a 626	Cation Exchange Capacity	meq/100g	0.05				-	-	-	-	-	-	-	-	-	4.4	-
	Arsenic	mg/kg	2	100	100		< 2	< 2	< 2	3.7	3.8	4.2	< 2	< 2	3.7	6	3.4
	Cadmium	mg/kg	0.4	20			< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
	Chromium	mg/kg	5	100	330*		5.3	40	14	8.9	7.7	12	< 5	< 5	11	7.2	< 5
Metals	Copper	mg/kg	5	6000	120*		< 5	13	< 5	< 5	6.4	< 5	< 5	< 5	15	44	9.3
Wietais	Lead	mg/kg	5	300	1100		< 5	12	9.6	< 5	6.6	< 5	< 5	< 5	12	12	5.6
	Mercury	mg/kg	5	40			< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Nickel	mg/kg	5	400	25*		< 5	10	< 5	< 5	7.2	< 5	< 5	< 5	6.8	< 5	< 5
	Zinc	mg/kg	5	7400	370*		130	300	110	13	43	7.7	6.2	45	130	23	27
	Acenaphthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Acenaphthylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benz(a)anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(a)pyrene	mg/kg	0.5		33**		< 0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(a)pyrene TEQ (medium bound)	mg/kg	0.6	3			0.6	0.9	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Benzo(b&j)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(g.h.i)perylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
PAHs	Benzo(k)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
17415	Chrysene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Dibenz(a.h)anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Fluorene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Indeno(1.2.3-cd)pyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Naphthalene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Phenanthrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Pyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Total PAH	mg/kg	0.5	300			< 0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzene	mg/kg	0.1	0.5	65		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
BTEX	Toluene	mg/kg	0.1	160	105		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
BIEK	Ethylbenzene	mg/kg	0.1	55	125		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Xylenes - Total	mg/kg	0.3	40	45		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
	Naphthalene	mg/kg	0.5	3	170		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	TRH C6-C10	mg/kg	20		180	700	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
	TRH C6-C10 less BTEX (F1)	mg/kg	20	45			< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TRH	TRH >C10-C16	mg/kg	50		120	5200	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	110			< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
	TRH >C16-C34	mg/kg	100		300	10000	160	< 100	< 100	< 100	< 100	< 100	< 100	< 100	110	< 100	< 100
	TRH >C34-C40	mg/kg	100		2800	10000	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
	Perfluorohexane sulfonate (PFHxS)	mg/kg	0.005				<0.005	<0.005	-	-	<0.005	-	-	<0.005	<0.005	-	-
	Perfluorooctane sulfonate (PFOS)	mg/kg	0.005		0.01		<0.005	<0.005	-	-	<0.005	-	-	<0.005	<0.005	-	-
	Perfluorooctanoic Acid (PFOA)	mg/kg	0.005	0.1	10		<0.005	<0.005	-	-	<0.005	-	-	<0.005	<0.005	-	-
PFAS	Sum (PFHxS + PFOS)*	mg/kg	0.005	0.01			<0.005	<0.005	-	-	<0.005	-	-	<0.005	<0.005	-	-
	Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.05				<0.005	<0.005	-	-	<0.005	-	-	<0.005	<0.005	-	-
	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005				<0.005	<0.005	-	-	<0.005	-	-	<0.005	<0.005	-	-
	Sum of PFASs (n=30)*	mg/kg	0.05				<0.05	<0.05	-	-	<0.05	-	-	<0.05	<0.05	-	-
	Asbestos (presence/absence)	-	-	Detect													
	ACM weight (g)						-	-	-	-	-	-	-	-	-	-	-
							-	-	-	-	-	-		-	-	-	
Asbestos	Soil density (kg/L)						_	-	_	-	-						
	Soil Volume (L)						_	-	_	-	-			-		_	
	Ashestos Content (%)						-	-	_	-	-	-	_	-	-	-	-
	%w/w ACM in Soil	%		0.01			_	-	_	_	-			-	-	-	
	%w/w FA/AF in Soil	%	0.001	0.01			<0.001	<0.001		<0.001	_			<0.001	_	<0.001	
I	/•///	/0	0.001	0.001			10.001	1 10.001		10.001		1		10.001	1	10.001	

\*

EIL based on an averge pH of 5.8, an average CEC of 4meq/100ml, and Clay content 5%, and using Ambient Background

Concentration obtained from Olszowy et al (1995) using urban soils, old suburbs with high traffic , 50% percentile. ESL for benzo(a)pyrene adopted from CRC Care Technical Note 39 (2017)

\*\*

ND Not detected

Not Analysed

%w/w ACM in soil calculated using: % asbestos content x bonded ACM (kg) / soil volume (L) x soil density (kg/L)

Concentration exceeds adopted HIL/HSL A Result

Result Concentration exceeds the adopted EIL/ESL A

Results Concentration exceeds the adopted Mgmt Limits

ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Vapour Intrusion, Residential, Sand 0m to 1 <1m

2 NEPC (2013) Soil Ecological Investigation & Screening Levels, residential, coarse

3 ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture

4 HEPA (2020) PFAS National Environmental Management Plan, Version 2.0 - Human Health & Ecological

Guideline Values, Residential





						Field ID	TPS1 0.0-0.1	TPS3 0.0-0.1	TPS3 0.9-1.0	TPS6 0.0-0.1	TPS8 0.0-0.1	\$3	WPP1 0.0-0.1	WPP2 0.0-0.1	WPP3 0.0-0.1	WPP4 0.0-0.1
						Date	2/07/2024	2/07/2024	2/07/2024	2/07/2024	2/07/2024	3/07/2024	2/07/2024	2/07/2024	2/07/2024	2/07/2024
						Material	Fill	Fill	Fill	Fill	Fill	Fill	Rock	Fill	Fill	Fill
						Wateria		1								
Analytes		Units	LOR	HIL/HSL A <sup>1,4</sup>	EIL/ESL A <sup>2,4</sup>	Mgmt Limits		S	ite Coverage Infr	astruture Area				Former Wet Proc	cessing Plant Area	3
nH & CEC	pH (1:5 Aqueous extract)	pH units	0.1				-	-	-	-	-	-	-	-	-	-
	Cation Exchange Capacity	meq/100g	0.05				-	-	-	-	-	-	-	-	-	-
	Arsenic	mg/kg	2	100	100		< 2	< 2	7.8	< 2	5.1	< 2	2.8	2	< 2	< 2
	Cadmium	mg/kg	0.4	20	22.0*		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
	Chromium	mg/kg	5	100	330*		< 5	< 5	5.4	< 5	16	< 5	< 5	5.3	< 5	< 5
Metals	Lood	mg/kg	5	6000	120*		< 5	< 5	< 5	< 5	27	< 5	< 5	< 5	< 5	< 5
	Moreury	mg/kg	5	300	1100		< 0.1		< 0.1		27		< 0.1	< 0.1	< 0.1	< 0.1
	Nickol	mg/kg	5	40	?⊑*		< 0.1	< 0.1	< 0.1	< 0.1	11	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Zinc	mg/kg	5	7400	25		< 5	< 5	< 5	< 5	80	< 5	53	7	12	< 5
	Acenanhthene	mg/kg	05	7400	570		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		2.05	, < 0.5	< 0.5	< 0.5
	Acenaphthylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benz(a)anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(a)pyrene	mg/kg	0.5		33**		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(a)pyrene TEQ (medium bound)	mg/kg	0.6	3			0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Benzo(b&i)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(g.h.i)perylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzo(k)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
PAHs	Chrysene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Dibenz(a.h)anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Fluorene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Indeno(1.2.3-cd)pyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Naphthalene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Phenanthrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Pyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Total PAH	mg/kg	0.5	300			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Benzene	mg/kg	0.1	0.5	65		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
BTEX	Toluene	mg/kg	0.1	160	105		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Ethylbenzene	mg/kg	0.1	55	125		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Xylenes - Total	mg/kg	0.3	40	45		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
	Naphthalene	mg/kg	0.5	3	170		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	TRH C6-C10	mg/kg	20		180	700	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
	TRH C6-C10 less BTEX (F1)	mg/kg	20	45		5200	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
IRH	TRH >C10-C16	mg/kg	50	110	120	5200	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
		mg/kg	50	110	200	10000	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
		mg/kg	100		2800	10000	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
	Perfluorohevane sulfonate (PEHyS)	mg/kg	0.005		2800	10000	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
	Perfluorooctane sulfonate (PEOS)	mg/kg	0.005		0.01		-	-	-	-	-	-	<0.005	-	-	-
	Perfluorooctanoic Acid (PEOA)	mg/kg	0.005	0.1	10		-	-		-	-	-	<0.005	-	-	-
PFAS	Sum (PEHxS + PEOS)*	mg/kg	0.005	0.01	10		-	-	-	-	-	-	<0.005	-	-	-
117.0	Sum of US EPA PFAS (PFOS+PFOA)	mg/kg	0.05	0.01			_	-	_	-	-	-	< 0.005	-	-	-
	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	mg/kg	0.005				-	-	-	-	-	-	< 0.005	-	-	-
	Sum of PFASs (n=30)*	mg/kg	0.05				-	-	-	-	-	-	< 0.05	-	-	-
	Asbestos (presence/absence)	-	-	Detect			_	-	-	-	-	-	-	-	-	-
	ACM weight (g)						-	-	-	-	-	-	-	-	-	-
Ashestos	ACM weight (kg)						-		-	-	-	-	-	-	-	- ]
73063103	Soil density (kg/L)						-	-	-	-	-	-	-	-	-	-
	Soil Volume (L)						-	-	-	-	-	-	-	-	-	-
	Asbestos Content (%)						-	-	-	-	-	-	-	-	-	-
		%		0.01			-	-	-	-	-	-	-	-	-	-
	%w/w FA/AF in Soil	%	0.001	0.001			-	<0.001	-	-	<0.001	-	-	<0.001	-	-

EIL based on an averge pH of 5.8, an average CEC of 4meq/100ml, and Clay content 5%, and using Ambient Background

Concentration obtained from Olszowy et al (1995) using urban soils, old suburbs with high traffic, 50% percentile.

\*\* ESL for benzo(a)pyrene adopted from CRC Care Technical Note 39 (2017) ND Not detected

Not Analysed

%w/w ACM in soil calculated using: % asbestos content x bonded ACM (kg) / soil volume (L) x soil density (kg/L)

Result Concentration exceeds adopted HIL/HSL A

Result Concentration exceeds the adopted EIL/ESL A

Results Concentration exceeds the adopted Mgmt Limits

ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Vapour Intrusion, Residential, Sand 0m to 1 <1m

2 NEPC (2013) Soil Ecological Investigation & Screening Levels, residential, coarse

3 ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture

4 HEPA (2020) PFAS National Environmental Management Plan, Version 2.0 - Human Health & Ecological

Guideline Values, Residential





b         b							Field ID	TPO1 0.0-0.1	TPO2 0.0-0.1	TPO2 1.4-1.5	TPO5 0.0-0.1	ASB FRAG1	TPO5 0 4-0.5	TPO6 0.0-0.1	TPO7 0.0-0.1	TPO8 0.0-0.1	TPO9 0.0-0.1	TPO10 0.0-0.1	TPO11 0.0-0.1
<table-container>          Image: series with the series with the</table-container>							Date	3/07/2024	3/07/2024	3/07/2024	3/07/2024	3/07/2024	3/07/2024	3/07/2024	3/07/2024	3/07/2024	3/07/2024	3/07/2024	3/07/2024
Image: Serie series         Image: Series         Im												PACM from surface							
<table-container>          Image: state in the state in the</table-container>							Material	Fill	Fill	Fill	Fill	next to TPQ5	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Introduct         Introduct <t< td=""><td>Analytes</td><td></td><td>Units</td><td>LOR</td><td>HIL/HSL A<sup>1,4</sup></td><td>EIL/ESL A <sup>2,4</sup></td><td>Mgmt Limits</td><td></td><td></td><td></td><td></td><td>Reha</td><td>bilitated Quarr</td><td>ry Area</td><td></td><td></td><td></td><td></td><td></td></t<>	Analytes		Units	LOR	HIL/HSL A <sup>1,4</sup>	EIL/ESL A <sup>2,4</sup>	Mgmt Limits					Reha	bilitated Quarr	ry Area					
Number         State show         State         State        State		nH (1:5 Aqueous extract)	nH units	0.1				_	53	-	-	-	-	-	-	_	-	-	
Imp         Imp <td>pH &amp; CEC</td> <td>Cation Exchange Capacity</td> <td>mea/100g</td> <td>z 0.05</td> <td></td> <td></td> <td></td> <td>-</td> <td>3.7</td> <td>-</td>	pH & CEC	Cation Exchange Capacity	mea/100g	z 0.05				-	3.7	-	-	-	-	-	-	-	-	-	-
bit         bit        <		Arsenic	mg/kg	2	100	100		2.1	< 2	< 2	6.4	-	< 2	< 2	2.2	< 2	< 2	11	< 2
Image         Image <t< td=""><td></td><td>Cadmium</td><td>mg/kg</td><td>0.4</td><td>20</td><td></td><td></td><td>&lt; 0.4</td><td>&lt; 0.4</td><td>&lt; 0.4</td><td>&lt; 0.4</td><td>-</td><td>&lt; 0.4</td><td>&lt; 0.4</td><td>&lt; 0.4</td><td>&lt; 0.4</td><td>&lt; 0.4</td><td>&lt; 0.4</td><td>&lt; 0.4</td></t<>		Cadmium	mg/kg	0.4	20			< 0.4	< 0.4	< 0.4	< 0.4	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
bit		Chromium	mg/kg	5	100	330*		< 5	18	9.5	8.2	-	< 5	< 5	6	< 5	< 5	< 5	< 5
mb         mb<	Matala	Copper	mg/kg	5	6000	120*		< 5	14	5.7	39	-	< 5	< 5	5.4	< 5	< 5	< 5	< 5
Image         Image <t< td=""><td>Metals</td><td>Lead</td><td>mg/kg</td><td>5</td><td>300</td><td>1100</td><td></td><td>&lt; 5</td><td>&lt; 5</td><td>&lt; 5</td><td>300</td><td>-</td><td>&lt; 5</td><td>&lt; 5</td><td>7.2</td><td>&lt; 5</td><td>&lt; 5</td><td>&lt; 5</td><td>&lt; 5</td></t<>	Metals	Lead	mg/kg	5	300	1100		< 5	< 5	< 5	300	-	< 5	< 5	7.2	< 5	< 5	< 5	< 5
indi         mini mini mini mini mini mini mini mini		Mercury	mg/kg	5	40			< 0.1	< 0.1	< 0.1	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
bit         b		Nickel	mg/kg	5	400	25*		< 5	20	7.2	5	-	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Image         Image <t< td=""><td></td><td>Zinc</td><td>mg/kg</td><td>5</td><td>7400</td><td>370*</td><td></td><td>&lt; 5</td><td>58</td><td>21</td><td>160</td><td>-</td><td>&lt; 5</td><td>&lt; 5</td><td>21</td><td>5.6</td><td>&lt; 5</td><td>5.8</td><td>&lt; 5</td></t<>		Zinc	mg/kg	5	7400	370*		< 5	58	21	160	-	< 5	< 5	21	5.6	< 5	5.8	< 5
kmpspyce         mp         6.5         mp         mp         6.5         mp         mp         6.55         mp         mp         6.55         mp         mp<         mp< <td></td> <td>Acenaphthene</td> <td>mg/kg</td> <td>0.5</td> <td></td> <td></td> <td></td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>-</td> <td>&lt; 0.5</td>		Acenaphthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
physicare         mp/m         60         mp/m         mp/m        <		Acenaphthylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
barbic/structure         end		Anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Result prote         Result prote<		Benz(a)anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Beside givere if Condenies banding         right         63         3         1         66         0.5         0		Benzo(a)pyrene	mg/kg	0.5		33**		< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pres         Introductionarian         mage         S         Lot         Cols		Benzo(a)pyrene TEQ (medium bound)	mg/kg	0.6	3			0.6	0.6	0.6	0.6	-	0.6	0.6	0.6	0.6	0.6	0.6	0.6
bit         bi		Benzo(b&j)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Philometer         Physical		Benzo(g.h.i)perylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Characteristics         Characteristics         Constant Cons	PAHs	Benzo(k)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Increase         Implementance		Chrysene Dihana (a h)anthrasana	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Indexine		Elucranthone	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
International matrix         region (2.3 - subprovem)         region (2.3		Fluorene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
hyperbalance         mp/h         1.03         los         los         c.253         c.03         los         c.03		Indeno(1.2.3-cd)nyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Impaintment         mp/g         0.5         mp/g         0.5         c.0.5         c.0.5 <th< td=""><td></td><td>Nanhthalene</td><td>mg/kg</td><td>0.5</td><td></td><td></td><td></td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>-</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td></th<>		Nanhthalene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Prese         mage         0.5         i.e.         0.6         0.5         0.65         0		Phenanthrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Independent         mg/n         0.3         300         v         0         0.0.5<		Pyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Berteme         mg/kg         0.1         0.5         65         0         0.01         0.		Total PAH	mg/kg	0.5	300			< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Prime         mg/hg         0.1         0.00         0.00         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.		Benzene	mg/kg	0.1	0.5	65		< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
BLD         Hinghememe         mg/n         0.1         55         125         0         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1 <td></td> <td>Toluene</td> <td>mg/kg</td> <td>0.1</td> <td>160</td> <td>105</td> <td></td> <td>&lt; 0.1</td> <td>&lt; 0.1</td> <td>&lt; 0.1</td> <td>&lt; 0.1</td> <td>-</td> <td>&lt; 0.1</td>		Toluene	mg/kg	0.1	160	105		< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nymes-train         mg/kg         0.3         0.0         0.0         0.0.3 <th< td=""><td>BTEX</td><td>Ethylbenzene</td><td>mg/kg</td><td>0.1</td><td>55</td><td>125</td><td></td><td>&lt; 0.1</td><td>&lt; 0.1</td><td>&lt; 0.1</td><td>&lt; 0.1</td><td>-</td><td>&lt; 0.1</td><td>&lt; 0.1</td><td>&lt; 0.1</td><td>&lt; 0.1</td><td>&lt; 0.1</td><td>&lt; 0.1</td><td>&lt; 0.1</td></th<>	BTEX	Ethylbenzene	mg/kg	0.1	55	125		< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Naphtheime         mg/kg         0.5         3         170         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <         <		Xylenes - Total	mg/kg	0.3	40	45		< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
HR 6-C10         mg/kg         20         300         700           TH C4C1016 site shaphtalene(?10         mg/kg         0.0         100         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00 <t< td=""><td></td><td>Naphthalene</td><td>mg/kg</td><td>0.5</td><td>3</td><td>170</td><td></td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>-</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td></t<>		Naphthalene	mg/kg	0.5	3	170		< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
HR LG > 01 less BTEX (F )         mg/k         20         M / 20         C 20 <thc< td=""><td></td><td>TRH C6-C10</td><td>mg/kg</td><td>20</td><td></td><td>180</td><td>700</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>-</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td><td>&lt; 20</td></thc<>		TRH C6-C10	mg/kg	20		180	700	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Hr         Hr         Image         50         Image         50         1mb         500         650 <td></td> <td>TRH C6-C10 less BTEX (F1)</td> <td>mg/kg</td> <td>20</td> <td>45</td> <td></td> <td></td> <td>&lt; 20</td> <td>&lt; 20</td> <td>&lt; 20</td> <td>&lt; 20</td> <td>-</td> <td>&lt; 20</td>		TRH C6-C10 less BTEX (F1)	mg/kg	20	45			< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
TH + C10-C16 less Naphthalene (F2)         mg/kg         50         100         < < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50	TRH	TRH >C10-C16	mg/kg	50		120	5200	< 50	< 50	< 50	< 50	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH >C34-C34         mg/kg         100          300         100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100         <100        <100         <100 <t< td=""><td></td><td>TRH &gt;C10-C16 less Naphthalene (F2)</td><td>mg/kg</td><td>50</td><td>110</td><td></td><td></td><td>&lt; 50</td><td>&lt; 50</td><td>&lt; 50</td><td>&lt; 50</td><td>-</td><td>&lt; 50</td><td>&lt; 50</td><td>&lt; 50</td><td>&lt; 50</td><td>&lt; 50</td><td>&lt; 50</td><td>&lt; 50</td></t<>		TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	110			< 50	< 50	< 50	< 50	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50
TRH > 234-C40         mg/kg         100         2800         10000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000         <1000		TRH >C16-C34	mg/kg	100		300	10000	< 100	< 100	< 100	< 100	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Perfluorobexane sulfnate (PFHxS)         mg/kg         0.00         o         0		TRH >C34-C40	mg/kg	100		2800	10000	< 100	< 100	< 100	< 100	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Pertluorocctane sutronact (PFOS)         mg/kg         0.00         0.01         0         -         -         0.005         -        -         -         - </td <td></td> <td>Perfluorohexane sulfonate (PFHxS)</td> <td>mg/kg</td> <td>0.005</td> <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>&lt;0.005</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td>		Perfluorohexane sulfonate (PFHxS)	mg/kg	0.005				-	-	-	<0.005	-	-	-	-	-	-	-	
PFATE         Performance Acid (PLOA)         mg/kg         0.00         0.1         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.00		Pertluorooctane sulfonate (PFOS)	mg/kg	0.005		0.01		-	-	-	<0.005	-	-	-	-	-	-	-	
PAS         Sum (PHXS +PLOS)*         mg/kg         0.00         0.01         -        -        -         -<		Perfluorooctanoic Acid (PFOA)	mg/kg	0.005	0.1	10		-	-	-	< 0.005	-	-	-	-	-	-	-	-
Sum of OS EPA PAS (PECS+PCA)         mg/kg         0.05         0.05         0.0         0.05         0.0 <t< td=""><td>PFAS</td><td>Sum (PFHXS + PFOS)*</td><td>mg/kg</td><td>0.005</td><td>0.01</td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>&lt;0.005</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></t<>	PFAS	Sum (PFHXS + PFOS)*	mg/kg	0.005	0.01			-	-	-	<0.005	-	-	-	-	-	-	-	-
Sund Princal (PrAS (PrAS + PrOS + PrOA )         Ing/kg         0.005         - <th< td=""><td></td><td>Sum of US EPA PFAS (PFUS+PFUA)</td><td>mg/kg</td><td>0.05</td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>&lt;0.005</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></th<>		Sum of US EPA PFAS (PFUS+PFUA)	mg/kg	0.05				-	-	-	<0.005	-	-	-	-	-	-	-	-
Note PARS (1=50)         Improve         Improve         Out         Out <td></td> <td>Sum of PEASs <math>(n=20)</math>*</td> <td>mg/kg</td> <td>0.005</td> <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>&lt;0.005</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td>		Sum of PEASs $(n=20)$ *	mg/kg	0.005				-	-	-	<0.005	-	-	-	-	-	-	-	
Abstor (presence/absence)		Sull of PFASS (II=SO)	iiig/ kg	0.05				-	-	-	<0.05	-	-	-	-	-	-	-	
ACM weight (g)         C		Asbestos (presence/absence)	-	-	Detect			-	-	-	-	Chrysotile & amosite asbestos detected	-	-	_	-	-	-	
AcD weight (kg)         Image: constraint (kg/L)         Image: constrain		ACM weight (g)						-	-	-	33	-	-	-	-	-	-	-	-
Assess         Soli density (kg/L)         Image: Marrie Ma	Achester	ACM weight (kg)						-	-	-	0.033	-	-	-	-	-	-	-	-
Soil Volume (L)         Gene	ASDESTOS	Soil density (kg/L)						-	-	-	1.8	-	-	-	-	-	-	-	-
Asbestos Content (%)         Image: Mode of the second		Soil Volume (L)						-	-	-	10	-	-	-	-	-	-	-	-
%w/w ACM in Soil         %         0.01         0.01         -         -         0.028         - </td <td></td> <td>Asbestos Content (%)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>15</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>		Asbestos Content (%)						-	-	-	15	-	-	-	-	-	-	-	-
%w/w FA/AF in Soil       %       0.001       0.001       -		%w/w ACM in Soil	%		0.01			-	-	-	0.028	-	-	-	-	-	-	-	-
		%w/w FA/AF in Soil	%	0.001	0.001			-	-	-	<0.001	-	-	-	-	-	-	-	<0.001

\*

EIL based on an averge pH of 5.8, an average CEC of 4meq/100ml, and Clay content 5%, and using Ambient Background Concentration obtained from Olszowy et al (1995) using urban soils, old suburbs with high traffic , 50% percentile.

\*\* ESL for benzo(a)pyrene adopted from CRC Care Technical Note 39 (2017)

ND Not detected

Not Analysed

%w/w ACM in soil calculated using: % asbestos content x bonded ACM (kg) / soil volume (L) x soil density (kg/L)

Result Concentration exceeds adopted HIL/HSL A

Result Concentration exceeds the adopted EIL/ESL A

Results Concentration exceeds the adopted Mgmt Limits

ASC NEPM (2013) Health Investigation Levels and Health Screening Levels for Vapour Intrusion, Residential, Sand 0m to 1 <1m

2 NEPC (2013) Soil Ecological Investigation & Screening Levels, residential, coarse

3 ASC NEPM (2013) Management limits for TRH fractions F1-F4 in soil, residential, coarse texture

4 HEPA (2020) PFAS National Environmental Management Plan, Version 2.0 - Human Health & Ecological

Guideline Values, Residential





		Samp	ole ID	WBTP01 0.0-0.1	D.2.7.24		WBTP01 0.0-0.1	T.2.7.24			Sample ID	TB.2.7.24
			Date	2/07/2024	2/07/2024	RPD %	2/07/2024	2/07/2024	RPD %		Date	2/07/2024
			Туре	Primary	Duplicate	1	Primary	Triplicate			Туре	Trip Blank
Analytes		Soil Units	LOR							Water Units	Water LOR	
	Arsenic	mg/kg	2	6	2.6	79	6	4	40	-	-	-
	Cadmium	mg/kg	0.4	< 0.4	< 0.4	0	< 0.4	<0.3	0	-	-	-
	Chromium	mg/kg	5	7.2	< 5	36	7.2	3.7	64	-	-	-
Motals	Copper	mg/kg	5	44	19	79	44	15	98	-	-	-
Wietais	Lead	mg/kg	5	12	5.1	81	12	4	100	-	-	-
	Mercury	mg/kg	0.1	< 0.1	< 0.1	0	< 0.1	<0.05	0	-	-	-
	Nickel	mg/kg	5	< 5	< 5	0	< 5	1.1	0	-	-	-
	Zinc	mg/kg	5	23	13	56	23	12	63	-	-	-
	Acenaphthene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Acenaphthylene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Anthracene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Benz(a)anthracene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Benzo(a)pyrene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Benzo(a)pyrene TEQ (mediun	mg/kg	0.6	0.6	0.6	0	0.6	<0.3	0	-	-	-
	Benzo(b&j)fluoranthene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Benzo(g.h.i)perylene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Benzo(k)fluoranthene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
РАПЗ	Chrysene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Dibenz(a.h)anthracene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Fluoranthene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Fluorene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Indeno(1.2.3-cd)pyrene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Naphthalene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Phenanthrene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Pyrene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Total PAH	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	Benzene	mg/kg	0.1	< 0.1	< 0.1	0	< 0.1	< 0.1	0	mg/L	0.001	<0.001
DTEV	Toluene	mg/kg	0.1	< 0.1	< 0.1	0	< 0.1	< 0.1	0	mg/L	0.001	<0.001
DIEA	Ethylbenzene	mg/kg	0.1	< 0.1	< 0.1	0	< 0.1	< 0.1	0	mg/L	0.001	<0.001
	Xylenes - Total	mg/kg	0.3	< 0.3	< 0.3	0	< 0.3	< 0.3	0	mg/L	0.003	<0.003
	Naphthalene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<0.1	0	-	-	-
	TRH C6-C10	mg/kg	20	< 20	< 20	0	< 20	<25	0	-	-	-
	TRH C6-C10 less BTEX (F1)	mg/kg	20	< 20	< 20	0	< 20	<25	0	-	-	-
TRH	TRH >C10-C16	mg/kg	50	< 50	< 50	0	< 50	<25	0	-	-	-
	TRH >C10-C16 less Naphthale	mg/kg	50	< 50	< 50	0	< 50	<25	0	-	-	-
	TRH >C16-C34	mg/kg	100	< 100	< 100	0	< 100	<90	0	-	-	-
	TRH >C34-C40	mg/kg	100	< 100	< 100	0	< 100	<120	0	-	-	-

\*RPDs have only been considered where a concentration is greater than 10 times the EQL.

\*\*High RPDs are in bold (Acceptable RPD range is 30% (>10 x EQL))



# APPENDIX K: Laboratory Reports

СН	AIN OF CUSTO	ABN 50 005 085 521		Sydney Lab Unit F3 Bld.F 02 9900 8400	6 Mars Enviro	Road Lane SampleNS	Cove West W@eurofin	NSW 2066 s.com		Unit 1 21 : 07 3902 4	e Laboratory Smallwood Place Murarrie 1600 EnviroSampleQLD	OLD 4172 @eurofins.com	Unit 2 91 Leach Hig 08 9251 9600 Env	nway Kewdale WA iroSampleWA@eu	6105 rofins.	om			Ш М Б 0:	Helbour Montere 3 8564 f	rne Laboratory ey Road Dandenong South 5000 EnviroSampleVic@	i VIC 3175 Şeurafins.com
Company	Qualtest		Projec	n No	NEW	/24P-014	1				Project Manager	Emma Colemar	n		Sat	npler(s	)	В	.Snow			
Address	2 Murray Dwyer Circuit Mi	ayfield West NSW 2304	Project	Name,	Wint	ion - Sufi	iolik Park				EDD Format EStat, EOvi5 etc	Excel			Hand	esi ove	rby					
			÷.											E	mail	for Inv	ojce	a	ccou	nts@	@qualtest.com.	au
Contact Name	Emma Coleman		ets <sup>t</sup> et T											E	mail	for Res	uits	er ta	bybelzij nmacole	iqualle aman@	esi.com.au billyi now@q Qqualtest.com.au tomhat uallest.com.au	uallesi.com.au I@qualtest.com.au
Phone Ns			s seathy "T Aract SUA							detals	Metals				Clar	nge com	Cont	ainars re 6 site	-interes	anny.	Required Turn Default with	naround Time (TAT e 5 days if not solved.
ecial Directions urchase Order Quote ID Nt	180622QUAN-3		Analyse Moere metado ano requestro do pleane SUITE orde must pe card to	Metals	Asbestos (%w/w)	PFAS	Suite B1 TRH, BTEX	OCPs/OPPs	pH and CEC	Suite B7 - TRH, BTEX, PAHs, I	Suite S26 - TRH, BTEX, PAHS,			00mL Plastic	50ml. Plastic	25mL Plastic	nL Amber Glass	bmL VOA vial	nL PFAS Bottle	Glass or HDPE)	Generation of the second seco	+Surcharge will apply iporting by 9am)+ □ 1 day+ ☑ 3 days + dard)
	Cilent Sample ID	Sampled Date/Time dd/mol/yy hit.mm	Matrix Solid (5) Water (W)											10	2	F	200r	4	200	Jar Jachael	Samph / Dangerous Go	s Comments ods Hazard Warnin
	TPW1 0.0-0.1	2/07/24	Soil	0	X	х				X										1 1	1	
	TPW1 0.2-0.3	2/07/24	Soil																4	1		
	TPW2 0.0-0.1	2/07/24	Soil		X	X				X									1	1		
	TPW2 0.2-0.3	2/07/24	Soil																1	1		
	TPW3 0.0-0.1	2/07/24	Soli							X									2	2 1		
	TPW3 0.2-0.3	2/07/24	Soil																1	1		
	TPW4 0.0-0.1	2/07/24	Soil	24	X					х									2	: 1		
	TPW4 0.2-0.3	2/07/24	Soil																1	1		
	AST1 0.0-0.1	2/07/24	Soil			X				X									2	1		
	AST1 0.4-0.5	2/07/24	Soil							X									1	1		
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C C	HAIN OF CUSTOR Eurofins   Environment Testing ABI	Y RECORD		<b>Sydπey La</b> Unit F3 Bld.F 02 9900 840	iboratory F 16 Mars 30 Envir	Road Lane oSampleNS	Cove West N W@eurofins	NSW 2066 com	C	Brisbane Unit 1 21 3 07 3902 4	Laboratory Smallwood Place Murarrie 600 EnviroSampleQLD	QLD 4172 @eurofins.com	Perth Laboratory Unit 2 91 Leach Highway 08 9251 9600 EnviroSi	Kewdale WA ampleWA@er	6105 trofins.c	om			Mi 6 / 02	leibou Monte 3 8564	rne Laboratory rey Road Dandenong South 1 5000 – EnviroSampleVic@e	VIC 3175 eurofins.com
Company	Qualtest		Proje	ct Na	NEV	/24P-014	1				Project Manager	Emma Colema	an		San	ipler(s	ł	8.	.Snow			
Address	2 Murray Dwyer Circuit May	field West NSW 2304	Project	Name	Win	ton - Sufi	iolk Park				EDO Format Esont EDuis ne	Excel		1	Hande	d ove	by					
	2 manaj briyar onoan maji		literary.											1	Email f	or Inv	oice	a	ccou	nts	@qualtest.com.a	au
Contact Name	Emma Coleman		ietal" et "l												Email (	or Res	ults	en	nnacole wiscallin	eman(	iest.com,au billysnow@qu @qualtest.com.au tomhall@ iualtest.com.au	allesi.com.au @qualtest.com.au
Phone No.			es t tpoch 7 uitaci 5U							Metals	, Metals				Chan	je cohi	Contai	ners & sze	d necess	say.	Required Turns Data wylficae	around Time (TAT Solays function (Solar)
pecial Directions Furchase Order Quote ID Ne	180622QUAN-3		Analys Where metals are required places SUITE code must be used to	Metals	Asbestos (%w/w)	PFAS	Sulte B1 TRH, BTEX	OCPs/OPPs	pH and CEC	Suite B7 - TRH, BTEX, PAHs.	Suite S26 - TRH, BTEX, PAHs			Nômi Plastic	50mL Plastic	25mL Plastic	nL Amber Glass	bmL VOA viaf	mL PFAS Bottle	Glass or HDPE)	(seupport	•Surcharge will aprily porting by 9am)    ◆ □ 1 day    ◆ ☑ 3 days    ◆ lard)
	Client Sample ID	Sampled Date/Time dd/mm/lyr hk nyw	Matrix Solio (5) Water (W)											ur.	, 6	-	200r	4	200	Jar	Sample / Dangerous Goo	Comments ods Hazard Warnin
	AST1 0.5-0.6	2/07/24	Soil		_														1	1		
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	WBY 0.4-0.5	2/07/24	Soil																1	1	1	
	WBY 0.6-0.7	2/07/24	Soil																1	1		
	WBY2 0.0-0.1	2/07/24	Soil			X				х									2	2	1	
	WBY2 0,4-0.5	2/07/24	Soil																1	r ·	1	
	WBY2 0.9-1.0	2/07/24	Soil																1	1		
	WBTP01 0.0-0.1	2/07/24	Soil		X				X	×									2	2	1	
	WBTP01 0.4-0.5	2/07/24	Soil																1		1	
	WBTP01 0.6-0.7	2/07/24	Soil																1	1		
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Submission of samples to the faboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed of herwise. A copy is available on request

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Sydney Laboratory Brisbane Laboratory Perth Laboratory Melbourne Laboratory 3 CHAIN OF CUSTODY RECORD Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066 Unit 1 21 Smallwood Place Murarrie QLD 4172 Unit 2 91 Leach Highway Kewdale WA 6105 6 Monterey Road Dandenong South VIC 3175 Eurofins | Environment Testing ABN 50 005 085 521 08 9251 9600 EnviroSampleWA@eurofins.com 02 9900 8400 EnviroSampleNSW@eurofins.com 07 3902 4600 EnviroSampleQLD@eurofins.com 03 8564 5000 EnviroSampleVic@eurofins.com Qualtest NEW24P-0141 Emma Coleman B.Snow EDD Form **Project Nam** Winton - Suffolk Park Handed over by Excel Address 2 Murray Dwyer Circuit Mayfield West NSW 2304 Email for Invoice accounts@qualtest.com.au hbbybelz@quallest.com,au billysnow@quallest.com,au Contact Name Emma Coleman Email for Results emmacoleman@qualtest.com.au tomhall@qualtest.com.au lewiscallinan@oualtest.com.au Containers Change container type & sore it recessary. Required Turnaround Time (TATI) S26 - TRH, BTEX, PAHs, Metals Metals Suite B7 - TRH, BTEX, PAHs, Suite B1 TRH, BTEX Surcharge will apply (%w/w) OCPs/OPPs pH and CEC (88) Overnight (reporting by 9am) + Metals PFAS □ Same day ♦ □ 1 day ♦ (Asbestos AS4964, WA Guide Jar (Glass or HDPE) 200mL Amber Glass 500mL PFAS Bottle 250mL Plastic 125mL Plastic 40mL VOA vial □ 2 days♦ ☑ 3 davs♦ 500mL Plastic Purchase Orde 5 days (Standard) Suite Quote ID N 180622QUAN-3 C Other( Matrix Solid (5) Water (W Sampled Date/Time Sample Comments / Dangerous Goods Hazard Warning Client Sample ID Other WBTP01 1.3-1.4 2/07/24 Soil 1 X WBTP02 0.0-0.1 2/07/24 Soll 2 1 WBTP02 0.3-0.4 2/07/24 Soil 1 X TPS1 0.0-0.1 2/07/24 Soil 1 1 TPS1 0,4-0,5 2/07/24 Soil 1 TPS1.0.9-1.0 2/07/24 Soi! 1 1 TPS1 1.5-1.6 2/07/24 Soil 1 × TPS3 0.0-0.1 2/07/24 × Soil 2 1 TPS3 0.4-0.5 2/07/24 Soil 1 X TPS3 0.9-1.0 2/07/24 Soil 2 1 1 4 13 5 lethod of Shipm Hand Delivered Courier (# Postal Name Signature Date Time Received By Signature 32 SYD | BNE | MEL | PER | ADL | NTL | DRW Date 0 Time There Temperature Laboratory Use Only Received By SYD | BNE | MEL | PER | ADL | NTL | DRW Signature Date Time Report No

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7	TPS5 0.2-0.3	2/07/24	Soil																	1			
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te ID Ne	180622QUAN-3		Where m						Suite B7	Suite S26			500mL PIs	SEAml DI-		125mL Pla	0mL Ambe	40mL VDA	UUTL TTAU	astos AS4964	<ul> <li>5 days (Standard)</li> <li>Other(</li> </ul>
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	TPS8 0.9-1.0	2/07/24	Soil																2	1	
	WPP1 0.0-0.1	2/07/24	Soil		×				X										1	1	
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3 days 250mL Plastic 125mL Plastic 40mL VOA vial 500mL Plastic Purchase Orde Other (Asbestos AS4964, 1 5 days (Standard) Suite D Other( Quote ID N 180622QUAN-3 Matrix Sold (5) Water (W Sampled Date/Timo Sample Comments / Dangerous Goods Hazard Warnin Client Sample ID WPP3 0.2-0.3 2/07/24 Soil 1 X WPP4 0.0-0.1 2/07/24 Soil 2 1 WPP4 0.2-0.3 2/07/24 Soll 1 × TPQ1 0.0-0.1 3/07/24 Soil 2 1 TPQ1 0.4-0.5 3/07/24 Soil 1 1 TPQ1 1.3-1.4 3/07/24 Soil 1 XX TPQ2 0.0-0.1 3/07/24 Soil 2 1 TPQ2 0.4-0.5 3/07/24 Soil 1 TPQ2 0.9-1.0 3/07/24 Soil 2 1 X TPQ2 1.4-1.5 3/07/24 1 Soil 4 14 5 1 ethod of Shipn Courier (# Hand Delivered Postal Date Time Name Signature 33 andow Received By SYD | BNE | MEL | PER | ADL | NTL | DRW Date Temperature Signature Time 517 Laboratory Use Only Received By SYD | BNE | MEL | PER | ADL | NTL | DRW Date Time Report No Signature

Brisbane Laboratory

Perth Laboratory

Sydney Laboratory

Eurofins Environment Testing Australia Pty Ltd

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

Melbourne Laboratory

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Eurofins Environment Testing Australia Pty Ltd

\$	CHAIN OF CUSTODY	( RECORD	Sydney Laboratory         Brisbane Laboratory         P           Unit F3 Blid,F 16 Mars Road Lane Cove West NSW 2066         Unit 1: 21 Smallwood Place Murarrie OLD 4172         D           02 9900 8400         EnviroSample/NSW@eurofins.com         07 3902 4600         EnviroSample/LD@eurofins.com         07				Perth Labo Unit 2 91 Lea 08 9251 960	Perth Laboratory Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com					Melbourne Laboratory 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com										
Company	Qualtest		Proje	ict Nit	NE	N24P-014	И				Project Manager	Emma Colerr	imma Coleman Sampler			oler(s)		B	3.Snov	N			
Addisor	2 Murroy Duncor Circuit Montio	ld Wast NSW 2204	Project	t Name	Win	ton - Suf	folk Park				EDD Format ESdat, EQuiS etc	Excel			н	anded	over	by:					
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Contact Name	Emma Coleman		tal" di "FU												B	<b>mail</b> fo	Rest	lits	lit ei	obybeta mináco	a @qua	allesi.c n@qua	om.au hillysnow@qualtest.com.au itest.com.au tomhall@qualtest.com.au
Phone No			s specify "To shraet Bull							Metals	Metals				1	Charry	conte	Conta W Arr	iners A sta	e il pito	:		Required Turmaround Time (TAT) Default withe 5 days if not taked.
Special Direction	•		Analyse requested, please is muctibe used to:	Metals	stos (%w/w)	PFAS	31 ТКН, ВТЕХ	CPs/OPPs	I and CEC	I, BTEX, PAHs,	H, BTEX, PAHs,							88		e	ũ	Guidelines)	+Surcharge will apply ○ Overnight (reporting by 9arn)+ ○ Same day ◆ ○ 1 day ◆
Purchase Order Quote ID Ne	180622QUAN-3		When metals and Sulf E cor		Asbe		Sulte F	ŏ	τ.	Suite B7 - TRH	Suite S26 - TRI				500mL Plastic	250mL Plastic	125mL Plastic	JmL Amber Gla	40mL VOA vial	0mL PFAS Bott	r (Glass or HDP	stos AS4964, WA	□     2 days ◆     ☑     3 days ◆       □     5 days (Standard)       □     Olher(
Ne	Client Sample 10	Sampled Date/Time dd/mm/yy bit.mm	Matrix Solid (S) Viver (W)															20		20	Ъ	Other (Asbe	Sample Comments / Dangerous Goods Hazard Warning
4	TPQ6 0.4-0.5	3/07/24	Soil																		1	1	
2	TPQ6 1.4-1.5	3/07/24	Soll																		2	1	
3	TPQ6 1.5-1.6	3/07/24	Soll																		1		
4	TPQ7 0.0-0.1	3/07/24	Soil							×											1	1	
5	TPQ7 0.2-0.3	3/07/24	Soli																		1		
6	TPOQ7 0.4-0.5	3/07/24	Soil																		1		
7	TPQ8 0.0-0.1	3/07/24	Soil							×											1	1	
8	TPQ8 0.3-0.4	3/07/24	Soil																		1		
9	TPQ8 1.3-1.4	3/07/24	Soil																		1	1	
10	TPQ8 1.8-1.9	3/07/24	Soil																		1		
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Melbourne Laboratory

	C	HAIN OF CUS Eurofins   Environment Te	STODY RECO	ORD		Sydney Unit F3 Bl 02 9900 8	Laboratory d.F 16 Mars 1400 Envis	Road Lane oSampieNS	Cove West SW@eurofin	NSW 2066 s.com	C	Brisbane Unit 1 21 5 07 3902 4	H <b>aboratory</b> Smallwood Place Murarrie 500 EnviroSampleQLD;	GLD 4172 @eurofins.com	Perth Lal Unit 2 91 08 9251 9	b <b>oratory</b> .each Highway Kewd 600 EnviroSampleV	ale WA 61 VA@eurof	05 ins,com			I	□ M 6 0.3	elbou Monter 18564	rne Laboratory rey Road Dandenong South VI 5000 EnviroSamnleVic@eu	C 3175
Ca	ompany	Qualtest			Proje	ct Nit	NEV	V24P-014	1				Project Manager	Emma Coleman				Sampi	ur(s)		<b>B</b> ./	Snow			
	1.200				Project	Name	Win	ton - Sufi	folk Park				EDD Format ESdat EQuiS etc	Excel			Ha	nded	ver b						
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Cont	tact Nome	Emma Coleman		olsC et "E(												Em	ail for l	Result	\$1	irbb ern ieu	nacole macole	iqual man@	lest.com.au hillysnow@qual @qualtest.com.au tomhall@u maltest.com.au	lesi.com.au qualtest.com.au	
P	rone ht				s specify T atract Sun							Metals	Metals					Shariye c	C Vilate	ontain • •/µe 4	16175 5 1429 1	(nineas	lay	Required Turnar Detaut will be 5 t	crund Terro (TAT) days if not indied.
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Purch	nasa Order				nelais are ArtE code	-	Asbes		Suite B	8	Æ	7 - TRH,	26 - TRH				lastic	lastic	lastic	oer Glas	A vial	AS Bottle		S □ 2 days ●	☑ 3 days ●
Qu	ole ID Nr	180622QUAN-3			ND are n							Suite B	Suite S2				500mL F	250mL F	125mL P	mL Amt	40mL VL	OML PF/	(class (	V 5 days (Standar	ra)
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4		TPQ10 0.0-0.1	3/07	7/24	Soil							X										1		1	
5		TPQ10 0.4-0,5	3/07	7/24	Soll																		ŀ	1	
6		TPQ10 0.8-0.9	3/07	7/24	Soil																		ı		
7		TPQ11 0.0-0.1	3/07	7/24	Soil		×					x										2	: 1	1	
8		TPQ11 0.4-0.5	3/07	7/24	Soil																	1	1	1	
9		TPQ11 0.9-1.0	3/07	7/24	Soil																T	2		1	
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i di	Company	Qualtest		Project	N	NEW	/24P-014	11				Project	Manager	Emma Colema	n			Śar	mpler{	ગે	F	3.Snov	N		
				Project N	lame	Wint	on - Sufi	folk Park				EDD ESont	Format EQuisies	Excel			-	Hand	esi ove	rby					
	Address	2 Murray Dwyer Circuit May	meid west NSW 2304	le et c														Email	for Inv	oice	ŧ	acco	unts	@qt	ualtest.com.au
Co	ontact Name	Emma Coleman		ull" or "EB														Email	for Ret	ults	e	ibbybel emmaco ewiscal	28qua oleman Irian (1)	alesi co @quali loualles	vm.au billysnow@quallest.com.au lest.com.au tomhall@qualtest.com.au st.com.au
	Phone Na			e Itraci SUT							Metals	Metals	(əc					Char	nge oorl	Conta aner lyp	liners e ă se	s suime	esany.		Required Turnaround Time (TAT) Default will be 5 days if mit active.
Spec Put	cial Directions rchase Order			Analyse Analyse finite social musice parage	Metals	Asbestos (%w/w)	PFAS	Suite B1 TRH, BTEX	OCPs/OPPs	pH and CEC	te B7 - TRH, BTEX, PAHs,	e S26 - TRH, BTEX, PAHs	Asbestos (presence/absen				al Disetio	nt Plastic	nL Plastic	Amber Glass	- VOA vial	PFAS Bottle	iss or HDPE)	AS4964, WA Guidelines)	Same day      2 days     States (Standard)
q	Quote ID NY	180622QUAN-3		Whe							Suit	Suite					2008	250m	125m	200mL /	40mL	SOOmL	Jar (Gla	sbestos A	Cther(
Ht.		Client Sample (D	Sampled Date/Time idd/mai/yy history	Matrix Sciet (S) Water (W)																				Other (As	Sample Comments / Dangerous Goods Hazard Warning
4		\$1	3/07/24	Soil																			1	1	
2		\$2	3/07/24	Soil																			1	1	
3		\$3	3/07/24	Soil							X												1	1	
4		S4	3/07/24	Soil																			1		
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Eurofins Environment Testing Australia Pty Ltd

Sydney Laboratory Brisbane Laboratory Perth Laboratory CHAIN OF CUSTODY RECORD Melbourne Laboratory Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 Unit 1 21 Smallwood Place Murarrie QLD 4172 Unit 2 91 Leach Highway Kewdals WA 6105 6 Monterey Road Dandenong South VIC 3175 Eurofins | Environment Testing ABN 50 005 085 521 02 9900 8400 EnviroSampleNSW@eurofins.com 07 3902 4600 EnviroSampleQLD@eurofins.com 08 9251 9600 EnviroSampleWA@eurofins.com 03 8564 5000 EnviroSamoleVic@eurofins.com Qualtest NEW24P-0141 roject Manag Emma Coleman B.Snow EDD Forma Project Name Winton - Suffolk Park Excel Handed over by 2 Murray Dwyer Circuit Mayfield West NSW 2304 Email for invoice accounts@qualtest.com.au hobybetz@quatesf.com.au billysnow@quallesf.com.au Contact Name Emma Coleman emmacoleman@qualtest.com.au tomhall@qualtest.com.au lewiscalinan@qualtest.com.au Containers Charge cantamer type & size if necessary. Required Turnaround Time (TAT) Defiuit will be 5 days if not ticked. Phone Na Metals Suite S26 - TRH, BTEX, PAHs, Metals ence) Suite B7 - TRH, BTEX, PAHs, I Suite B1 TRH, BTEX Asbestos (presence/absi +Surcharge will apply (%w/w) pH and CEC pecial Directio (s) Overnight (reporting by 9am)+ Metals втех PFAS Same day Jar (Glass or HDPE) -B 200mL Amber Glass 500mL PFAS Bottle 125mL Plastic 40mL VOA vial WA 🗖 2 days 🖗 🗹 3 days 🖗 Purchase Orde 500mL Plastic 250mL Plastic 08 AS4964, \ 5 days (Standard) Quote ID No 180622QUAN-3 D Other( Sampled Date/Time doinutyyhhm Matrix Solid (5) Water (W Sample Comments / Dangerous Goods Hazard Warnin **Client Sample ID** Other D 2 7 24 X 3/07/24 Soil 1 X T.2.7.24 3/07/24 Soll PLEASE SEND TO SGS 1 D1.2.7.24 3/07/24 Soil 1 T1.2.7 24 3/07/24 Soil 1 D.3.7.24 3/07/24 Soil 1 T.3.7.24 3/07/24 Soil 1 D1.3.7.24 3/07/24 Soil 1 T1.3.7.24 3/07/24 Soil 1 X TB.2.7.24 3/07/24 Soil 2 ASB FRAG 1 3/07/24 Soil x 1.

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Laboratory Use Only

Eurofins Environment Testing Australia Pty Ltd

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Submission of samples to the laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

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#### Eurofins Environment Testing Australia Pty Ltd

Eurofins Enviro	onment Testing	Australia Pty Ltd				Eurofins ARL Pty Ltd	Eurofins ProMicro Pty Ltd Eurofins Environment Testing NZ Ltd							
ABN: 50 005 085 5	21					ABN: 91 05 0159 898	ABN: 47 009 120 549	NZBN: 9429046024954						
Melbourne 6 Monterey Road	Geelong	Sydney 179 Magowar Road	Canberra	Brisbane 1/21 Smallwood Place	Newcastle	Perth 46-48 Banksia Road	Perth ProMicro 46-48 Banksia Road	Auckland 35 O'Rorke Road	Auckland (Focus)	Christchurch 43 Detroit Drive	Tauranga			
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West	Welshpool	Welshpool	Penrose,	Mount Wellington,	Rolleston,	Gate Pa,			
VIC 3175 +61 3 8564 5000	VIC 3216 +61 3 8564 5000	NSW 2145 +61 2 9900 8400	ACT 2911 +61 2 6113 8091	QLD 4172 T: +61 7 3902 4600	NSW 2304 +61 2 4968 8448	WA 6106 +61 8 6253 4444	WA 6106 +61 8 6253 4444	Auckland 1061 +64 9 526 4551	Auckland 1061 +64 9 525 0568	Christchurch 7675 +64 3 343 5201	Tauranga 311: +64 9 525 056			
NATA# 1261 Site# 1254	NATA# 1261 Site# 25403	NATA# 1261 Site# 18217	NATA# 1261 Site# 25466	NATA# 1261 Site# 20794 & 2780	NATA# 1261 Site# 25079	NATA# 2377 Site# 2370	NATA# 2561 Site# 2554	IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402			

www.eurofins.com.au

EnviroSales@eurofins.com

Road

### **Sample Receipt Advice**

Company name:	Qualtest
Contact name:	Emma Coleman
Project name:	WINTON - SUFFOLK PARK
Project ID:	NEW24P-0141
Turnaround time:	3 Day
Date/Time received	Jul 5, 2024 11:33 AM
Eurofins reference	1114955

#### **Sample Information**

- A detailed list of analytes logged into our LIMS, is included in the attached summary table. ./
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Appropriate sample containers have been used.
- Sample containers for volatile analysis received with zero headspace.
- 1 Split sample sent to requested external lab.
- X Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

#### Notes

#### T.2.7.24 sent to SGS

#### Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Andrew Black on phone : (+61) 2 9900 8490 or by email: AndrewBlack@eurofins.com

Results will be delivered electronically via email to Emma Coleman - emmacoleman@qualtest.com.au.

Note: A copy of these results will also be delivered to the general Qualtest email address.





# Certificate of Analysis

NATA Accredited

# Environment Testing

	NATA Accredited
	Accreditation Number 1261
Qualtest	Site Number 18217
2 Murray Dwver Circuit	Accredited for compliance with ISO/IEC 17025–Testing NATA is a signatory to the ILAC Mutual Recognition
Mayfield West	Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration,
	inspection, proficiency testing scheme providers and reference materials producers reports and certificates.
NSW 2304	
Attention:	Emma Coleman
Report	1114955-AID
Project Name	WINTON - SUFFOLK PARK
Project ID	NEW24P-0141
Received Date	Jul 05, 2024
Date Reported	Jul 11, 2024
Mothodologyu	
	Conducted in accordance with the Australian Standard AS 4064, 2004, Mathed for the Qualitative Identification of
Identification	Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion
	staining (DS) techniques. NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.
Linknown Mineral	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as
Fibres	Electron Microscopy, to confirm unequivocal identity.
	NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an
	independent technique.
Subsampling Soil	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous
Samples	matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-
	sampling routine based on ISO 3082:2009(E) is employed.
	sampled for trace analysis, in accordance with AS 4964-2004.
Rondod ashastas	The material is first examined and any fibres isolated for identification by PLM and DS. Where required interfering
containing material	materical or physical treatments, possibly in
(ACM)	combination. The resultant material is then further examined in accordance with AS 4964 - 2004.
	materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in
	the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles some asbestos-containing sealants and mastics asbestos-containing enouv resins and some ore samples are
	examples of these types of material, which are difficult to analyse.
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)) Where no asbestos is found by PLM and DS including Trace Analysis, this is considered to be at the
	nominal reporting limit of 0.01% (w/w).
	I he NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (I OR), per se. Examination of a large sample size (e.g. 500 ml.) may improve the likelihood of detecting assestos
	particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are
	outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk).
	NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal
	reporting limit or 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the
	WA DoH.



Project NameWINTON - SUFFOLK PARKProject IDNEW24P-0141Date SampledJul 02, 2024 to Jul 03, 2024Report1114955-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TPW1 0.0-0.1	24-JI0013718	Jul 02, 2024	Approximate Sample 885g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TPW2 0.0-0.1	24-JI0013719	Jul 02, 2024	Approximate Sample 891g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TPW4 0.0-0.1	24-JI0013721	Jul 02, 2024	Approximate Sample 901g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
WBY1 0.0-0.1	24-JI0013724	Jul 02, 2024	Approximate Sample 881g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
WBTP01 0.0-0.1	24-JI0013726	Jul 02, 2024	Approximate Sample 871g Sample consisted of: Grey fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TPS3 0.0-0.1	24-JI0013729	Jul 02, 2024	Approximate Sample 865g Sample consisted of: Brown fine-grained sandy soil, sand stone and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TPS8 0.0-0.1	24-JI0013732	Jul 02, 2024	Approximate Sample 809g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
WPP2 0.0-0.1	24-JI0013734	Jul 02, 2024	Approximate Sample 721g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.



Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TPQ5 0.0-0.1	24-JI0013740	Jul 03, 2024	Approximate Sample 801g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TPQ11 0.0-0.1	24-JI0013747	Jul 03, 2024	Approximate Sample 625g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
ASB FRAG 1	24-JI0013822	Jul 03, 2024	Approximate Sample 33g / 50 x 40 x 5mm Sample consisted of: Grey fibre cement material	Chrysotile and amosite asbestos detected. Organic fibre detected.



#### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

#### Description

Asbestos - LTM-ASB-8020 Asbestos - LTM-ASB-8020

Testing Site	Extracted	Holding Time																					
Sydney	Jul 05, 2024	Indefinite																					
Newcastle	Jul 05, 2024	Indefinite																					
•	Burofins Enviror ABN: 50 005 085 52' Melbourne 6 Monterey Road		nvironment 7 085 521	esting A	ustralia Pty Ltd								Eurofi ABN: 91	ns ARI	L Pty L 9 898	td E	urofins BN: 47.0	SProMicro Pty Lto	I Eurofins Env NZBN: 9429046	i <b>ronmer</b> 024954	t Testing NZ I	_td	
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web: w email: I	web: www.eurofins.com.au amail: EnviroSales@eurofins.com Company Name: Qualte Address: 2 Murrin Mayfia	Melbourne         6         Monterey R         Dandenong S         VIC 3175         +61 3 8564 5         Monterey R         Monterey R         Dandenong S         VIC 3175         +61 3 8564 5         Monterey R         Monteree         Monterey R         Monterey R         Monterey R         Monterey R         Monteree         Monterey R         Monterey R         Monterey R         Monteree         Montere <th>Geelong oad 19/8 Lew South Groveda VIC 3210 000 +61 3 85 NATA# 1 Site# 25</th> <th>alan Stree e 64 5000 261 103</th> <th>Sydney t 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217</th> <th>Canberra J Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466</th> <th>Brisba t 1/21 S Murar QLD T: +61 NATA# Site# 2</th> <th>ane imallwoo rie 4172 7 3902 # 1261 20794 &amp;</th> <th>od Place 4600 2780</th> <th>Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 1 Site# 25</th> <th>tle t Drive West 304 968 8448 1261 5079</th> <th>\$</th> <th>Perth 46-48 B Welshp WA 610 +61 8 6 NATA# 2 Site# 23</th> <th>anksia F pol 6 253 444 2377 370</th> <th>Road</th> <th></th> <th>erth Pro 6-48 Ban /elshpool /A 6106 61 8 625 ATA# 256 ite# 2554</th> <th>Micro ksia Road 3 4444 61</th> <th>Auckland 35 O'Rorke Roa Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327</th> <th>Aucki d Unit C Moun Aucki +64 9 IANZ#</th> <th>and (Focus) 1/4 Pacific Rise, Wellington, and 1061 525 0568 1308</th> <th>Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290</th> <th>Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402</th>	Geelong oad 19/8 Lew South Groveda VIC 3210 000 +61 3 85 NATA# 1 Site# 25	alan Stree e 64 5000 261 103	Sydney t 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra J Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisba t 1/21 S Murar QLD T: +61 NATA# Site# 2	ane imallwoo rie 4172 7 3902 # 1261 20794 &	od Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 1 Site# 25	tle t Drive West 304 968 8448 1261 5079	\$	Perth 46-48 B Welshp WA 610 +61 8 6 NATA# 2 Site# 23	anksia F pol 6 253 444 2377 370	Road		erth Pro 6-48 Ban /elshpool /A 6106 61 8 625 ATA# 256 ite# 2554	Micro ksia Road 3 4444 61	Auckland 35 O'Rorke Roa Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucki d Unit C Moun Aucki +64 9 IANZ#	and (Focus) 1/4 Pacific Rise, Wellington, and 1061 525 0568 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
Co Ac	ompany Name: Idress:	Qualtest 2 Murray Dwye Mayfield West NSW 2304	er Circuit									Or Re Ph Fa	der Neport anone:	lo.: #:	111 02 4 02 4	4955 4968 4 4960 9	4468 9775		Received Due: Priority: Contact	l: Name:	Jul 5, 20 Jul 10, 2 3 Day Emma 0	024 11:33 AM 2024 Coleman	
Pr Pr	oject Name: oject ID:	WINTON - SUF NEW24P-0141	FFOLK PAP	RK														Eurofir	ns Analytica	l Servi	ces Manago	er : Andrew B	lack
			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)										
Mell	bourne Laborato	ory - NATA # 12	261 Site # <sup>-</sup>	254						Х	Х	Х	X	х	х	X							
Syd	ney Laboratory	- NATA # 1261	Site # 182	17			X		Х		X	Х	X		Х	X	X						
Мау	field West Labo	ratory - NATA	# 1261 Site	# 2507	79			X										-					
Exte	ernal Laboratory	, 1	1																				
No	Sample ID	Sample Date	Sampling Time	3 1	Matrix	LAB ID																	
1	TPW1 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013718	Х						Х			Х	Х						
2	TPW2 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013719	Х						X			X	Х						
3	TPW3 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013720							X			X		-					
4	TPW4 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013721	Х						X			X							
5	AST1 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013722							X			X	X						
6	AST1 0.4-0.5	Jul 02, 2024		Soil	N2	24-JI0013723							X			X							
7	WBY1 0.0-0.1	Jul 02, 2024		Soil		24-JI0013724	X						X		-		X						
8 9	WBY2 0.0-0.1 WBTP01 0.0- 0.1	Jul 02, 2024 Jul 02, 2024		Soil		24-JI0013725 24-JI0013726	x			x		х	X	x	x		X						
10	WBTP02 0.0- 0.1	Jul 02, 2024		Soil	N	24-JI0013727							x			x							
11	TPS1 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013728							Х			Х		]					

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web: wv email: E	ww.eurofins.com.au	om N	Intervention           Monterey Road           Jandenong South           VIC 3175           61 3 8564 5000           JATA# 1261           Site# 1254	Geelong 19/8 Lewalan St Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney reet 179 Magowar Ro Girraween NSW 2145 0 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra ad Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisba t 1/21 S Murar QLD T: +61 NATA# Site# 2	ane Smallwoo rie 4172 I 7 3902 # 1261 20794 &	d Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 1 Site# 25	t Drive West 04 968 8448 261 079	3	Perth 46-48 B Welshpo WA 610 +61 8 6 NATA# 2 Site# 23	anksia R pol 253 4444 2377	toad		erth Prol 6-48 Ban /elshpool /A 6106 61 8 6253 ATA# 2564 ite# 2554	Micro ksia Road 3 4444 51	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckla Unit C1 Mount Aucklar +64 9 5 IANZ#	nd (Focus) /4 Pacific Rise, Wellington, Id 1061 25 0568 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga           1277 Cameron Road,           Gate Pa,           Tauranga 3112           +64 9 525 0568           IANZ# 1402
Co Ad	mpany Name: dress:	Qualtes 2 Murra Mayfiel NSW 2	st ay Dwyer Ci ld West 2304	rcuit								Or Re Ph Fa	rder N eport a none: ix:	o.: #:	111 02 4 02 4	4955 4968 4 4960 9	4468 9775		Received: Due: Priority: Contact N	lame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 024 Coleman	
Pro Pro	oject Name: oject ID:	WINTC NEW24	ON - SUFFO 4P-0141	LK PARK														Eurofir	ns Analytical	Servic	es Manage	er : Andrew B	lack
	Sample Detail Melbourne Laboratory - NATA # 1261 Site # 1254							Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Melb	ourne Laborate	ory - NA	ATA # 1261	Site # 1254						X	X	Х	X	X	Х	X							
Sydr	ney Laboratory	- NATA	# 1261 Site	e # 18217			Х		Х		Х	Х	Х		Х	X	Х						
May	field West Labo	ratory -	- NATA # 12	261 Site # 25	6079			X															
12	TPS3 0.0-0.1	Jul 02,	, 2024	Sc	oil N	I24-JI0013729	Х						X			X							
13	TPS3 0.9-1.0	Jul 02,	, 2024	Sc	oil N	I24-JI0013730							X			X							
14	TPS6 0.4-0.5	Jul 02,	, 2024	Sc	n N	I24-JI0013731			Х														
15	TPS8 0.0-0.1	Jul 02,	, 2024	Sc	pil N	I24-JI0013732	X						X			X							
16	WPP1 0.0-0.1	Jul 02,	, 2024	Sc	bil N	I24-JI0013733							X			X	X						
17	WPP2 0.0-0.1	Jul 02,	, 2024	Sc	oil N	I24-JI0013734	X						X			X							
18	WPP3 0.0-0.1	Jul 02,	, 2024	Sc	oil N	I24-JI0013735							X			X							
19	WPP4 0.0-0.1	Jul 02,	, 2024	Sc	pil N	I24-JI0013736							X			X							
20	TPQ1 0.0-0.1	Jul 03,	, 2024	Sc	oil N	I24-JI0013737							X			X							
21	TPQ2 0.0-0.1	Jul 03,	, 2024	Sc	oil N	I24-JI0013738				X		Х		X	Х								
22	TPQ2 1.4-1.5	Jul 03,	, 2024	Sc	oil N	I24-JI0013739							X			X							
23	TPQ5 0.0-0.1	Jul 03,	, 2024	Sc	pil N	124-JI0013740	X						X			X	X						
24	TPQ5 0.4-0.5	Jul 03,	, 2024	Sc	n N	I24-JI0013741							X			X							
25	TPQ6 0.0-0.1	Jul 03,	, 2024	Sc	n N	I24-JI0013742							X			X							
26	TPQ7 0.0-0.1	Jul 03,	, 2024	Sc	oil N	I24-JI0013743							Х			X		]					

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web: w email: I	ww.eurofins.com.au	Me 6 M Dai VIC +6' om NA Site	Monterey Road andenong South C 3175 1 3 8564 5000 ATA# 1261 e# 1254	Geelong 19/8 Lewalan Stru Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney eet 179 Magowar Ro Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra ad Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisba t 1/21 S Murar QLD T: +61 NATA# Site# 2	<b>ane</b> Smallwoo rie 4172 I 7 3902 # 1261 20794 &	d Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 1 Site# 25	tle t Drive West 04 968 8448 1261 5079	3	Perth 46-48 B Welshoo WA 610 +61 8 62 NATA# 2 Site# 23	anksia R ool 253 4444 2377	ioad	- Pe 46 W W +6 Si	erth Prol 6-48 Ban /elshpool /A 6106 61 8 625: ATA# 256 ite# 2554	Micro ksia Road 3 4444 51	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckla Unit C Mount Auckla +64 9 IANZ#	I/4 Pacific Rise, Wellington, nd 1061 525 0568 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
Co Ac	ompany Name: Idress:	Qualtes 2 Murra Mayfield NSW 23	it ly Dwyer Ciu d West 304	rcuit								Oi Re Pi Fa	rder N eport a none: ax:	o.: #:	111 02 4 02 4	4955 1968 4 1960 9	4468 9775		Received Due: Priority: Contact N	: lame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 024 Coleman	
Pr Pr	oject Name: oject ID:	WINTOI NEW24	N - SUFFO P-0141	LK PARK														Eurofir	ns Analytical	Servic	es Manage	er : Andrew B	lack
	Sample Detail Melbourne Laboratory - NATA # 1261 Site # 1254							Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Mell	oourne Laborate	ory - NA	TA # 1261 \$	Site # 1254						Х	Х	Х	X	Х	Х	X							
Syd	ney Laboratory	- NATA	# 1261 Site	e # 18217			X		Х		X	Х	X		Х	X	X						
May	field West Labo	ratory -	NATA # 12	61 Site # 25	079			X															
27	TPQ8 0.0-0.1	Jul 03, 3	2024	Soi	il N	I24-JI0013744							X			X							
28	TPQ9 0.0-0.1	Jul 03, 3	2024	Soi	il N	I24-JI0013745							X			X							
29	TPQ10 0.0-0.1	Jul 03, 3	2024	Soi	il N	I24-JI0013746							X			X							
30	TPQ11 0.0-0.1	Jul 03, 3	2024	Soi	il N	I24-JI0013747	Х						X			X							
31	S3	Jul 03, 3	2024	Soi	il N	I24-JI0013748							X			X							
32	S5	Jul 03, 3	2024	Soi	il N	I24-JI0013749							X			X							
33	D.2.7.24	Jul 02, 3	2024	Soi	il N	I24-JI0013750							X			X							
34	TPW1 0.2-0.3	Jul 02, 3	2024	Soi	il N	I24-JI0013751			Х														
35	TPW2 0.2-0.3	Jul 02, 3	2024	Soi	il N	I24-JI0013752			Х														
36	TPW3 0.2-0.3	Jul 02, 3	2024	Soi	il N	I24-JI0013753			Х														
37	TPW4 0.2-0.3	Jul 02, 2	2024	Soi	il N	I24-JI0013754			Х														
38	AST1 0.5-0.6	Jul 02, 2	2024	Soi	il N	I24-JI0013755			Х														
39	WBY 0.4-0.5	Jul 02, 2	2024	Soi	il N	I24-JI0013756			Х														
40	WBY 0.6-0.7	Jul 02, 2	2024	Soi	il N	I24-JI0013757			Х														
41	WBY2 0.9-1.0	Jul 02, 2	2024	Soi	il N	I24-JI0013758			Х									]					

	Eurofins	5 Enviro	onment Testing	Australia Pty Lt	d								05 015	L Pty L	td E	BN: 47.0	s ProMicro Pty Lto	L Eurofins Er	nviron	ment Testing NZ	Ltd	
web: www.eurofins.com.au	Melbourn 6 Montere Dandenor VIC 3175 +61 3 856 NATA# 12	e y Road g South 4 5000	Geelong 19/8 Lewalan Stre Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261	Sydney et 179 Magowar Ro Girraween NSW 2145 +61 2 9900 8400 NATA# 1261	Canberra ad Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261	Brisb et 1/21 S Murar QLD T: +6' NATA	ane Smallwoo rrie 4172 1 7 3902 # 1261	od Place 4600	Newcas 1/2 Fros Mayfield NSW 23 +61 2 4 NATA#	atle at Drive West 304 968 8448	3	Perth 46-48 B Welshp WA 610 +61 8 6 NATA# 2	anksia F col 6 253 444	Road		erth Pro 6-48 Ban Velshpoo VA 6106 61 8 625 IATA# 25	oblicito omicro nksia Road ol 53 4444	Auckland 35 O'Rorke Ro Penrose, Auckland 106 +64 9 526 455 JANZ# 1327	oad l 1 / 51 +	Auckland (Focus) Unit C1/4 Pacific Rise Mount Wellington, Auckland 1061 +64 9 525 0568 ANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga           1277 Cameron Road,           Gate Pa,           5 Tauranga 3112           +64 9 525 0568           IANZ# 1402
	Site# 125	4	Site# 25403	Site# 18217	Site# 25466	Site#	20794 &	2780	Site# 25	079		Site# 23	370		Si	ite# 2554	4					
Company Name: Address:	Qualtest 2 Murray Dw Mayfield We NSW 2304	yer Cii st	rcuit								Or Re Ph Fa	der N eport a ione: ix:	o.: #:	111 02 4 02 4	4955 4968 4 4960 9	4468 9775		Receive Due: Priority Contact	ed: : t Nan	Jul 5, 20 Jul 10, 2 3 Day <b>ne:</b> Emma (	024 11:33 AM 2024 Coleman	
Project Name: Project ID:	WINTON - S NEW24P-01	UFFO 41	LK PARK														Eurofi	ns Analvtic	al Se	ervices Manaq	er : Andrew E	Black
		Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)										
Melbourne Laborate	ory - NATA #	1261	Site # 1254						Х	Х	Х	X	Х	Х	X							
Sydney Laboratory	- NATA # 12	61 Site	e # 18217			Х		Х		Х	Х	X		Х	X	Х						
Mayfield West Labo	oratory - NAT	A # 12	61 Site # 250	)79			X															
42 WBY2 0.4-0.5	Jul 02, 2024		Soi	N N	124-JI0013759			Х														
43 WBTP01 0.4- 0.5	Jul 02, 2024		Soi	1	I24-JI0013760			х									-					
44 WBTP01 0.6- 0.7	Jul 02, 2024		Soi		I24-JI0013761			х									_					
45 WBTP01 1.3- 1.4	Jul 02, 2024		Soi		124-JI0013762			Х									-					
46 WB1P02 0.3- 0.4	Jul 02, 2024		Sol		124-JI0013763			X														
47 TPS1 0.4-0.5	Jul 02, 2024		Soi		124-JI0013764			X									-					
48 IPS1 0.9-1.0	Jul 02, 2024	_	Soi		124-JI0013765			X	-								4					
49 IPS1 1.5-1.6	Jul 02, 2024	_	Soi	I	124-JI0013766			X	-								4					
50 IPS3 0.4-0.5	Jul 02, 2024		Soi		124-JI0013767			X									4					
51 TPS3 1.4-1.5	Jul 02, 2024		Soi	I   N	124-JI0013768		-	X									-					
52 IPS3 1.9-2.0	Jul 02, 2024		Soi		124-JI0013770			X									4					
53   TPS3 2.4-2.5	Jul 02, 2024		Soi	I	124-JI0013771			Х														

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web: wv email: E	ww.eurofins.com.au	om N	Welbourne         Solution         Solution	Geelong 19/8 Lewalan Str Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney eet 179 Magowar Ro Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra ad Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisb t 1/21 S Murar QLD T: +61 NATA Site#	ane Smallwoo rie 4172 I 7 3902 # 1261 20794 &	d Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 1 Site# 25	tle t Drive West 04 968 8448 261 079		Perth 46-48 B Welshpo WA 610 +61 8 62 NATA# 2 Site# 23	anksia R pol 253 444 2377	toad		erth Pro 6-48 Ban /elshpool /A 6106 61 8 625: ATA# 256 ite# 2554	Micro Iksia Road I 3 4444 61	Auckland 35 O'Rorke Roa Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckl d Unit C Moun Auckl +64 9 IANZ#	and (Focus) 1/4 Pacific Rise, Wellington, and 1061 525 0568 \$1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
Co Ad	mpany Name: dress:	Qualte 2 Murr Mayfie NSW 2	est ay Dwyer Ci eld West 2304	rcuit								Or Re Ph Fa	der N port i none: ix:	o.: #:	111 02 4 02 4	4955 4968 4 4960 9	4468 9775		Received Due: Priority: Contact	l: Name:	Jul 5, 20 Jul 10, 2 3 Day Emma 0	024 11:33 AM 2024 Coleman	
Pro Pro	oject Name: oject ID:	WINTO NEW2	ON - SUFFO 4P-0141	LK PARK														Eurofir	ns Analytica	l Servie	ces Manage	er : Andrew B	lack
	Sample Detail Melbourne Laboratory - NATA # 1261 Site # 1254							Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Melb	ourne Laborate	ory - NA	ATA # 1261	Site # 1254						Х	Х	Х	Х	Х	Х	Х		_					
Sydr	ney Laboratory	- NATA	A # 1261 Site	e # 18217			Х		Х		Х	Х	Х		Х	Х	Х	_					
May	field West Labo	oratory	- NATA # 12	261 Site # 25	079			X					ļ					-					
54	TPS4 0.0-0.1	Jul 02	, 2024	So	il N	I24-JI0013772			Х									-					
55	TPS4 0.1-0.2	Jul 02	, 2024	So	il N	I24-JI0013773			Х									-					
56	TPS5 0.0-0.1	Jul 02	, 2024	So	il N	I24-JI0013774			Х									-					
57	TPS5 0.2-0.3	Jul 02	, 2024	So	il N	I24-JI0013775			Х									-					
58	TPS6 0.0-0.1	Jul 02	., 2024	So	il N	I24-JI0013776							X			X		-					
59	TPS7 0.0-0.1	Jul 02	., 2024	So	il N	I24-JI0013778			Х									-					
60	TPS7 0.2-0.3	Jul 02	, 2024	So	il N	I24-JI0013779			Х									-					
61	TPS8 0.4-0.5	Jul 02	, 2024	So	il N	I24-JI0013780		ļ	Х									4					
62	TPS8 0.9-1.0	Jul 02	, 2024	So	il N	I24-JI0013781			Х									4					
63	WPP1 0.1-0.2	Jul 02	, 2024	So	il N	I24-JI0013782		ļ	Х									4					
64	WPP2 0.4-0.5	Jul 02	, 2024	So	il N	I24-JI0013783		ļ	Х									4					
65	WPP3 0.2-0.3	Jul 02	, 2024	So	il N	I24-JI0013784			Х					<u> </u>	<u> </u>			4					
66	WPP4 0.2-0.3	Jul 02	, 2024	So	il N	I24-JI0013785			Х					<u> </u>				4					
67	TPQ1 0.4-0.5	Jul 03	, 2024	So	il N	I24-JI0013786			Х					<u> </u>	<u> </u>			4					
68	TPQ1 1.3-1.4	Jul 03	, 2024	So	il N	I24-JI0013787			Х									]					

🚯 eurofir	Eurofi ABN: 50	i <b>ns Envir</b> o 0 005 085 5	onment Testing	Australia Pty Lt	d							Eurofi ABN: 9 <sup>2</sup>	ns ARI 05 015	L <b>Pty L</b> 9 898	. <b>td E</b> A	BN: 47 0	s ProMicro Pty Lto 109 120 549	d Eurofins Env NZBN: 9429046	vironme 024954	nt Testing NZ	_td	
web: www.eurofins.com.au email: EnviroSales@eurofins.c	Melbour 6 Monte Dander VIC 317 +61 3 8 com NATA# Site# 12	irne erey Road nong South 75 564 5000 1261 254	Geelong 19/8 Lewalan Stre Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney et 179 Magowar Ro Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra ad Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisb et 1/21 S Murar QLD T: +6' NATA Site#	ane Smallwor 4172 1 7 3902 # 1261 20794 &	od Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 4 NATA#	stle st Drive d West 304 968 8448 1261 5079	\$	Perth 46-48 B Welshp WA 610 +61 8 6 NATA# 2 Site# 23	anksia F ool 6 253 444 2377 370	Road 4	44 54 54 55 55 55 55 55 55 55 55 55 55 5	erth Pro 6-48 Ban Velshpoo VA 6106 61 8 625 IATA# 250 iite# 2554	Micro Iksia Road I 3 4444 61 4	Auckland 35 O'Rorke Roa Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucl d Unit Mour Auck +64 9 IANZ	kland (Focus) C1/4 Pacific Rise, nt Wellington, Iland 1061 9 525 0568 2# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga           1277 Cameron Road,           Gate Pa,           Tauranga 3112           +64 9 525 0568           IANZ# 1402
Company Name: Address:	Qualtest 2 Murray D Mayfield W NSW 2304	wyer Ci ′est	ircuit								Or Re Ph Fa	der Neport	o.: #:	111 02 4 02 4	4955 4968 4 4960 9	4468 9775		Received Due: Priority: Contact	l: Name:	Jul 5, 20 Jul 10, 2 3 Day : Emma 0	024 11:33 AM 2024 Coleman	
Project Name: Project ID:	WINTON - NEW24P-0	SUFFO 0141	OLK PARK														Eurofi	ns Analytica	l Servi	ices Manag	er : Andrew B	lack
		Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)										
Melbourne Laborat	ory - NATA	# 1261	Site # 1254						х	Х	Х	Х	Х	х	X		_					
Sydney Laboratory	- NATA # 1	261 Site	e # 18217			Х		Х		Х	Х	Х		Х	X	Х						
Mayfield West Labo	oratory - NA	TA # 12	261 Site # 250	)79			X															
69 TPQ2 0.4-0.5	Jul 03, 202	24	Soil	I N	124-JI0013788			Х									-					
70 TPQ2 0.9-1.0	Jul 03, 202	24	Soil	<u> </u>	24-JI0013789			Х									-					
71 TPQ2 1.9-2.0	Jul 03, 202	24	Soil	1 N	124-JI0013790			Х									-					
72 TPQ2 2.0-2.1	Jul 03, 202	24	Soil	<u> </u>	124-JI0013791			Х									-					
73 TPQ3 0.0-0.1	Jul 03, 202	24	Soil	<u> </u>	24-JI0013792			Х									-					
74 TPQ3 0.2-0.3	Jul 03, 202	24	Soil	I N	24-JI0013793			Х									-					
75 TPQ4 0.0-0.1	Jul 03, 202	24	Soil	I N	24-JI0013794			Х									-					
76 TPQ4 0.2-0.3	Jul 03, 202	24	Soil	۱ N	24-JI0013795			Х														
77 TPQ5 0.6-0.7	Jul 03, 202	24	Soil	N N	124-JI0013796			Х									4					
78 TPQ6 0.4-0.5	Jul 03, 202	24	Soil	N N	124-JI0013797			Х									4					
79 TPQ6 1.4-1.5	Jul 03, 202	24	Soil	N N	124-JI0013798			Х														
80 TPQ6 1.5-1.6	Jul 03, 202	24	Soil	I N	124-JI0013799			Х														
81 TPQ7 0.2-0.3	Jul 03, 202	24	Soil	I N	124-JI0013800			Х														
82 TPOQ7 0.4- 0.5	Jul 03, 202	24	Soil	۱ N	124-JI0013801			х														

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web: www.eurofins.com.au email: EnviroSales@eurofins.com	Melk 6 Mc Dan	bourne onterey Road idenong South	Geelong 19/8 Lewalan Stree Grovedale	Sydney et 179 Magowar Roa Girraween	Canberra ad Unit 1,2 Dacre Stree Mitchell	Brisb et 1/21 S Murar	ane Imallwoo rie	od Place	Newcas 1/2 Fros Mayfield	t <b>le</b> t Drive West		Perth 46-48 B Welshpo	anksia R	load		erth Pro 6-48 Ban /elshpool	Micro Iksia Road	Auckland 35 O'Rorke Roa Penrose,	Auck d Unit ( Moun	land (Focus) C1/4 Pacific Rise, t Wellington,	Christchurch 43 Detroit Drive Rolleston,	Tauranga 1277 Cameron Road, Gate Pa,
web: www.eurofins.com.au email: EnviroSales@eurofins.c	VIC +61 com NAT/ Site#	3175 3 8564 5000 Ā# 1261 # 1254	VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	QLD T: +61 NATA Site# :	4172 7 3902 - # 1261 20794 &	4600 2780	NSW 23 +61 2 49 NATA# 1 Site# 25	04 968 8448 261 079		WA 610 +61 8 62 NATA# 2 Site# 23	6 253 4444 2377 70	4	W +6 N Si	/A 6106 61 8 625 ATA# 256 ite# 2554	3 4444 61 4	Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckl +64 9 IANZ	and 1061 525 0568 # 1308	Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 3112 +64 9 525 0568 IANZ# 1402
Company Name: Address:	Qualtest 2 Murray Mayfield NSW 230	/ Dwyer Cir West 04	rcuit								Or Re Ph Fa	der N port i ione: x:	o.: #:	111 02 4 02 4	4955 4968 4 4960 9	4468 9775		Receive Due: Priority: Contact	l: Name:	Jul 5, 20 Jul 10, 2 3 Day Emma 0	024 11:33 AM 2024 Coleman	
Project Name: Project ID:	WINTON NEW24P	N - SUFFOI P-0141	LK PARK														Eurofi	ns Analytica	l Servi	ces Manag	er : Andrew B	lack
	Sample Detail Melbourne Laboratory - NATA # 1261 Site # 1254							HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Melbourne Laborate	ory - NAT	TA # 1261 \$	Site # 1254						Х	Х	Х	Х	Х	Х	Х							
Sydney Laboratory	- NATA #	# 1261 Site	# 18217			Х		Х		Х	Х	Х		Х	Х	Х						
Mayfield West Labo	oratory - N	NATA # 12	61 Site # 250	79			Х															
83 TPQ8 0.3-0.4	Jul 03, 2	2024	Soil	N	24-JI0013802			Х									-					
84 TPQ8 1.3-1.4	Jul 03, 2	2024	Soil	N	24-JI0013803			Х									-					
85 TPQ8 1.8-1.9	Jul 03, 2	2024	Soil	N	24-JI0013804			Х									-					
86 TPQ9 0.4-0.5	Jul 03, 2	2024	Soil	N	24-JI0013805			Х									-					
87 TPQ9 0.8-0.9	Jul 03, 2	2024	Soil	N	24-JI0013806			Х									-					
88 TPQ10 0.4-0.5	Jul 03, 2	2024	Soil	N	24-JI0013807			Х									-					
89 TPQ10 0.8-0.9	Jul 03, 2	2024	Soil	N	24-JI0013808			Х									-					
90 TPQ11 0.4-0.5	Jul 03, 2	2024	Soil	N	24-JI0013809			Х									-					
91 TPQ11 0.9-1.0	Jul 03, 2	2024	Soil	N	24-JI0013810			Х									-					
92 TPQ11 1.3-1.4	Jul 03, 2	2024	Soil	N	24-JI0013811			Х									4					
93 S1	Jul 03, 2	2024	Soil	N	24-JI0013812			Х								<u> </u>	4					
94 S2	Jul 03, 2	2024	Soil	N	24-JI0013813			Х								<u> </u>	4					
95 S4	Jul 03, 2	2024	Soil	N	24-JI0013814			Х								<u> </u>	4					
96 S6	Jul 03, 2	2024	Soil	N	24-JI0013815			Х									4					
97 D1.2.7.24	Jul 02, 2	2024	Soil	N	24-JI0013816			Х									J					

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	eurofin	IS 🖞	ABN: 50 005 085 5	21									ABN: 91	05 0159	9 898	A	BN: 47 0	09 120 549	NZBN: 942904602	4954			
web: w email: I	ww.eurofins.com.au EnviroSales@eurofins.c	6 C V t com N S	Melbourne 6 Monterey Road Dandenong South /IC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan S Grovedale VIC 3216 +61 3 8564 500 NATA# 1261 Site# 25403	Sydney reet 179 Magowar R Girraween NSW 2145 0 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra bad Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisb et 1/21 S Murar QLD T: +6' NATA Site#	ane Smallwo rrie 4172 1 7 3902 # 1261 20794 8	od Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 1 Site# 25	t Drive West 04 968 8448 261 079	3	Perth 46-48 B Welshpo WA 610 +61 8 6 NATA# 2 Site# 23	anksia R bol 253 4444 2377 70	oad	P( 46 W W +6 N Si	erth Pro 6-48 Ban /elshpoo /A 6106 61 8 625 IATA# 25 ite# 2554	Micro Iksia Road I 3 4444 61 4	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland Unit C1/4 Mount We Auckland +64 9 525 IANZ# 13	d (Focus) Pacific Rise, ellington, 1061 5 0568 808	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
Co Ad	mpany Name: dress:	Qualte 2 Murr Mayfie NSW 2	est ay Dwyer Ci eld West 2304	rcuit								Or Re Pr Fa	der N port i ione: ix:	o.: #:	111 02 4 02 4	4955 4968 4 4960 9	4468 9775		Received: Due: Priority: Contact Na	ame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 024 :oleman	
Pro	oject ID:	NEW2	24P-0141															Eurofin	s Analytical S	Services	s Manage	er : Andrew B	lack
	Sample Detail Melbourne Laboratory - NATA # 1261 Site # 1254								HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Mell	ourne Laborat	ory - NA	ATA # 1261	Site # 1254						Х	х	х	Х	х	х	Х							
Syd	ney Laboratory	- NATA	A # 1261 Site	e # 18217			Х		Х		Х	Х	Х		Х	X	Х						
May	field West Labo	oratory	- NATA # 12	261 Site # 2	5079			X	ļ				ļ					-					
98	T1.2.7.24	Jul 02	2, 2024	So	pil	N24-JI0013817			X									-					
99	D.3.7.24	Jul 03	8, 2024	Sc	pil I	N24-JI0013818			X									-					
100	T.3.7.24	Jul 03	3, 2024	So	bil I	N24-JI0013819			X									-					
101	D1.3.7.24	Jul 03	3, 2024	So	01    .,  .	N24-JI0013820			X			<u> </u>						4					
102	11.3.7.24	Jul 03	5, 2024	So	)   vilalia a	N24-JI0013821			X									-					
103	ASB FRAG 1	Jul 03	5, 2024	Bi M	aterials	NZ4-JIUU13822		X										-					
104	TPS6 0.5-0.6	N24-JI0014155	<u> </u>		Х				<u> </u>					-									
105	TB.2.7.24	Jul 02	2, 2024	W	ater	N24-JI0014185					X		-					-					
Test	Counts						10	1	70	2	1	33	33	2	33	33	7						



#### Internal Quality Control Review and Glossary General

- QC data may be available on request. All soil results are reported on a dry basis, unless otherwise stated. 1. 2.
- Samples were analysed on an 'as received' basis. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results. This report replaces any interim results previously issued. 3. 4. 5.

#### Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001). If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units % w/w: F/fid F/mL g, kg g/kg L, mL L/min min	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples ( <b>% w/w</b> ) Airborne fibre filter loading as Fibres ( <b>N</b> ) per Fields counted ( <b>n</b> ) Airborne fibre reported concentration as Fibres per millilite of air drawn over the sampler membrane ( <b>C</b> ) Mass, e.g. of whole sample ( <b>M</b> ) or asbestos-containing find within the sample ( <b>m</b> ) Concentration in grams per kilogram Volume, e.g. of air as measured in AFM ( <b>V</b> = <b>r</b> × <b>t</b> ) Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane ( <b>r</b> ) Time ( <b>t</b> ), e.g. of air sample collection period
Calculations Airborne Fibre Concentration:	$C = \binom{A}{\alpha} \times \binom{N}{n} \times \binom{1}{r} \times \binom{1}{t} = K \times \binom{N}{n} \times \binom{1}{t}$
Asbestos Content (as asbestos):	$\% w/w = \frac{(m \times P_A)}{M}$
Weighted Average (of asbestos):	$\mathscr{H}_{WA} = \sum \frac{(m \times P_A)_x}{x}$
Terms %asbestos	Estimated percentage of asbestos in a given matrix may be derived from knowledge or experience of the material, informed by HSG264 Appendix 2, else assumed to be 15% in accordance with WA DOH Appendix 2 (P <sub>A</sub> ). This estimate is not NATA-accredited.
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g., by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total %w/w asbestos content in asbestos-containing finds in a soil sample (% w/w).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part triable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
HSG248	UK HSE HSG248, Asbestos: The Analysts Guide, 2nd Edition (2021).
HSG264	UK HSE HSG264, Asbestos: The Survey Guide (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (K) as derived from the effective filter area of the given AFM membrane used for collecting the sample (A) and the projected eyepiece graticule area of the specific microscope used for the analysis (a).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres, 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
SMF	Synthetic Mineral Fure Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable tibres (particularly asbestos) in a given sample matrix.
UN HOE HOG	United Ningdom, realm and Safety Executive, Health and Safety Guidance, publication.
	Unidentitude winteral rule Detected. Florus minerals that are detected but have not been unequivocally identitied by PLM with DS according the AS 4964-2004 May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
	Contaminated Sites in Western Australia (updated 2021), including Appendix Four: Laboratory analysis
weighted Average	Combined average %w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (%wa).



#### Comments

Sample Integrity	
Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

#### Asbestos Counter/Identifier:

Sayeed Abu	Senior Analyst-Asbestos
Bryce Keegan	Senior Analyst-Asbestos

#### Authorised by:

Laxman Dias	
Bennel Jiri	

Senior Analyst-Asbestos Senior Analyst-Asbestos

li jak

Glenn Jackson Managing Director

Final Report - this report replaces any previously issued Report

- Indicates Not Requested

\* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Qualtest 2 Murray Dwyer Circuit Mayfield West NSW 2304

Attention:

Emma Coleman

Report Project name Project ID Received Date **1114955-S** WINTON - SUFFOLK PARK NEW24P-0141 Jul 05, 2024

Client Sample ID						TDWARDA
			1PW1 0.0-0.1	1PW2 0.0-0.1	1PW3 0.0-0.1	1PVV4 0.0-0.1
			5011	5011	5011	5011
Eurofins Sample No.			N24-JI0013718	N24-JI0013719	N24-JI0013720	N24-JI0013721
Date Sampled			Jul 02, 2024	Jul 02, 2024	Jul 02, 2024	Jul 02, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	100	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	59	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	159	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	117	81	85	102
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.9	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5



NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.



Sample Matrix         Soil         Soil         Soil         Soil         Soil         Soil         Soil           Eurofins Sample No.         Date Sampled         Jul 02, 2024         Jul 02, 202	Client Sample ID			TPW1 0.0-0.1	TPW2 0.0-0.1	TPW3 0.0-0.1	TPW4 0.0-0.1
Eurorins Sample No.         N24-Ji0013718         N24-Ji0013718         N24-Ji0013719         N24-Ji0013719         N24-Ji0013720         N24-Ji0013720         N24-Ji0013720         N24-Ji0013719         N2	Sample Matrix			Soil	Soil	Soil	Soil
Date Sampled         Jul 02, 2024           Test/Reference         LOR         Unit               Naphthalane         0.5         mg/kg         <0.5	Eurofins Sample No.			N24-JI0013718	N24-JI0013719	N24-JI0013720	N24-JI0013721
Test/Reterance         LOR         Unit         Image: Construct the second s	Date Sampled			Jul 02. 2024	Jul 02. 2024	Jul 02. 2024	Jul 02, 2024
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		LOR	Unit			,	, ,
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Polycyclic Aromatic Hydrocarbons	LOIN	Onit				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Naphthalene	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Phenanthrene	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Pyrene	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Total PAH*	0.5	ma/ka	< 0.5	0.5	< 0.5	< 0.5
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2-Fluorobiphenyl (surr.)	1	%	106	92	78	76
Total Recoverable Hydrocarbons - 2013 NEPM Fractions         mg/kg         < 50         mg/kg         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50	p-Terphenyl-d14 (surr.)	1	%	112	90	77	83
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	TRH >C16-C34	100	mg/kg	160	< 100	< 100	< 100
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals         Image Network         Image Network           Arsenic         2         mg/kg         <2	TRH >C10-C40 (total)*	100	mg/kg	160	< 100	< 100	< 100
Arsenic       2       mg/kg       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2       <2	Heavy Metals						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Arsenic	2	mg/kg	< 2	< 2	< 2	3.7
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Chromium	5	mg/kg	5.3	40	14	8.9
Lead5mg/kg< 5129.6< 5Mercury0.1mg/kg< 0.1	Copper	5	mg/kg	< 5	13	< 5	< 5
Mercury         0.1         mg/kg         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1           Nickel         5         mg/kg         < 5	Lead	5	mg/kg	< 5	12	9.6	< 5
Nickel         5         mg/kg         < 5         10         < 5         < 5           Zinc         5         mg/kg         130         300         110         13           Sample Properties         1         %         11         26         9.1         13           Perfluorolakyl carboxylic acids (PFCAs)                Perfluorobutanoic acid (PFBA) <sup>N11</sup> 5         ug/kg         <5	Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Zinc         5         mg/kg         130         300         110         13           Sample Properties                % Moisture         1         %         11         26         9.1         13           Perfluoroalkyl carboxylic acids (PFCAs)               Perfluorobutanoic acid (PFPA) <sup>N11</sup> 5         ug/kg         <5	Nickel	5	mg/kg	< 5	10	< 5	< 5
Sample Properties         1         %         11         26         9.1         13           Perfluorolkyl carboxylic acid (PFCAs)           1         %         11         26         9.1         13           Perfluorolkyl carboxylic acid (PFBA) <sup>N11</sup> 5         ug/kg         < 5	Zinc	5	mg/kg	130	300	110	13
% Moisture       1       %       11       26       9.1       13         Perfluoroalkyl carboxylic acid (PFBA) <sup>N11</sup> 5       ug/kg       <5       <5       -         Perfluoropentanoic acid (PFPAA) <sup>N11</sup> 5       ug/kg       <5       <5       -       -         Perfluorohexanoic acid (PFPAA) <sup>N11</sup> 5       ug/kg       <5       <5       -       -         Perfluorohexanoic acid (PFHAA) <sup>N11</sup> 5       ug/kg       <5       <5       -       -         Perfluorohexanoic acid (PFHAA) <sup>N11</sup> 5       ug/kg       <5       <5       -       -         Perfluorohexanoic acid (PFDA) <sup>N11</sup> 5       ug/kg       <5       <5       -       -         Perfluorohexanoic acid (PFDA) <sup>N11</sup> 5       ug/kg       <5       <5       -       -         Perfluorohexanoic acid (PFDA) <sup>N11</sup> 5       ug/kg       <5       <5       -       -         Perfluorohexanoic acid (PFDA) <sup>N11</sup> 5       ug/kg       <5       <5       -       -         Perfluorohexanoic acid (PFDA) <sup>N11</sup> 5       ug/kg       <5       <5       -       -         Perfluorohexanoic acid (PFTDA) <sup>N15</sup> 5       ug/kg       <5	Sample Properties						
Perfluoroalkyl carboxylic acids (PFCAs)         V         V           Perfluorobutanoic acid (PFBA) <sup>N11</sup> 5         ug/kg         < 5	% Moisture	1	%	11	26	9.1	13
Perfluorobutanoic acid (PFBA) <sup>N11</sup> 5       ug/kg       < 5       < 5       < -         Perfluoropentanoic acid (PFPAA) <sup>N11</sup> 5       ug/kg       < 5	Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluoropentanoic acid (PFPeA) <sup>N11</sup> 5       ug/kg       < 5       < 5       -       -         Perfluorohexanoic acid (PFHA) <sup>N11</sup> 5       ug/kg       < 5	Perfluorobutanoic acid (PFBA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorohexanoic acid (PFHxA) <sup>N11</sup> 5       ug/kg       < 5       < 5       -       -         Perfluoroheptanoic acid (PFQA) <sup>N11</sup> 5       ug/kg       < 5	Perfluoropentanoic acid (PFPeA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluoroheptanoic acid (PFHpA) <sup>N11</sup> 5       ug/kg       < 5       < 5       -       -         Perfluorooctanoic acid (PFA) <sup>N11</sup> 5       ug/kg       < 5	Perfluorohexanoic acid (PFHxA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorooctanoic acid (PFOA) <sup>N11</sup> 5       ug/kg       < 5       < 5       -       -         Perfluorononanoic acid (PFNA) <sup>N11</sup> 5       ug/kg       < 5	Perfluoroheptanoic acid (PFHpA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorononanoic acid (PFNA) <sup>N11</sup> 5         ug/kg         < 5         < 5         -         -           Perfluorodecanoic acid (PFDA) <sup>N11</sup> 5         ug/kg         < 5	Perfluorooctanoic acid (PFOA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorodecanoic acid (PFDA) <sup>N11</sup> 5         ug/kg         < 5         < 5         -         -           Perfluoroundecanoic acid (PFUnDA) <sup>N11</sup> 5         ug/kg         < 5	Perfluorononanoic acid (PFNA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluoroundecanoic acid (PFUnDA) <sup>N11</sup> 5         ug/kg         < 5         < 5         -         -           Perfluorododecanoic acid (PFDoDA) <sup>N11</sup> 5         ug/kg         < 5	Perfluorodecanoic acid (PFDA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorododecanoic acid (PFDoDA) <sup>N11</sup> 5         ug/kg         < 5         < 5         -<	Perfluoroundecanoic acid (PFUnDA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorotridecanoic acid (PFTrDA) <sup>N15</sup> 5         ug/kg         < 5         < 5         -	Perfluorododecanoic acid (PFDoDA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorotetradecanoic acid (PFTeDA) <sup>N11</sup> 5         ug/kg         < 5         8.2         - <th< td=""><td>Perfluorotridecanoic acid (PFTrDA)<sup>N15</sup></td><td>5</td><td>ug/kg</td><td>&lt; 5</td><td>&lt; 5</td><td>-</td><td>-</td></th<>	Perfluorotridecanoic acid (PFTrDA) <sup>N15</sup>	5	ug/kg	< 5	< 5	-	-
13C4-PFBA (surr.)       1       %       100       94       -       -         13C5-PFPeA (surr.)       1       %       103       102       -       -         13C5-PFHxA (surr.)       1       %       116       114       -       -         13C4-PFHpA (surr.)       1       %       107       98       -       -         13C8-PFOA (surr.)       1       %       109       104       -       -         13C5-PFNA (surr.)       1       %       110       94       -       -         13C6-PFDA (surr.)       1       %       122       103       -       -         13C2-PFUnDA (surr.)       1       %       126       124       -       -         13C2-PFDoDA (surr.)       1       %       114       107       -       -	Perfluorotetradecanoic acid (PFTeDA) <sup>N11</sup>	5	ug/kg	< 5	8.2	-	-
13C5-PFPeA (surr.)       1       %       103       102       -       -         13C5-PFHxA (surr.)       1       %       116       114       -       -         13C4-PFHpA (surr.)       1       %       107       98       -       -         13C8-PFOA (surr.)       1       %       109       104       -       -         13C5-PFNA (surr.)       1       %       110       94       -       -         13C6-PFDA (surr.)       1       %       122       103       -       -         13C2-PFUnDA (surr.)       1       %       126       124       -       -         13C2-PFDoDA (surr.)       1       %       114       107       -       -	13C4-PFBA (surr.)	1	%	100	94	-	-
13C5-PFHxA (surr.)       1       %       116       114       -       -         13C4-PFHpA (surr.)       1       %       107       98       -       -         13C8-PFOA (surr.)       1       %       109       104       -       -         13C5-PFNA (surr.)       1       %       110       94       -       -         13C6-PFDA (surr.)       1       %       122       103       -       -         13C2-PFUnDA (surr.)       1       %       126       124       -       -         13C2-PFDoDA (surr.)       1       %       114       107       -       -	13C5-PFPeA (surr.)	1	%	103	102	-	-
13C4-PFHpA (surr.)       1       %       107       98       -       -         13C8-PFOA (surr.)       1       %       109       104       -       -         13C5-PFNA (surr.)       1       %       110       94       -       -         13C6-PFDA (surr.)       1       %       122       103       -       -         13C2-PFUnDA (surr.)       1       %       126       124       -       -         13C2-PFDoDA (surr.)       1       %       114       107       -       -	13C5-PFHxA (surr.)	1	%	116	114	-	-
13C8-PFOA (surr.)       1       %       109       104       -       -         13C5-PFNA (surr.)       1       %       110       94       -       -         13C6-PFDA (surr.)       1       %       122       103       -       -         13C2-PFUnDA (surr.)       1       %       126       124       -       -         13C2-PFDoDA (surr.)       1       %       114       107       -       -	13C4-PFHpA (surr.)	1	%	107	98	-	-
13C5-PFNA (surr.)     1     %     110     94     -     -       13C6-PFDA (surr.)     1     %     122     103     -     -       13C2-PFUnDA (surr.)     1     %     126     124     -     -       13C2-PFDoDA (surr.)     1     %     114     107     -     -	13C8-PFOA (surr.)	1	%	109	104	-	-
13C0-PFDA (surr.)     1     %     122     103     -     -       13C2-PFUnDA (surr.)     1     %     126     124     -     -       13C2-PFDoDA (surr.)     1     %     114     107     -     -	13C5-PFNA (surr.)	1	<u>%</u>	110	94	-	-
1302-PFONDA (surr.)     1     %     126     124     -     -       13C2-PFDoDA (surr.)     1     %     114     107     -     -		1	<u>%</u>	122	103	-	-
1302-PFD0DA (suit.) 1 % 114 107		1	<u>%</u>	126	124	-	-
		1	~~~ 0/	114	107	-	-



Client Sample ID			TPW1 0.0-0.1	TPW2 0.0-0.1	TPW3 0.0-0.1	TPW4 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013718	N24-JI0013719	N24-JI0013720	N24-JI0013721
Date Sampled			Jul 02, 2024	Jul 02, 2024	Jul 02, 2024	Jul 02, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances	2011	0				
Perfluorooctane sulfonamide (EOSA) <sup>N11</sup>	5	ua/ka	< 5	< 5	_	_
N-methylperfluoro-1-octane sulfonamide (N-	Ū	ug/itg				
MeFOSA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N- MeFOSE) <sup>N1</sup>	5	ug/kg	< 5	< 5	-	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N- EtFOSE) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) <sup>N11</sup>	10	ug/kg	< 10	< 10	-	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) <sup>N11</sup>	10	ug/kg	< 10	< 10	-	-
13C8-FOSA (surr.)	1	%	103	95	-	-
D3-N-MeFOSA (surr.)	1	%	98	89	-	-
D5-N-EtFOSA (surr.)	1	%	110	104	-	-
D7-N-MeFOSE (surr.)	1	%	87	79	-	-
D9-N-EtFOSE (surr.)	1	%	96	92	-	-
D5-N-EtFOSAA (surr.)	1	%	109	78	-	-
D3-N-MeFOSAA (surr.)	1	%	121	109	-	-
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorononanesulfonic acid (PFNS) <sup>N15</sup>	5	ug/kg	< 5	< 5	-	-
Perfluoropropanesulfonic acid (PFPrS) <sup>N15</sup>	5	ug/kg	< 5	< 5	-	-
Perfluoropentanesulfonic acid (PFPeS) <sup>N15</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluoroheptanesulfonic acid (PFHpS) <sup>N15</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorooctanesulfonic acid (PFOS) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
Perfluorodecanesulfonic acid (PFDS) <sup>N15</sup>	5	ug/kg	< 5	< 5	-	-
13C3-PFBS (surr.)	1	%	102	96	-	-
18O2-PFHxS (surr.)	1	%	113	98	-	-
13C8-PFOS (surr.)	1	%	114	100	-	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	< 10	< 10	-	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) <sup>N11</sup>	5	ug/kg	< 5	< 5	-	-
13C2-4:2 FTSA (surr.)	1	%	102	90	-	-
13C2-6:2 FTSA (surr.)	1	%	98	85	-	-
13C2-8:2 FTSA (surr.)	1	%	113	94	-	-
13C2-10:2 FTSA (surr.)	1	%	164	142	-	-
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	-
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	-	-
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	-	-



Client Sample ID			AST1 0.0-0.1	AST1 0.4-0.5	WBY1 0.0-0.1	WBY2 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013722	N24-JI0013723	N24-JI0013724	N24-JI0013725
Date Sampled			Jul 02, 2024	Jul 02. 2024	Jul 02. 2024	Jul 02, 2024
	LOR	Unit				,
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions	Onit				
TRH C6-C9	20	ma/ka	< 20	< 20	< 20	< 20
TRH C10-C14	20	ma/ka	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	60
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	56
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	116
BTEX		00				
Benzene	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xvlene	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	87	79	87
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	ma/ka	< 50	< 50	< 50	< 50
TRH C6-C10	20	ma/ka	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	ma/ka	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	93	94	96	104
p-Terphenyl-d14 (surr.)	1	%	102	88	98	104
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	110
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	110



Client Sample ID			AST1 0.0-0.1	AST1 0.4-0.5	WBY1 0.0-0.1	WBY2 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013722	N24-JI0013723	N24-JI0013724	N24-JI0013725
Date Sampled			Jul 02 2024	lul 02 2024	lul 02 2024	Jul 02 2024
		Linit	our 02, 2024	001 02, 2024	our 02, 2024	001 02, 2024
	LUK	Unit				
	0		2.0	4.0		0.7
	2	mg/kg	3.8	4.2	< 2	3.7
Cadmium	0.4 5	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Coppor	5	mg/kg	6.4	12	< 5	15
Lead	5	mg/kg	6.6	< 5	< 5	13
Mercury	0.1	ma/ka	- 0.0	< 0.1	< 0.1	< 0.1
Nickel	5	ma/ka	72	< 5	< 5	68
Zinc	5	ma/ka	43	77	45	130
Sample Properties	0	iiig/kg		7.1		100
% Moisture	1	%	37	20	18	11
Perfluoroalkyl carboxylic acids (PECAs)	I	70	51	20	10	
Perfluorobutanoic acid (PEBA) <sup>N1</sup>	5	ua/ka	< 5	_	< 5	~ 5
Perfluoropentanoic acid (PEPeA) <sup>N11</sup>	5	ug/kg	< 5	_	< 5	< 5
Perfluorobexanoic acid (PEHxA) <sup>N11</sup>	5	ug/kg	< 5	_	< 5	< 5
Perfluoroheptanoic acid (PEHpA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluorooctanoic acid (PEQA) <sup>N11</sup>	5	ua/ka	< 5	-	< 5	< 5
Perfluorononanoic acid (PFNA) <sup>N11</sup>	5	ua/ka	< 5	-	< 5	< 5
Perfluorodecanoic acid (PFDA) <sup>N11</sup>	5	ua/ka	< 5	-	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) <sup>N11</sup>	5	ua/ka	< 5	-	< 5	< 5
Perfluorododecanoic acid (PFDoDA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluorotridecanoic acid (PFTrDA) <sup>N15</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
13C4-PFBA (surr.)	1	%	95	-	89	92
13C5-PFPeA (surr.)	1	%	95	-	97	98
13C5-PFHxA (surr.)	1	%	111	-	99	100
13C4-PFHpA (surr.)	1	%	98	-	101	89
13C8-PFOA (surr.)	1	%	107	-	103	97
13C5-PFNA (surr.)	1	%	99	-	94	90
13C6-PFDA (surr.)	1	%	104	-	102	105
13C2-PFUnDA (surr.)	1	%	123	-	105	117
13C2-PFDoDA (surr.)	1	%	116	-	109	104
13C2-PFTeDA (surr.)	1	%	119	-	105	106
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N- MeFOSA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
$\begin{array}{l} 2\mbox{-}(N\mbox{-}methylperfluoro\mbox{-}1\mbox{-}octane\mbox{-}sulfonamido\mbox{-}ethanol(N\mbox{-}MeFOSE\mbox{-})^{N1} \end{array}$	5	ug/kg	< 5	-	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N- EtFOSE) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N- EtFOSAA) <sup>N11</sup>	10	ug/kg	< 10	-	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) <sup>N11</sup>	10	ug/kg	< 10		< 10	< 10
13C8-FOSA (surr.)	1	%	97	-	101	96
D3-N-MeFOSA (surr.)	1	%	105	-	79	93
D5-N-EtFOSA (surr.)	1	%	104	-	109	98
D7-N-MeFOSE (surr.)	1	%	83	-	86	74
D9-N-EtFOSE (surr.)	1	%	91	-	91	87
D5-N-EtFOSAA (surr.)	1	%	94	-	110	92
D3-N-MeFOSAA (surr.)	1	%	105	-	93	95



Client Sample ID			AST1 0.0-0.1	AST1 0.4-0.5	WBY1 0.0-0.1	WBY2 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013722	N24-JI0013723	N24-JI0013724	N24-JI0013725
Date Sampled			Jul 02, 2024	Jul 02, 2024	Jul 02, 2024	Jul 02, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluorononanesulfonic acid (PFNS) <sup>N15</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) <sup>N15</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) <sup>N15</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluoroheptanesulfonic acid (PFHpS) <sup>N15</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
Perfluorodecanesulfonic acid (PFDS) <sup>N15</sup>	5	ug/kg	< 5	-	< 5	< 5
13C3-PFBS (surr.)	1	%	99	-	97	106
18O2-PFHxS (surr.)	1	%	95	-	98	107
13C8-PFOS (surr.)	1	%	113	-	105	99
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	< 10	-	< 10	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	108	-	99	106
13C2-6:2 FTSA (surr.)	1	%	89	-	105	88
13C2-8:2 FTSA (surr.)	1	%	91	-	121	74
13C2-10:2 FTSA (surr.)	1	%	166	-	113	135
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	-	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	-	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	-	< 5	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	-	< 10	< 10
Sum of PFASs (n=30)*	50	ug/kg	< 50	-	< 50	< 50

Client Sample ID			WBTP01 0.0- 0.1	WBTP02 0.0- 0.1	TPS1 0.0-0.1	TPS3 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013726	N24-JI0013727	N24-JI0013728	N24-JI0013729
Date Sampled			Jul 02, 2024	Jul 02, 2024	Jul 02, 2024	Jul 02, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
втех						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1



Sample Matrix         Soil         Soil         Soil         Soil         Soil         Soil           Eurofins Sample No.         Dets Sample No.         N24-J0013726         N24-J0013727         N24-J0013726         N	Client Sample ID			WBTP01 0.0-	WBTP02 0.0-	TPS1 0 0-0 1	TPS3 0 0-0 1
Eurofies Sample No.	Sample Matrix			Soil	Soil	Soil	Soil
Date Sampled         LOR         Unit         Jul 02, 2024         Jul 02, 2024         Jul 02, 2024         Jul 02, 2024           Test/Returned         LOR         Unit	Eurofins Sample No.			N24-JI0013726	N24-JI0013727	N24-JI0013728	N24-JI0013729
TaskRaterince         LOR         Unit         International and the second se	Date Sampled			Jul 02. 2024	Jul 02. 2024	Jul 02. 2024	Jul 02. 2024
BTEX         Disk         Disk         Disk           Xylenes         Total         0.3         mgkg         < 0.3		LOR	Unit		,	,	
Xienes - Total*         0.3         mg/kg         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5	BTEX	LOIN	Onit				
Abornelluorobenzene (sur.)         1 </td <td>Xvlenes - Total*</td> <td>0.3</td> <td>ma/ka</td> <td>&lt; 0.3</td> <td>&lt; 0.3</td> <td>&lt; 0.3</td> <td>&lt; 0.3</td>	Xvlenes - Total*	0.3	ma/ka	< 0.3	< 0.3	< 0.3	< 0.3
Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Instruction         Instruction <thinstruction< th="">         Instruction</thinstruction<>	4-Bromofluorobenzene (surr.)	1	<u>%</u>	114	133	86	97
Naphthelene <sup>160</sup> 0.5         mg/kg         < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         < < 0.5         <	Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
TRH >C10-C16 less Naphthalene (F2) <sup>101</sup> 50         mg/kg         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20	Naphthalene <sup>N02</sup>	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10         20         mg/kg         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20	TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	ma/ka	< 50	< 50	< 50	< 50
TRH C6-C10 less BTEX (F1) <sup>641</sup> 20         mg/kg         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20         < 20	TRH C6-C10	20	ma/ka	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons         mg/kg         <             Benzcalpyrene TEQ (lower bound) *         0.5         mg/kg         0.6	TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	mg/kg	< 20	< 20	< 20	< 20
Benzo(a)pyrene TEQ (lower bound)*         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5           Benzo(a)pyrene TEQ (uper bound)*         0.5         mg/kg         0.6         0.6         0.6         0.6           Benzo(a)pyrene TEQ (uper bound)*         0.5         mg/kg         < 0.5	Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (medium bound)*         0.5         mg/kg         0.6	Benzo(a)pyrene TEQ (lower bound) *	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (upper bound)*         0.5         mg/kg         1.2         1.2         1.2         1.2           Acenaphthene         0.5         mg/kg         <0.5	Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Accessphthylene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5	Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthylene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5	Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene $0.5$ mg/kg $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ <t< td=""><td>Acenaphthylene</td><td>0.5</td><td>mg/kg</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td></t<>	Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5	Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5	Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b8)/fluoranthene <sup>N07</sup> 0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         <0	Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5 <td>Benzo(b&amp;j)fluoranthene<sup>N07</sup></td> <td>0.5</td> <td>mg/kg</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td>	Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5 <td>Benzo(g.h.i)perylene</td> <td>0.5</td> <td>mg/kg</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td>	Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene $0.5$ $mg/kg$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ $< 0.5$ <t< td=""><td>Benzo(k)fluoranthene</td><td>0.5</td><td>mg/kg</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 0.5</td></t<>	Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Diberz(a,h)anthracene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5 </td <td>Chrysene</td> <td>0.5</td> <td>mg/kg</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td>	Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5	Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         <	Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5	Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5	Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5           2-Fluorobiphenyl (surr.)         1         %         68         69         94         67           p-Terphenyl-014 (surr.)         1         %         95         71         90         72           Total Recoverable Hydrocarbons - 2013 NEPM Fractions           95         71         90         72           TRH >C10-C16         50         mg/kg         <50	Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)       1       %       68       69       94       67         p-Terphenyl-d14 (surr.)       1       %       95       71       90       72         Total Recoverable Hydrocarbons - 2013 NEPM Fractions         T         TRH >C10-C16       50       mg/kg       <50	Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
p-1 erphenyl-d14 (surr.)       1       %       95       71       90       72         Total Recoverable Hydrocarbons - 2013 NEPM Fractions         TRH >C10-C16       50       mg/kg       < 50	2-Fluorobiphenyl (surr.)	1	%	68	69	94	67
Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Image: constraint of the system of	p-lerphenyl-d14 (surr.)	1	%	95	71	90	72
IRH >C10-C16         50         mg/kg         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 50         < 60         < 3.4         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2         < 2.2	Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions		50	50		50
TRH > C10-C34       100       mg/kg       < 100	TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
Ind       Ind/kg       < 100       Ind/kg       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100 <th< td=""><td>TRH &gt;C16-C34</td><td>100</td><td>mg/kg</td><td>&lt; 100</td><td>&lt; 100</td><td>&lt; 100</td><td>&lt; 100</td></th<>	TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals       100       Hig/kg       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100       < 100	TRH > C10 C10 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Arsenic       2       mg/kg       6.0       3.4       < 2       < 2         Cadmium       0.4       mg/kg       < 0.4	Heavy Motals	100	під/ку	< 100	< 100	< 100	< 100
Arisenic       2       Intykg       6.0       3.4       < 2       < 2         Cadmium       0.4       mg/kg       < 0.4       < 0.4       < 0.4       < 0.4       < 0.4         Chromium       5       mg/kg       7.2       < 5       < 5       < 5         Copper       5       mg/kg       44       9.3       < 5       < 5         Lead       5       mg/kg       12       5.6       < 5       < 5         Mercury       0.1       mg/kg       < 0.1       < 0.1       < 0.1       < 0.1       < 0.1         Nickel       5       mg/kg       23       27       < 5       < 5       < 5         Zinc       5       mg/kg       23       27       < 5       < 5       < 5         Sample Properties       5       mg/kg       23       27       < 5       < 5         % Moisture       1       %       16       15       11       15         Conductivity (1:5 aqueous extract at 25 °C as rec.)       10       uS/cm       11       -       -       -         PH (1:5 Aqueous extract at 25 °C as rec.)       0.1       PH Units       6.3       -       -       -			mallea	6.0	2.4	. 2	. 2
Cadmin         0.4         mg/kg         C.4         C.5         C.	Cadmium	2	mg/kg	6.0	5.4	< 2	< 2
Construction         S         Ing/kg         F.2         K S         K S         K S           Copper         5         mg/kg         44         9.3         <5	Chromium	5	mg/kg	<u> </u>	< 0.4	< 0.4	< 0.4
Solution	Copper	5	mg/kg	1.2	93	< 5	< 5
Local         0         Ingring         12         0.0         10         12         0.0         12         0.0         12         0.0         12         0.0         12         0.0         12         0.0         12         0.0         12         0.0         12         0.0         10         12         0.0         10         0.1         10         0.1         <	Lead	5	ma/ka	12	5.6	< 5	< 5
Nickel       5       mg/kg       < 5       < 5       < 5       < 5         Zinc       5       mg/kg       23       27       < 5	Mercury	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1
Zinc         5         mg/kg         23         27         < 5         < 5           Sample Properties           16         15         11         15           % Moisture         1         %         16         15         11         15           Conductivity (1:5 aqueous extract at 25 °C as rec.)         10         uS/cm         11         - <td>Nickel</td> <td>5</td> <td>ma/ka</td> <td>&lt; 5</td> <td>&lt; 5</td> <td>&lt; 5</td> <td>&lt; 5</td>	Nickel	5	ma/ka	< 5	< 5	< 5	< 5
Sample Properties         10	Zinc	5	ma/ka	23	27	< 5	< 5
% Moisture         1         %         16         15         11         15           Conductivity (1:5 aqueous extract at 25 °C as rec.)         10         uS/cm         11         - <td>Sample Properties</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Sample Properties	-					
Conductivity (1:5 aqueous extract at 25 °C as rec.)         10         uS/cm         11         -	% Moisture	1	%	16	15	11	15
Conductivity (1:5 aqueous extract at 25 °C as rec.)         10         uS/cm         11         -							
pH (1:5 Aqueous extract at 25 °C as rec.) 0.1 pH Units 6.3	Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	11	-	-	-
	pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	6.3	-	-	-



Client Sample ID			WBTP01 0.0- 0.1	WBTP02 0.0- 0.1	TPS1 0.0-0.1	TPS3 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013726	N24-JI0013727	N24-JI0013728	N24-JI0013729
Date Sampled			Jul 02, 2024	Jul 02, 2024	Jul 02, 2024	Jul 02, 2024
Test/Reference	LOR	Unit				
Cation Exchange Capacity						
Cation Exchange Capacity	0.5	meq/100g	4.4	-	-	-

Client Sample ID			TPS3 0.9-1.0	TPS8 0.0-0.1	WPP1 0.0-0.1	WPP2 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013730	N24-JI0013732	N24-JI0013733	N24-JI0013734
Date Sampled			Jul 02, 2024	Jul 02, 2024	Jul 02, 2024	Jul 02, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	124	97	119	Q09INT
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5



Client Sample ID			TPS3 0.9-1.0	TPS8 0.0-0.1	WPP1 0.0-0.1	WPP2 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013730	N24-JI0013732	N24-JI0013733	N24-JI0013734
Date Sampled			Jul 02, 2024	Jul 02, 2024	Jul 02, 2024	Jul 02, 2024
Test/Reference	LOR	Linit				
Polycyclic Aromatic Hydrocarbons	LOIN	Onit				
2-Fluorobinhenyl (surr.)	1	%	91	91	68	77
p-Terphenyl-d14 (surr.)	1	%	86	83	75	73
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions	70	00		10	10
TRH >C10-C16	50	ma/ka	< 50	< 50	< 50	< 50
TRH >C16-C34	100	ma/ka	< 100	< 100	< 100	< 100
TRH >C34-C40	100	ma/ka	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	ma/ka	< 100	< 100	< 100	< 100
Heavy Metals		<u> </u>				
Arsenic	2	ma/ka	7.8	5.1	2.8	2.0
Cadmium	0.4	ma/ka	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	5.4	16	< 5	5.3
Copper	5	mg/kg	< 5	17	< 5	< 5
Lead	5	mg/kg	< 5	27	< 5	< 5
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	11	< 5	< 5
Zinc	5	mg/kg	< 5	80	5.3	7.0
Sample Properties						
% Moisture	1	%	11	23	5.6	20
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluoropentanoic acid (PFPeA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluorohexanoic acid (PFHxA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluoroheptanoic acid (PFHpA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluorooctanoic acid (PFOA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluorononanoic acid (PFNA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluorodecanoic acid (PFDA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluoroundecanoic acid (PFUnDA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluorododecanoic acid (PFDoDA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluorotridecanoic acid (PFTrDA) <sup>N15</sup>	5	ug/kg	-	-	< 5	-
Perfluorotetradecanoic acid (PFTeDA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
13C4-PFBA (surr.)	1	%	-	-	92	-
13C5-PFPeA (surr.)	1	%	-	-	100	-
13C5-PFHxA (surr.)	1	%	-	-	109	-
13C4-PFHpA (surr.)	1	%	-	-	97	-
13C8-PFOA (surr.)	1	%	-	-	106	-
13C5-PFINA (SUIT.)	1	%	-	-	100	-
13C0-PFDA (sull.)	1	70 0/	-	-	107	-
13C2 PEDoDA (surr.)	1	- 70 - 0/.	-	-	107	-
13C2-PFTeDA (surr )	1	/0 0/2	-		115	-
Perfluoroalkyl sulfonamido substances	I	70	_	_	115	_
Perfluorooctane sulfonamido /EOSA) <sup>N11</sup>	F				- 5	
N-methylperfluoro-1-octane sulfonamide (N	5	uy/ky	-	-	< 0	-
MeFOSA) <sup>N1</sup>	5	ug/kg	-	-	< 5	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N- MeFOSE) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N- EtFOSE) <sup>N11</sup>	5	ug/kg	-	-	< 5	-



Client Sample ID			TPS3 0.9-1.0	TPS8 0.0-0.1	WPP1 0.0-0.1	WPP2 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013730	N24-JI0013732	N24-JI0013733	N24-JI0013734
Date Sampled			Jul 02, 2024	Jul 02, 2024	Jul 02, 2024	Jul 02, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances		r				
N-ethyl-perfluorooctanesulfonamidoacetic acid (N- EtFOSAA) <sup>N11</sup>	10	ug/kg	-	-	< 10	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) <sup>N11</sup>	10	ug/kg	-	-	< 10	-
13C8-FOSA (surr.)	1	%	-	-	99	-
D3-N-MeFOSA (surr.)	1	%	-	-	102	-
D5-N-EtFOSA (surr.)	1	%	-	-	105	-
D7-N-MeFOSE (surr.)	1	%	-	-	85	-
D9-N-EtFOSE (surr.)	1	%	-	-	95	-
D5-N-EtFOSAA (surr.)	1	%	-	-	104	-
D3-N-MeFOSAA (surr.)	1	%	-	-	106	-
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluorononanesulfonic acid (PFNS) <sup>N15</sup>	5	ug/kg	-	-	< 5	-
Perfluoropropanesulfonic acid (PFPrS) <sup>N15</sup>	5	ug/kg	-	-	< 5	-
Perfluoropentanesulfonic acid (PFPeS) <sup>N15</sup>	5	ug/kg	-	-	< 5	-
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluoroheptanesulfonic acid (PFHpS) <sup>N15</sup>	5	ug/kg	-	-	< 5	-
Perfluorooctanesulfonic acid (PFOS) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
Perfluorodecanesulfonic acid (PFDS) <sup>N15</sup>	5	ug/kg	-	-	< 5	-
13C3-PFBS (surr.)	1	%	-	-	100	-
18O2-PFHxS (surr.)	1	%	-	-	105	-
13C8-PFOS (surr.)	1	%	-	-	98	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)		1				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	-	-	< 10	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) <sup>N11</sup>	5	ug/kg	-	-	< 5	-
13C2-4:2 FTSA (surr.)	1	%	-	-	101	-
13C2-6:2 FTSA (surr.)	1	%	-	-	98	-
13C2-8:2 FTSA (surr.)	1	%	-	-	89	-
13C2-10:2 FTSA (surr.)	1	%	-	-	118	-
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	-	-	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	-	-	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	-	-	< 5	-
Sum of WA DWER PFAS (n=10)*	10	ug/kg	-	-	< 10	-
Sum of PFASs (n=30)*	50	ug/kg	-	-	< 50	-



Client Sample ID			WPP3 0.0-0.1	WPP4 0.0-0.1	TPQ1 0.0-0.1	TPQ2 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013735	N24-JI0013736	N24-JI0013737	N24-JI0013738
Date Sampled			Jul 02. 2024	Jul 02. 2024	Jul 03. 2024	Jul 03. 2024
	LOR	Linit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions	Onit				
TRH C6-C9	20	ma/ka	< 20	< 20	< 20	< 20
TRH C10-C14	20	ma/ka	< 20	< 20	< 20	< 20
TRH C15-C28	50	ma/ka	< 50	< 50	< 50	< 50
TRH C29-C36	50	ma/ka	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	ma/ka	< 50	< 50	< 50	< 50
BTEX		55				
Benzene	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xvlenes	0.2	ma/ka	< 0.2	< 0.2	< 0.2	< 0.2
o-Xvlene	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	96	135	88	131
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	ma/ka	< 50	< 50	< 50	< 50
TRH C6-C10	20	ma/ka	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	ma/ka	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	ma/ka	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	ma/ka	1.2	1.2	1.2	1.2
Acenaphthene	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	66	63	67	75
p-Terphenyl-d14 (surr.)	1	%	69	57	63	115
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100



Client Sample ID Sample Matrix Eurofins Sample No.			WPP3 0.0-0.1 Soil N24-JI0013735	WPP4 0.0-0.1 Soil N24-JI0013736	TPQ1 0.0-0.1 Soil N24-JI0013737	TPQ2 0.0-0.1 Soil N24-JI0013738
Date Sampled			Jul 02, 2024	Jul 02, 2024	Jul 03, 2024	Jul 03, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	2.1	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	< 5	18
Copper	5	mg/kg	< 5	< 5	< 5	14
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	20
Zinc	5	mg/kg	12	< 5	< 5	58
Sample Properties						
% Moisture	1	%	14	14	12	29
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	-	-	-	15
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	-	-	-	5.3
Cation Exchange Capacity						
Cation Exchange Capacity	0.5	meq/100g	-	-	-	3.7

			TPQ2 1.4-1.5	TPQ5 0.0-0.1	TPQ5 0.4-0.5	TPQ6 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013739	N24-JI0013740	N24-JI0013741	N24-JI0013742
Date Sampled			Jul 03, 2024	Jul 03, 2024	Jul 03, 2024	Jul 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	52	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	52	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	104	98	97	111
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5



Client Sample ID			TPQ2 1.4-1.5	TPQ5 0.0-0.1	TPQ5 0.4-0.5	TPQ6 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013739	N24-JI0013740	N24-JI0013741	N24-JI0013742
Date Sampled			Jul 03, 2024	Jul 03, 2024	Jul 03, 2024	Jul 03, 2024
	LOR	Unit				
Polycyclic Aromatic Hydrocarbons	LOIN	Onit				
Benz(a)anthracene	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)nvrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&i)fluoranthene <sup>N07</sup>	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a b i)pervlene	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	87	98	86	72
p-Terphenyl-d14 (surr.)	1	%	80	89	82	66
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	6.4	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	9.5	8.2	< 5	< 5
Copper	5	mg/kg	5.7	39	< 5	< 5
Lead	5	mg/kg	< 5	300	< 5	< 5
Mercury	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1
Nickel	5	mg/kg	7.2	5.0	< 5	< 5
Zinc	5	mg/kg	21	160	< 5	< 5
Sample Properties						
% Moisture	1	%	15	19	15	12
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluoropentanoic acid (PFPeA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluorohexanoic acid (PFHxA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluoroheptanoic acid (PFHpA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluorooctanoic acid (PFOA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluorononanoic acid (PFNA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluorodecanoic acid (PFDA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluoroundecanoic acid (PFUnDA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluorododecanoic acid (PFDoDA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Pertluorotridecanoic acid (PFTrDA) <sup>N15</sup>	5	ug/kg	-	< 5	-	-
Pertiuorotetradecanoic acid (PFTeDA) <sup>№11</sup>	5	ug/kg	-	< 5	-	-
	1	%	-	90	-	-
	1	%	-	105	-	-
	1	<u>%</u>	-	108	-	-
1304-PEDPA (suit.)	1	<u>%</u>	-	104	-	-
1300-FFUA (SUIL)		70	-	99	-	-



Client Sample ID			TPQ2 1.4-1.5	TPQ5 0.0-0.1	TPQ5 0.4-0.5	TPQ6 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013739	N24-JI0013740	N24-JI0013741	N24-JI0013742
Date Sampled			Jul 03, 2024	Jul 03, 2024	Jul 03, 2024	Jul 03, 2024
	LOR	Unit				
Perfluoroalkyl carboxylic acids (PECAs)	LOIN	Onit				
13C5-PENA (surr.)	1	0/	_	95	_	_
13C6-PEDA (surr.)	1	70 9/2		113	_	
13C2-PEUpDA (surr.)	1	70 9/2		117	_	
13C2-PEDoDA (surr.)	1	/0 %		99	-	
$13C2-PET_{PDA}$ (surr.)	1	70 9/2		99	_	_
Perfluoroalkyl sulfonamido substances	•	70				
Perfluereestane sulfenamide (EOSA) <sup>N11</sup>	5	ua/ka		- 5		
N-methylperfluoro-1-octane sulfonamide (N-	5	ug/kg	-	< 5	-	-
MeFOSA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N- EtFOSE) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N- EtFOSAA) <sup>N11</sup>	10	ug/kg	-	< 10	-	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)^{N11}	10	ug/kg	-	< 10	-	-
13C8-FOSA (surr.)	1	%	-	95	-	-
D3-N-MeFOSA (surr.)	1	%	-	93	-	-
D5-N-EtFOSA (surr.)	1	%	-	107	-	-
D7-N-MeFOSE (surr.)	1	%	-	85	-	-
D9-N-EtFOSE (surr.)	1	%	-	86	-	-
D5-N-EtFOSAA (surr.)	1	%	-	105	-	-
D3-N-MeFOSAA (surr.)	1	%	-	103	-	-
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluorononanesulfonic acid (PFNS) <sup>N15</sup>	5	ug/kg	-	< 5	-	-
Perfluoropropanesulfonic acid (PFPrS) <sup>N15</sup>	5	ug/kg	-	< 5	-	-
Perfluoropentanesulfonic acid (PFPeS) <sup>N15</sup>	5	ug/kg	-	< 5	-	-
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluoroheptanesulfonic acid (PFHpS) <sup>N15</sup>	5	ug/kg	-	< 5	-	-
Perfluorooctanesulfonic acid (PFOS) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
Perfluorodecanesulfonic acid (PFDS) <sup>N15</sup>	5	ug/kg	-	< 5	-	-
13C3-PFBS (surr.)	1	%	-	107	-	-
18O2-PFHxS (surr.)	1	%	-	110	-	-
13C8-PFOS (surr.)	1	%	-	100	-	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	-	< 10	-	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) <sup>N11</sup>	5	ug/kg	-	< 5	-	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) <sup>N11</sup>	5	ug/ka	-	< 5	-	-
13C2-4:2 FTSA (surr.)	1	%	-	92	-	-
13C2-6:2 FTSA (surr.)	1	%	-	90	-	-
13C2-8:2 FTSA (surr.)	1	%	-	106	-	-
13C2-10:2 FTSA (surr.)	1	%	-	173	-	-



Client Sample ID Sample Matrix			TPQ2 1.4-1.5 Soil	TPQ5 0.0-0.1 Soil	TPQ5 0.4-0.5 Soil	TPQ6 0.0-0.1 Soil
Eurofins Sample No.			N24-JI0013739	N24-JI0013740	N24-JI0013741	N24-JI0013742
Date Sampled			Jul 03, 2024	Jul 03, 2024	Jul 03, 2024	Jul 03, 2024
Test/Reference	LOR	Unit				
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	-	< 5	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	-	< 5	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	-	< 5	-	-
Sum of WA DWER PFAS (n=10)*	10	ug/kg	-	< 10	-	-
Sum of PFASs (n=30)*	50	ug/kg	-	< 50	-	-

Client Sample ID			TD07.0.0.4		TD00.0.0.0.1	TD010.0.0.1
Sample Matrix			1PQ7 0.0-0.1	1PQ8 0.0-0.1	1PQ9 0.0-0.1	Soil
					5011 NO4 110040745	
			N24-JI0013743	N24-J10013744	N24-JI0013745	N24-JIU013746
Date Sampled			Jul 03, 2024	Jul 03, 2024	Jul 03, 2024	Jul 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	84
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	84
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	118	135	57	112
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5



Client Sample ID			TPQ7 0.0-0.1	TPQ8 0.0-0.1	TPQ9 0.0-0.1	TPQ10 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013743	N24-JI0013744	N24-JI0013745	N24-JI0013746
Date Sampled			Jul 03, 2024	Jul 03, 2024	Jul 03, 2024	Jul 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	71	69	75	85
p-Terphenyl-d14 (surr.)	1	%	66	67	79	85
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	2.2	< 2	< 2	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	6.0	< 5	< 5	< 5
Copper	5	mg/kg	5.4	< 5	< 5	< 5
Lead	5	mg/kg	7.2	< 5	< 5	< 5
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	21	5.6	< 5	5.8
Sample Properties						
% Moisture	1	%	20	21	11	12

Client Sample ID			TPQ11 0.0-0.1	S3	S5	D.2.7.24
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013747	N24-JI0013748	N24-JI0013749	N24-JI0013750
Date Sampled			Jul 03, 2024	Jul 03, 2024	Jul 03, 2024	Jul 02, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	80	52	127	87
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	mg/kg	< 20	< 20	< 20	< 20



Client Sample ID			TPQ11 0.0-0.1	S3	S5	D.2.7.24
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N24-JI0013747	N24-JI0013748	N24-JI0013749	N24-JI0013750
Date Sampled			Jul 03, 2024	Jul 03, 2024	Jul 03, 2024	Jul 02, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	70	103	71	50
p-Terphenyl-d14 (surr.)	1	%	75	104	75	Q09INT
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	2.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	< 5	< 5
Copper	5	mg/kg	< 5	< 5	< 5	19
Lead	5	mg/kg	< 5	< 5	< 5	5.1
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	< 5	< 5	6.2	13
Sample Properties						
% Moisture	1	%	10	9.4	13	16



Client Sample ID			TPS6 0.0-0.1
Sample Matrix			Soil
Eurofins Sample No.			N24-JI0013776
Date Sampled			Jul 02, 2024
	LOR	LInit	
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions	Offic	
	20	ma/ka	< 20
TRH C10-C14	20	ma/ka	< 20
TRH C15-C28	50	ma/ka	< 50
TRH C29-C36	50	ma/ka	< 50
TRH C10-C36 (Total)	50	ma/ka	< 50
BTEX			
Benzene	0.1	ma/ka	< 0.1
	0.1	ma/ka	< 0.1
Ethylbenzene	0.1	ma/ka	< 0.1
m&n-Xylenes	0.1	ma/ka	< 0.2
	0.2	ma/ka	< 0.2
Xylenes - Total*	0.1	ma/ka	< 0.1
4-Bromofluorobenzene (surr.)	1	//////////////////////////////////////	115
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions	70	110
Naphthalana <sup>N02</sup>	0.5	ma/ka	< 0.5
TPH $\sim$ C10 C16 loss Naphthalana (E2) <sup>N01</sup>	50	mg/kg	< 50
	20	mg/kg	< 30
TPH C6 C10 locc PTEX (E1) <sup>N04</sup>	20	mg/kg	< 20
Polycyclic Aromatic Hydrocarbons	20	під/ку	< 20
Polycyclic Arollalic Hydrocarbolis	0.5	malka	- 0.5
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (inedialih boarda)	0.5	mg/kg	0.0
	0.5	mg/kg	1.2
	0.5	mg/kg	< 0.5
Acenaphinylene	0.5	mg/kg	< 0.5
Antiliacene Benz(e)enthrosono	0.5	mg/kg	< 0.5
	0.5	mg/kg	< 0.5
Benzo(a)pyrene Benzo(b 8 i)fluorenthene <sup>N07</sup>	0.5	mg/kg	< 0.5
	0.5	mg/kg	< 0.5
Benzo(k)fluerenthene	0.5	mg/kg	< 0.5
Chrysono	0.5	mg/kg	< 0.5
Dibenz(a b)anthracene	0.5	mg/kg	< 0.5
Eluoranthene	0.5	ma/ka	< 0.5
Fluorene	0.5	ma/ka	< 0.5
Indeno(1.2.3-cd)pyrepe	0.5	ma/ka	< 0.5
Naphthalene	0.5	ma/ka	< 0.5
Phenanthrene	0.5	ma/ka	< 0.5
Dyrene	0.5	ma/ka	< 0.5
	0.5	mg/kg	< 0.5
2 Eluorobiohonyl (surr.)	0.5	0/.	52
2-Fluorobiphenyl (sun:)	1	70 0/	52
Total Recoverable Hydrocarbons - 2013 NEPM Erect	ions	70	
TOTAL NECOVERADIE HYDROCALDOIIS - 2013 NEPM FRACT	50	maller	. 50
	100	mg/kg	
	100	mg/kg	< 100
	100	mg/kg	< 100
IRT >010-040 (lotal)	100	під/кд	< 100



Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled			TPS6 0.0-0.1 Soil N24-JI0013776 Jul 02, 2024
Test/Reference	LOR	Unit	
Heavy Metals			
Arsenic	2	mg/kg	< 2
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	< 5
Copper	5	mg/kg	< 5
Lead	5	mg/kg	< 5
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	< 5
Zinc	5	mg/kg	< 5
Sample Properties			
% Moisture	1	%	8.1



#### Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Jul 09, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Jul 09, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 09, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Jul 09, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 09, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8	Sydney	Jul 09, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Jul 05, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Sydney	Jul 11, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Sydney	Jul 11, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Sydney	Jul 11, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Sydney	Jul 11, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	Melbourne	Jul 09, 2024	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Jul 10, 2024	28 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
pH (1:5 Aqueous extract at 25 °C as rec.)	Melbourne	Jul 09, 2024	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			

•	ourofin	ABN: 50 00	Environme	ent Testing A	Australia Pty Lto	l							ABN: 91 05 01 Perth		s ARL Pty Lto 05 0159 898	Eurofins         ProMicro         Pty         Lt           8         ABN: 47 009 120 549         ABN         ABN <th colspan="6">Ltd Eurofins Environment Testing NZ Ltd NZBN: 9429046024954</th>	Ltd Eurofins Environment Testing NZ Ltd NZBN: 9429046024954					
web: w email:	www.eurofins.com.au EnviroSales@eurofins.co	Melbourne 6 Monterey Dandenong VIC 3175 +61 3 8564 om NATA# 1261 Site# 1254	Gee Road 19/8 South Gro VIC 5000 +61 NAT Site	elong 8 Lewalan Stree vedale 3216 3 8564 5000 A# 1261 # 25403	Sydney et 179 Magowar Roa Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra ad Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane         Newcastle           acre Street         1/21 Smallwood Place 1/2 Frost Drive           Murarrie         Mayfield West           QLD 4172         NSW 2304           3 8091         T: +61 7 3902 4600         +61 2 4968 8448           61         NATA# 1261         NATA# 1261           56         Site# 20794 & 2780         Site# 25079						Perth 46-48 B Welshpo WA 610 +61 8 62 NATA# 2 Site# 23	anksia R bol 253 444 2377 70	Road	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucklan Unit C1, Mount V Aucklan +64 9 5 IANZ# 1	nd (Focus) /4 Pacific Rise, Vellington, id 1061 25 0568 I 308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402	
Co Ao	ompany Name: Idress:	Qualtest 2 Murray Dwy Mayfield West NSW 2304	er Circui	t								Or Re Ph Fa	der N port a none: ix:	o.: #:	111 02 4 02 4	4955 1968 4468 1960 9775	Received Due: Priority: Contact N	: lame:	Jul 5, 20 Jul 10, 2 3 Day Emma 0	24 11:33 AM 2024 Coleman		
Pr Pr	oject Name: oject ID:	WINTON - SU NEW24P-014	IFFOLK I 1	PARK												Eurofir	ns Analytical	Service	es Manago	er : Andrew B	lack	
		S	ample C	Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)							
Mel	bourne Laborate	ory - NATA # 1	261 Site	# 1254									X									
Syd	ney Laboratory	- NATA # 1261	Site # 1	8217			X		X	X	X	Х		X	X	-						
Мау	field West Labo	oratory - NATA	# 1261	Site # 250	79			X								-						
Exte	ernal Laboratory																					
No	Sample ID	Sample Date	Samp	ne	Matrix	LAB ID																
1	TPW1 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013718	X	-		-		Х	-	X	X	-						
2	TPW2 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013719	X	-		-		X	-	X	X							
3	TPW3 0.0-0.1	Jul 02, 2024		Soil		24-JI0013720				+		X	+			4						
4	AST1 0 0 0 1	JUL 02, 2024		501		24-JIUU13/21						× v	-	×	v	-						
6	AST1 0.0-0.1	Jul 02, 2024		Soll		24-JIUU 13722		+		+		x	+	X		4						
7	WBY1 0 0-0 1	Jul 02, 2024		Soil		24-110013723	x					X		x	x	4						
8	WBY2 0.0-0 1	Jul 02, 2024		Soil	N	24-JI0013725		1		1		X	1	x	x	•						
9	WBTP01 0.0- 0.1	Jul 02, 2024		Soil	N	24-JI0013726	x			x		x	x	x								
10	WBTP02 0.0- 0.1	Jul 02, 2024		Soil	N	24-JI0013727						х		x								
11	TPS1 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013728						Х		Х		]						

	ourofin		ABN: 50 005 085 5	onment Testing	Australia Pty Ltd									05 015	- Pty Lt	td Eurofins ProMicro Pty Ltd	Eurofins Envi NZBN: 94290460	ronment	Testing NZ L	td	
web: email	www.eurofins.com.au	om	Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Stre Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney eet 179 Magowar Roa Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra di Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisb et 1/21 S Murar QLD T: +61 NATA: Site#	ane Smallwoo rie 4172 I 7 3902 # 1261 20794 &	od Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 1 Site# 25	tle t Drive West 304 968 8448 1261 6079	3	Perth 46-48 B Welshpo WA 610 +61 8 6 NATA# 2 Site# 23	anksia F pol 253 444 2377	Road	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucklan Unit C1/ Mount V Aucklan +64 9 5 IANZ# 1	nd (Focus) 14 Pacific Rise, Vellington, d 1061 25 0568 308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
C A	company Name: address:	Qualte 2 Mur Mayfie NSW	est rray Dwyer Ci eld West 2304	rcuit								Or Re Ph Fa	der N port a ione: x:	o.: #:	111- 02 4 02 4	4955 4968 4468 4960 9775	Received Due: Priority: Contact N	lame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 024 oleman	
P P	Project Name: Project ID:	WINT NEW2	ON - SUFFO 24P-0141	LK PARK												Eurofir	ns Analytical	Service	es Manage	r : Andrew B	lack
			Samp	le Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Ме	Ibourne Laborat	ory - N	IATA # 1261	Site # 1254									X			-					
Sy	dney Laboratory	- NAT	A # 1261 Site	e # 18217			X		Х	Х	Х	Х		Х	Х	4					
Ма	yfield West Labo	oratory	/ - NATA # 12	261 Site # 25	079			X								4					
12	TPS3 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013729	X					Х		Х		-					
13	TPS3 0.9-1.0	Jul 02	2, 2024	Soi	I N	24-JI0013730						Х		Х		4					
14	TPS6 0.4-0.5	Jul 02	2, 2024	Soi	I N	24-JI0013731						Х		Х		4					
15	TPS8 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013732	X					Х		Х		4					
16	WPP1 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013733						Х		Х	Х	4					
17	WPP2 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013734	X					Х		Х		4					
18	WPP3 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013735						Х		Х		4					
19	WPP4 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013736						Х		Х		-					
20	TPQ1 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013737						Х		Х		4					
21	TPQ2 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013738				X		Х	X	Х		4					
22	TPQ2 1.4-1.5	Jul 03	3, 2024	Soi	I N	24-JI0013739						Х		Х		-					
23	TPQ5 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013740	X					Х		Х	Х	4					
24	TPQ5 0.4-0.5	Jul 03	3, 2024	Soi	I N	24-JI0013741						Х		Х		4					
25	TPQ6 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013742						Х		Х							
26	TPQ7 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013743						Х		Х							

Seurofins Eurofins			Irofins Enviro	nment Testing	Australia Pty Ltd									15 ARL	- Pty Lt	td Eurofins ProMicro Pty Ltd	NZBN: 94290460	ronment	Testing NZ I	_td	
web: w email: I	ww.eurofins.com.au	Mel 6 M Dar VIC +61 Site	Ibourne Monterey Road ndenong South C 3175 1 3 8564 5000 TA# 1261 e# 1254	Geelong 19/8 Lewalan Stre Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney et 179 Magowar Roa Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra d Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane         Newcastle           Vacre Street         1/21 Smallwood Place 1/2 Frost Drive           Murarrie         Mayfield West           QLD 4172         NSW 2304           13 8091         T: +61 7 3902 4600           NATA# 1261         NATA# 1261           66         Site# 20794 & 2780						Perth 46-48 B Welshpo WA 610 +61 8 62 NATA# 2 Site# 23	anksia R bol 253 4444 2377 70	Road 4	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Roac Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucklan Unit C1, Mount V Aucklan +64 9 5 IANZ# 1	nd (Focus) 4 Pacific Rise, Vellington, d 1061 25 0568 308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga           1277 Cameron Road,           Gate Pa,           Tauranga 3112           +64 9 525 0568           IANZ# 1402
Cc Ac	ompany Name: Idress:	Qualtest 2 Murray Mayfield NSW 23	t y Dwyer Cir d West 304	cuit								Or Re Ph Fa	der N port a ione: x:	o.: #:	1114 02 4 02 4	4955 1968 4468 1960 9775	Received Due: Priority: Contact N	: lame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 2024 Coleman	
Pr Pr	oject Name: oject ID:	WINTON NEW24	N - SUFFOL P-0141	LK PARK												Eurofir	ns Analytical	Service	es Manage	er : Andrew B	lack
			Sampi	le Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Mell	bourne Laborate	ory - NAT	TA # 1261 \$	Site # 1254									X			-					
Syd	ney Laboratory	- NATA 🕯	# 1261 Site	# 18217			Х		Х	Х	Х	Х		Х	Х						
May	field West Labo	ratory -	NATA # 12	61 Site # 250	079			X													
27	TPQ8 0.0-0.1	Jul 03, 2	2024	Soil	N:	24-JI0013744						Х		Х							
28	TPQ9 0.0-0.1	Jul 03, 2	2024	Soil	N:	24-JI0013745						Х		Х							
29	TPQ10 0.0-0.1	Jul 03, 2	2024	Soil	N	24-JI0013746						Х		Х							
30	TPQ11 0.0-0.1	Jul 03, 2	2024	Soil	N:	24-JI0013747	Х					Х		Х							
31	S3	Jul 03, 2	2024	Soil	N	24-JI0013748						Х		Х							
32	S5	Jul 03, 2	2024	Soil	N	24-JI0013749						Х		Х							
33	D.2.7.24	Jul 02, 2	2024	Soil	N	24-JI0013750						Х		Х							
34	TPW1 0.2-0.3	Jul 02, 2	2024	Soil	N	24-JI0013751			Х												
35	TPW2 0.2-0.3	Jul 02, 2	2024	Soil	N	24-JI0013752			Х												
36	TPW3 0.2-0.3	Jul 02, 2	2024	Soil	N	24-JI0013753			Х												
37	TPW4 0.2-0.3	Jul 02, 2	2024	Soil	N	24-JI0013754			Х												
38	AST1 0.5-0.6	Jul 02, 2	2024	Soil	N	24-JI0013755			Х												
39	WBY 0.4-0.5	Jul 02, 2	2024	Soil	N	24-JI0013756			Х												
40	WBY 0.6-0.7	Jul 02, 2	2024	Soil	N	24-JI0013757			Х												
41	WBY2 0.9-1.0	Jul 02, 2	2024	Soil	N	24-JI0013758			Х							]					

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web: w email:	ww.eurofins.com.au EnviroSales@eurofins.co	Mell 6 M Dan VIC +61 om NAT Site	bourne lonterey Road idenong South 3175 3 8564 5000 [A# 1261 # 1254	Geelong 19/8 Lewalan Stra Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney eet 179 Magowar Ro Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra bad Unit 1,2 Dacre Stree Mitchell ACT 2911 0 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane         Newcastle           Vacre Street         1/21 Smallwood Place 1/2 Frost Drive           Murarrie         Mayfield West           QLD 4172         NSW 2304           13 8091         T: +61 7 3902 4600         +61 2 4968 8448           161         NATA# 1261         NATA# 1261           66         Site# 20794 & 2780         Site# 25079						Perth 46-48 B Welshpe WA 610 +61 8 6 NATA# 2 Site# 23	anksia F ool 6 253 444 2377 370	Road 4	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland Unit C1/4 Mount We Auckland +64 9 525 IANZ# 130	(Focus) Pacific Rise, Ilington, 1061 0568 08	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga           1277 Cameron Road,           Gate Pa,           Tauranga 3112           +64 9 525 0568           IANZ# 1402
Co Ao	ompany Name: Idress:	Qualtest 2 Murray Mayfield NSW 23	/ Dwyer Cir West 04	rcuit								Or Re Ph Fa	rder N eport = none: ix:	o.: #:	1114 02 4 02 4	4955 1968 4468 1960 9775	Received Due: Priority: Contact N	: Name:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 024 Coleman	
Pr Pr	oject Name: oject ID:	WINTON NEW24F	N - SUFFOI P-0141	LK PARK										_		Eurofir	ns Analytical	Services	a Manage	er : Andrew B	lack
			Samp	le Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Mel	bourne Laborate	ory - NAT	FA # 1261 \$	Site # 1254									Х								
Syd	ney Laboratory	- NATA #	# 1261 Site	# 18217			Х		Х	х	х	Х		Х	Х						
May	field West Labo	oratory - I	NATA # 12	61 Site # 25	079			X													
42	WBY2 0.4-0.5	Jul 02, 2	2024	Soi	1 1	N24-JI0013759			х												
43	WBTP01 0.4- 0.5	Jul 02, 2	2024	Soi	1 1	N24-JI0013760			х												
44	WBTP01 0.6- 0.7	Jul 02, 2	2024	Soi	1 1	N24-JI0013761			х												
45	WBTP01 1.3- 1.4	Jul 02, 2	2024	Soi	1 1	N24-JI0013762			Х												
46	WB1P02 0.3- 0.4	Jul 02, 2	2024	Soi	ı r	N24-JI0013763			X												
47	TPS1 0.4-0.5	Jul 02, 2	2024	Soi	I I	N24-JI0013764			X												
48	<u>TPS1 0.9-1.0</u>	Jul 02, 2	2024	Soi	1 I	N24-JI0013765			X						+						
49	<u>11251 1.5-1.6</u>	Jul 02, 2	2024	Soi		N24-JI0013766			X						$\left  \right $						
50	1PS3 0.4-0.5	Jul 02, 2	2024	Soi		N24-JIUU13767			X			<u> </u>			+						
51	TP00 4 0 0 0	Jul 02, 2	2024	Soi		N24-JIUU13768			X			<u> </u>			+						
52	TPS3 2 4-2 5		2024		ו ו ו	<u>124-JIUU13770</u> 124- II∩∩13771			X						$\left  \right $						
53	1	Jui 02, 2	2024	301	ı	NZ-1-JIUU13//1	1	1	^	1	1		1	I		1					

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			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)										
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May	field West Labo	ratory -	• NATA # 12	261 Site # 25	079			X								_					
54	TPS4 0.0-0.1	Jul 02,	2024	Soi	I N	24-JI0013772			Х							_					
55	TPS4 0.1-0.2	Jul 02,	2024	Soi	I N	24-JI0013773			Х						<u> </u>	4					
56	TPS5 0.0-0.1	Jul 02,	2024	Soi	I N	24-JI0013774			Х							-					
57	TPS5 0.2-0.3	Jul 02,	2024	Soi	I N	24-JI0013775			X				<u> </u>			-					
58	TPS6 0.0-0.1	Jul 02,	2024	Soi	I N	24-JI0013776			Х							-					
59	TPS7 0.0-0.1	Jul 02,	2024	Soi	I N	24-JI0013778			Х							-					
60	TPS7 0.2-0.3	Jul 02,	2024	Soi	I N	24-JI0013779			Х							-					
61	TPS8 0.4-0.5	Jul 02,	2024	Soi	I N	24-JI0013780			X							-					
62	TPS8 0.9-1.0	Jul 02,	2024	Soi	I N	24-JI0013781			Х							-					
63	WPP1 0.1-0.2	Jul 02,	2024	Soi	I N	24-JI0013782			X							-					
64	WPP2 0.4-0.5	Jul 02,	2024	Soi	I N	24-JI0013783			X							-					
65	WPP3 0.2-0.3	Jul 02,	2024	Soi	I N	24-JI0013784			Х						<u> </u>	4					
66	WPP4 0.2-0.3	Jul 02,	2024	Soi	I N	24-JI0013785			Х						<u> </u>	4					
67	TPQ1 0.4-0.5	Jul 03,	2024	Soi	I N	24-JI0013786			Х							4					
68	TPQ1 1.3-1.4	Jul 03,	2024	Soi	I N	24-JI0013787			Х												

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May	field West Labo	oratory -	NATA # 12	261 Site # 25	079			X													
69	TPQ2 0.4-0.5	Jul 03,	2024	So	il N	124-JI0013788			Х												
70	TPQ2 0.9-1.0	Jul 03,	2024	So	il N	I24-JI0013789			Х							-					
71	TPQ2 1.9-2.0	Jul 03,	2024	So	il N	I24-JI0013790			Х	ļ						-					
72	TPQ2 2.0-2.1	Jul 03,	2024	So	il N	I24-JI0013791			Х							-					
73	TPQ3 0.0-0.1	Jul 03,	2024	So	il N	124-JI0013792			X							-					
74	TPQ3 0.2-0.3	Jul 03,	2024	So	il N	124-JI0013793			X							-					
75	TPQ4 0.0-0.1	Jul 03,	2024	So	il N	124-JI0013794			X							4					
76	TPQ4 0.2-0.3	Jul 03,	2024	So	il N	124-JI0013795			X							-					
77	TPQ5 0.6-0.7	Jul 03,	2024	So	ni N	124-JI0013796	-		X							4					
78	1PQ6 0.4-0.5	Jul 03,	2024	So		124-JI0013797			X							4					
/9	TPQ6 1.4-1.5	Jul 03,	2024	So		124-JI0013798			X							4					
80	TPQ6 1.5-1.6	Jul 03,	2024	So		124-JI0013799			X							4					
81	TPQ7 0.2-0.3	Jul 03,	2024	So	<u>ul N</u>	124-JI0013800	-		X							4					
82	0.5	Jul 03,	2024	So	NI N	124-JI0013801			Х												
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83	TPQ8 0.3-0.4	Jul 03,	, 2024	Soi	I N	24-JI0013802			Х							_					
84	TPQ8 1.3-1.4	Jul 03,	, 2024	Soi	I N	24-JI0013803			Х												
85	TPQ8 1.8-1.9	Jul 03,	, 2024	Soi	I N	24-JI0013804			Х							_					
86	TPQ9 0.4-0.5	Jul 03,	, 2024	Soi	I N	24-JI0013805			Х							_					
87	TPQ9 0.8-0.9	Jul 03,	, 2024	Soi	I N	24-JI0013806			Х							_					
88	TPQ10 0.4-0.5	Jul 03,	, 2024	Soi	I N	24-JI0013807			Х												
89	TPQ10 0.8-0.9	Jul 03,	, 2024	Soi	I N	24-JI0013808			Х												
90	TPQ11 0.4-0.5	Jul 03,	, 2024	Soi	I N	24-JI0013809			Х												
91	TPQ11 0.9-1.0	Jul 03,	, 2024	Soi	I N	24-JI0013810			Х												
92	TPQ11 1.3-1.4	Jul 03,	, 2024	Soi	I N	24-JI0013811			Х												
93	S1	Jul 03,	, 2024	Soi	I N	24-JI0013812			Х												
94	S2	Jul 03,	, 2024	Soi	I N	24-JI0013813			Х												
95	S4	Jul 03,	, 2024	Soi	I N	24-JI0013814			х												
96	S6	Jul 03,	, 2024	Soi	I N	24-JI0013815			х												
97	D1.2.7.24	Jul 02,	, 2024	Soi	I N	24-JI0013816			х												

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Pro	oject ID:	NEW24	4P-0141													Eurofin	ins Analytical Services Manager : Andrew Black					
			Samp	le Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)							
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May	field West Labo	oratory ·	- NATA # 12	261 Site # 250	79			X														
98	T1.2.7.24	Jul 02,	, 2024	Soil	N	I24-JI0013817			X													
99	D.3.7.24	Jul 03,	, 2024	Soil	N	124-JI0013818			X													
100	T.3.7.24	Jul 03,	, 2024	Soil	N	124-JI0013819			X													
101	D1.3.7.24	Jul 03,	, 2024	Soil	N	124-JI0013820			X													
102	ASB FRAG 1	Jul 03, Jul 03,	, 2024	Buil	ding N	124-J10013821 124-J10013822		x	X													
104		1.1.00	2024	Mat	erials	124 11001 4455		+														
104	TR 2 7 24	Jul 02,	2024	50II	or N	124-JIUU14155			<u> </u>		x											
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#### Internal Quality Control Review and Glossary

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- 2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
- 3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
- 4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- 5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
- 7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- 8. Samples were analysed on an 'as received' basis.
- 9. Information identified in this report with blue colour indicates data provided by customers that may have an impact on the results.
- 10. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units		
mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
μg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

#### Terms

I Inite

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APHA	American Public Health Association
CEC	Cation Exchange Capacity
coc	Chain of Custody
СР	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
твто	Tributyltin oxide (bis-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

#### **QC - Acceptance Criteria**

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 - 150%, VOC recoveries 50 - 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

#### **QC Data General Comments**

- 1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- 3. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 4. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- 5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data



#### **Quality Control Results**

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Method Blank						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ug/kg	< 5		5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5		5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5		5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5		5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5		5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5		5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5		5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5		5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5		5	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/kg	< 5		5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5		5	Pass	
Method Blank						
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5		5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5		5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5		5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N- MeFOSE)	ug/kg	< 5		5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5		5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10		10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10		10	Pass	
Method Blank						
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5		5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5		5	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 5		5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5		5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5		5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5		5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5		5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5		5	Pass	
Method Blank						
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5		5	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10		10	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5		5	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5		5	Pass	
Method Blank		-				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	mg/kg	< 20		20	Pass	
TRH C15-C28	ma/ka	< 50		50	Pass	
TRH C29-C36	ma/ka	< 50		50	Pass	
Method Blank		-				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	mg/kg	< 50		50	Pass	
TRH >C16-C34	mg/kg	< 100		100	Pass	
TRH >C34-C40	mg/kg	< 100		100	Pass	
Method Blank			· · ·			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	mg/kg	< 20		20	Pass	



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
TRH C15-C28	mg/kg	< 50	50	Pass	
TRH C29-C36	mg/kg	< 50	50	Pass	
Method Blank			•		
Polycyclic Aromatic Hydrocarbons	_				
Acenaphthene	mg/kg	< 0.5	0.5	Pass	
Acenaphthylene	mg/kg	< 0.5	0.5	Pass	
Anthracene	mg/kg	< 0.5	0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5	0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5	0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5	0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Chrysene	mg/kg	< 0.5	0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5	0.5	Pass	
Fluoranthene	mg/kg	< 0.5	0.5	Pass	
Fluorene	mg/kg	< 0.5	0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5	0.5	Pass	
Naphthalene	mg/kg	< 0.5	0.5	Pass	
Phenanthrene	mg/kg	< 0.5	0.5	Pass	
Pyrene	mg/kg	< 0.5	0.5	Pass	
Method Blank		1	1	1	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	1				
TRH >C10-C16	mg/kg	< 50	50	Pass	
TRH >C16-C34	mg/kg	< 100	100	Pass	
TRH >C34-C40	mg/kg	< 100	100	Pass	
Method Blank		1	1	-	
Polycyclic Aromatic Hydrocarbons	1				
Acenaphthene	mg/kg	< 0.5	0.5	Pass	
Acenaphthylene	mg/kg	< 0.5	0.5	Pass	
Anthracene	mg/kg	< 0.5	0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5	0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5	0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5	0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Chrysene	mg/kg	< 0.5	0.5	Pass	
	mg/kg	< 0.5	0.5	Pass	
Fluoranthene	mg/kg	< 0.5	0.5	Pass	
	mg/kg	< 0.5	0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5	0.5	Pass	
Phononthrono	mg/kg	< 0.5	0.5	Pass	
Puropo	mg/kg	< 0.5	0.5	Pass	
Mothod Blank	під/ку	< 0.5	0.5	Fass	
Heavy Metals			[		
Arsenic	ma/ka	< 2	2	Pass	
Cadmium	mg/kg	< 0.4	0.4	Pass	
Chromium	mg/kg	< 5	5	Pass	
Copper	mg/kg	< 5	5	Pass	
Lead	ma/ka	< 5	5	Pass	
Mercury	ma/ka	< 0.1	0.1	Pass	
Nickel	ma/ka	< 5	5	Pass	
Zinc	ma/ka	< 5	5	Pass	
Method Blank					



Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	mg/kg	< 0.5		0.5	Pass	
Acenaphthylene	mg/kg	< 0.5		0.5	Pass	
Anthracene	mg/kg	< 0.5		0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5		0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5		0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5		0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5		0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5		0.5	Pass	
Chrysene	mg/kg	< 0.5		0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5		0.5	Pass	
Fluoranthene	mg/kg	< 0.5		0.5	Pass	
Fluorene	mg/kg	< 0.5		0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5		0.5	Pass	
Naphthalene	ma/ka	< 0.5		0.5	Pass	
Phenanthrene	ma/ka	< 0.5		0.5	Pass	
Pyrene	ma/ka	< 0.5		0.5	Pass	
Method Blank			I I			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	uS/cm	< 10		10	Pass	
Method Blank			I I			
Cation Exchange Capacity						
Cation Exchange Capacity	meg/100g	< 0.5		0.5	Pass	
Method Blank	moq/roog	× 0.0		0.0	1 400	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	ma/ka	< 20		20	Pass	
TRH C15-C28	ma/ka	< 50		50	Pass	
TRH C29-C36	mg/kg	< 50		50	Pass	
Method Blank	mg/ng	< 00		00	1 400	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
	ma/ka	< 50		50	Pass	
TRH >C16-C34	mg/kg	< 100		100	Pass	
TBH >C34-C40	mg/kg	< 100		100	Pass	
Method Blank	під/ку	< 100		100	1 833	
Bolycyclic Aromatic Hydrocarbons						
	ma/ka	< 0.5		0.5	Pass	
	mg/kg	< 0.5		0.5	Page	
Anthracono	mg/kg	< 0.5		0.5	Page	
Benz(a)anthracene	mg/kg	< 0.5		0.5	Pass	
Bonzo(a)pyropo	mg/kg	< 0.5		0.5	Pass	
Benzo(b) i)fluoranthana	mg/kg	< 0.5		0.5	Pass	
Benzo(a b i)pordono	mg/kg	< 0.5		0.5	Pass	
Benzo(k)fluoranthana	mg/kg	< 0.5		0.5	Pass	
Chrycono	mg/kg	< 0.5		0.5	Pass	
Dihonz(a h)anthragana	mg/kg	< 0.5		0.5	Pass	
	mg/kg	< 0.5		0.5	Pass	
	mg/kg	< 0.5		0.5	Pass	
	mg/kg	< 0.5		0.5	Pass	
Neghthelene	mg/kg	< 0.5		0.5	Pass	
Dependence	mg/Kg	< 0.5		0.5	Pass	
Prienanthrene	mg/кg	< 0.5		0.5	Pass	
Pyrene Mathead Plank	mg/kg	< 0.5		0.5	Pass	
method Blank						
TOULOG OF TRUE OF TOULOG O						
IKH C0-C9 Method Plank	mg/kg	< 20		20	Pass	



Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
втех						
Benzene	mg/kg	< 0.1		0.1	Pass	
Toluene	mg/kg	< 0.1		0.1	Pass	
Ethylbenzene	mg/kg	< 0.1		0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2		0.2	Pass	
o-Xylene	mg/kg	< 0.1		0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3		0.3	Pass	
Method Blank					-	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene	mg/kg	< 0.5		0.5	Pass	
TRH C6-C10	mg/kg	< 20		20	Pass	
Method Blank						
Conductivity (1:5 aqueous extract at 25 °C as rec.)	uS/cm	< 10		10	Pass	
Method Blank		1				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	mg/kg	< 20		20	Pass	
TRH C15-C28	mg/kg	< 50		50	Pass	
TRH C29-C36	mg/kg	< 50		50	Pass	
Method Blank		1		1	r	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	mg/kg	< 50		50	Pass	
TRH >C16-C34	mg/kg	< 100		100	Pass	
TRH >C34-C40	mg/kg	< 100		100	Pass	
Method Blank		1	1	1	r	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	mg/kg	< 20		20	Pass	
Method Blank		1		1		
BTEX						
Benzene	mg/kg	< 0.1		0.1	Pass	
Toluene	mg/kg	< 0.1		0.1	Pass	
Ethylbenzene	mg/kg	< 0.1		0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2		0.2	Pass	
o-Xylene	mg/kg	< 0.1		0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3		0.3	Pass	
Method Blank		1				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene	mg/kg	< 0.5		0.5	Pass	
TRH C6-C10	mg/kg	< 20		20	Pass	
LCS - % Recovery		1		1		
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	%	104		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	105		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	105		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	110		50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	107		50-150	Pass	
Perfluorononanoic acid (PFNA)	%	111		50-150	Pass	
Pertluorodecanoic acid (PFDA)	%	108		50-150	Pass	
Pertluoroundecanoic acid (PFUnDA)	%	105		50-150	Pass	
Pertluorododecanoic acid (PFDoDA)	%	114		50-150	Pass	
Pertluorotridecanoic acid (PFTrDA)	%	118		50-150	Pass	
Pertluorotetradecanoic acid (PFTeDA)	%	119		50-150	Pass	
LCS - % Recovery		1		1		
Perfluoroalkyl sulfonamido substances				_		
Perfluorooctane sulfonamide (FOSA)	%	106		50-150	Pass	



Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	105		50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	97		50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N- MeFOSE)	%	102		50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	109		50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	118		50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	104		50-150	Pass	
LCS - % Recovery						
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS)	%	113		50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	102		50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	104		50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	95		50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	105		50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	98		50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	99		50-150	Pass	
Perfluorodecanesulfonic acid (PEDS)	%	101		50-150	Pass	
LCS - % Recovery	,,,			00.00	1 400	
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
1H.1H.2H.2H-perfluorobexanesulfonic acid (4:2 FTSA)	%	99		50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	105		50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	106		50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	113		50-150	Pass	
LCS - % Recovery	,,,			00.00	1 400	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	%	85		70-130	Pass	
LCS - % Recovery	,,,			10.00	1 400	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	%	83		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	%	77		70-130	Pass	
LCS - % Recovery			• •			
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	%	82		70-130	Pass	
Acenaphthylene	%	82		70-130	Pass	
Anthracene	%	78		70-130	Pass	
Benz(a)anthracene	%	75		70-130	Pass	
Benzo(a)pyrene	%	76		70-130	Pass	
Benzo(b&j)fluoranthene	%	72		70-130	Pass	
Benzo(g.h.i)perylene	%	77		70-130	Pass	
Benzo(k)fluoranthene	%	78		70-130	Pass	
Chrysene	%	78		70-130	Pass	
Dibenz(a.h)anthracene	%	71		70-130	Pass	
Fluoranthene	%	77		70-130	Pass	
Fluorene	%	78		70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	73		70-130	Pass	
Naphthalene	%	83		70-130	Pass	
Phenanthrene	%	73		70-130	Pass	
Pyrene	%	77		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	%	73		70-130	Pass	
LCS - % Recovery						
Polycyclic Aromatic Hydrocarbons						



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	%	84	70-130	Pass	
Acenaphthylene	%	80	70-130	Pass	
Anthracene	%	78	70-130	Pass	
Benz(a)anthracene	%	81	70-130	Pass	
Benzo(a)pyrene	%	83	70-130	Pass	
Benzo(b&j)fluoranthene	%	77	70-130	Pass	
Benzo(g.h.i)perylene	%	82	70-130	Pass	
Benzo(k)fluoranthene	%	82	70-130	Pass	
Chrysene	%	84	70-130	Pass	
Dibenz(a.h)anthracene	%	81	70-130	Pass	
Fluoranthene	%	86	70-130	Pass	
Fluorene	%	82	70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84	70-130	Pass	
Naphthalene	%	84	70-130	Pass	
Phenanthrene	%	74	70-130	Pass	
Pyrene	%	90	70-130	Pass	
LCS - % Recovery					
Heavy Metals					
Arsenic	%	95	80-120	Pass	
Cadmium	%	94	80-120	Pass	
Chromium	%	95	80-120	Pass	
Copper	%	86	80-120	Pass	
Lead	%	109	80-120	Pass	
Mercury	%	99	80-120	Pass	
Nickel	%	96	80-120	Pass	
Zinc	%	96	80-120	Pass	
LCS - % Recovery					
Polycyclic Aromatic Hydrocarbons	-				
Acenaphthene	%	83	70-130	Pass	
Acenaphthylene	%	82	70-130	Pass	
Anthracene	%	78	70-130	Pass	
Benz(a)anthracene	%	81	70-130	Pass	
Benzo(a)pyrene	%	82	70-130	Pass	
Benzo(b&j)fluoranthene	%	74	70-130	Pass	
Benzo(g.h.i)perylene	%	81	70-130	Pass	
Benzo(k)fluoranthene	%	87	70-130	Pass	
Chrysene	%	86	70-130	Pass	
Dibenz(a.h)anthracene	%	77	70-130	Pass	
Fluoranthene	%	85	70-130	Pass	
Fluorene	%	81	70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	81	70-130	Pass	
Naphthalene	%	84	70-130	Pass	
Phenanthrene	%	74	70-130	Pass	
Pyrene	%	90	70-130	Pass	
LCS - % Recovery		1	I		
Conductivity (1:5 aqueous extract at 25 °C as rec.)	%	122	70-130	Pass	
LCS - % Recovery		1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C10-C14	%	77	70-130	Pass	
LCS - % Recovery			1		
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	%	78	70-130	Pass	
LCS - % Recovery					
Polycyclic Aromatic Hydrocarbons					



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	%	84	70-130	Pass	
Acenaphthylene	%	80	70-130	Pass	
Anthracene	%	79	70-130	Pass	
Benz(a)anthracene	%	81	70-130	Pass	
Benzo(a)pyrene	%	83	70-130	Pass	
Benzo(b&j)fluoranthene	%	77	70-130	Pass	
Benzo(g.h.i)perylene	%	82	70-130	Pass	
Benzo(k)fluoranthene	%	82	70-130	Pass	
Chrysene	%	85	70-130	Pass	
Dibenz(a.h)anthracene	%	81	70-130	Pass	
Fluoranthene	%	87	70-130	Pass	
Fluorene	%	82	70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	85	70-130	Pass	
Naphthalene	%	85	70-130	Pass	
Phenanthrene	%	74	70-130	Pass	
Pyrene	%	90	70-130	Pass	
LCS - % Recovery					
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	%	82	70-130	Pass	
LCS - % Recovery		•	 •		
BTEX					
Benzene	%	90	70-130	Pass	
Toluene	%	85	70-130	Pass	
Ethylbenzene	%	84	70-130	Pass	
m&p-Xylenes	%	84	70-130	Pass	
o-Xylene	%	80	70-130	Pass	
Xylenes - Total*	%	82	70-130	Pass	
LCS - % Recovery					
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene	%	79	70-130	Pass	
TRH C6-C10	%	82	70-130	Pass	
LCS - % Recovery		•			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	%	94	70-130	Pass	
LCS - % Recovery		•			
втех					
Benzene	%	91	70-130	Pass	
Toluene	%	102	70-130	Pass	
Ethylbenzene	%	104	70-130	Pass	
m&p-Xylenes	%	102	70-130	Pass	
Xylenes - Total*	%	102	70-130	Pass	
LCS - % Recovery					
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	-				
Naphthalene	%	100	70-130	Pass	
TRH C6-C10	%	93	70-130	Pass	
LCS - % Recovery			_		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C10-C14	%	84	70-130	Pass	
LCS - % Recovery					
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	%	91	70-130	Pass	
LCS - % Recovery					
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	%	87	70-130	Pass	



Test			Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery				1				
BTEX								
Benzene			%	90		70-130	Pass	
Toluene			%	93		70-130	Pass	
Ethylbenzene			%	91		70-130	Pass	
m&p-Xylenes			%	89		70-130	Pass	
o-Xylene			%	88		70-130	Pass	
Xylenes - Total*		%	89		70-130	Pass		
LCS - % Recovery						-	-	
<b>Total Recoverable Hydrocarbons -</b>	2013 NEPM Fract	ions						
Naphthalene			%	100		70-130	Pass	
TRH C6-C10			%	85		70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1				
TRH C6-C9	N24-JI0013723	CP	%	95		70-130	Pass	
Spike - % Recovery				•				
BTEX				Result 1				
Benzene	N24-JI0013723	CP	%	84		70-130	Pass	
Toluene	N24-JI0013723	CP	%	84		70-130	Pass	
Ethylbenzene	N24-JI0013723	CP	%	91		70-130	Pass	
m&p-Xylenes	N24-JI0013723	СР	%	97		70-130	Pass	
o-Xylene	N24-JI0013723	СР	%	93		70-130	Pass	
Xvlenes - Total*	N24-JI0013723	CP	%	95		70-130	Pass	
Spike - % Recovery					1 1	1		
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1				
Naphthalene	N24-JI0013723	CP	%	72		70-130	Pass	
TRH C6-C10	N24-JI0013723	СР	%	95		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1				
TRH C10-C14	N24-JI0013724	CP	%	86		70-130	Pass	
Spike - % Recovery		-						
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1				
TRH >C10-C16	N24-JI0013724	СР	%	84		70-130	Pass	
Spike - % Recovery					л – Г	-		
Heavy Metals				Result 1				
Arsenic	N24-JI0013724	CP	%	104		75-125	Pass	
Cadmium	N24-JI0013724	CP	%	104		75-125	Pass	
Chromium	N24-JI0013724	CP	%	107		75-125	Pass	
Copper	N24-JI0013724	CP	%	96		75-125	Pass	
Lead	N24-JI0013724	CP	%	97		75-125	Pass	
Mercury	N24-JI0013724	CP	%	107		75-125	Pass	
Nickel	N24-JI0013724	СР	%	106		75-125	Pass	
Zinc	N24-JI0013724	CP	%	105		75-125	Pass	
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PF	CAs)			Result 1				
Perfluorobutanoic acid (PFBA)	N24-JI0013725	CP	%	108		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	N24-JI0013725	CP	%	107		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	N24-JI0013725	CP	%	108		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	N24-JI0013725	CP	%	112		50-150	Pass	
Perfluorooctanoic acid (PFOA)	N24-JI0013725	CP	%	100		50-150	Pass	
Perfluorononanoic acid (PFNA)	N24-JI0013725	CP	%	103		50-150	Pass	
Perfluorodecanoic acid (PFDA)	N24-JI0013725	CP	%	112		50-150	Pass	



Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroundecanoic acid (PFUnDA)	N24-JI0013725	СР	%	122		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	N24-JI0013725	СР	%	121		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	N24-JI0013725	CP	%	111		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	N24-JI0013725	СР	%	111		50-150	Pass	
Spike - % Recovery				1	I I	I		
Perfluoroalkyl sulfonamido substa	nces			Result 1				
Perfluorooctane sulfonamide (FOSA)	N24-JI0013725	СР	%	97		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	N24-JI0013725	СР	%	114		50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	N24-JI0013725	СР	%	97		50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	N24-JI0013725	СР	%	110		50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	N24-JI0013725	СР	%	106		50-150	Pass	
N-ethyl- perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	N24-JI0013725	СР	%	103		50-150	Pass	
N-methyl- perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	N24-JI0013725	СР	%	116		50-150	Pass	
Spike - % Recovery				1	Г – Т	T	1	
Perfluoroalkyl sulfonic acids (PFS)	As)			Result 1				
Perfluorobutanesulfonic acid (PFBS)	N24-JI0013725	СР	%	107		50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	N24-JI0013725	СР	%	110		50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	N24-JI0013725	СР	%	95		50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	N24-JI0013725	СР	%	84		50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	N24-JI0013725	СР	%	97		50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	N24-JI0013725	СР	%	96		50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	N24-JI0013725	СР	%	92		50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	N24-JI0013725	СР	%	101		50-150	Pass	
Spike - % Recovery				1	I I	1		
n:2 Fluorotelomer sulfonic acids (r	n:2 FTSAs)			Result 1				
1H.1H.2H.2H- perfluorohexanesulfonic acid (4:2 FTSA)	N24-JI0013725	СР	%	104		50-150	Pass	
1H.1H.2H.2H- perfluorooctanesulfonic acid(6:2 FTSA)	N24-JI0013725	CP	%	87		50-150	Pass	
1H.1H.2H.2H- perfluorodecanesulfonic acid (8:2		0.	,0				1 400	
FTSA)	N24-JI0013725	CP	%	127		50-150	Pass	
1H.1H.2H.2H- perfluorododecanesulfonic acid (10:2 FTSA)	N24-JI0013725	СР	%	102		50-150	Pass	
Spike - % Recovery					r r			
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1				
TRH C6-C9	N24-JI0013735	CP	%	82		70-130	Pass	
Spike - % Recovery				Desided				
Bonzono	N24 110012725	CD	0/	Result 1		70.120	Dooo	
Toluene	N24-JI0013735	C.P	-70 %	<u>0∠</u> 79		70-130	Pase	
		<u>.</u>	/0		I I			



Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	N24-JI0013735	СР	%	75			70-130	Pass	
m&p-Xylenes	N24-JI0013735	CP	%	77			70-130	Pass	
o-Xylene	N24-JI0013735	CP	%	74			70-130	Pass	
Xylenes - Total*	N24-JI0013735	CP	%	76			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1					
Naphthalene	N24-JI0013735	CP	%	72			70-130	Pass	
TRH C6-C10	N24-JI0013735	CP	%	81			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	N24-JI0013738	CP	%	93			75-125	Pass	
Cadmium	N24-JI0013738	CP	%	107			75-125	Pass	
Chromium	N24-JI0013738	CP	%	102			75-125	Pass	
Copper	N24-JI0013738	CP	%	110			75-125	Pass	
Lead	N24-JI0013738	CP	%	93			75-125	Pass	
Mercury	N24-JI0013738	CP	%	88			75-125	Pass	
Nickel	N24-JI0013738	CP	%	114			75-125	Pass	
Spike - % Recovery				1			1		
Polycyclic Aromatic Hydrocarbons	5			Result 1					
Acenaphthene	N24-JI0013742	CP	%	89			70-130	Pass	
Acenaphthylene	N24-JI0013742	CP	%	89			70-130	Pass	
Anthracene	N24-JI0013742	CP	%	86			70-130	Pass	
Benz(a)anthracene	N24-JI0013742	CP	%	78			70-130	Pass	
Benzo(a)pyrene	N24-JI0013742	CP	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	N24-JI0013742	CP	%	80			70-130	Pass	
Benzo(g.h.i)perylene	N24-JI0013742	CP	%	78			70-130	Pass	
Benzo(k)fluoranthene	N24-JI0013742	CP	%	82			70-130	Pass	
Chrysene	N24-JI0013742	CP	%	84			70-130	Pass	
Dibenz(a.h)anthracene	N24-JI0013742	CP	%	73			70-130	Pass	
Fluoranthene	N24-JI0013742	CP	%	83			70-130	Pass	
Fluorene	N24-JI0013742	CP	%	83			70-130	Pass	
Indeno(1.2.3-cd)pyrene	N24-JI0013742	CP	%	76			70-130	Pass	
Naphthalene	N24-JI0013742	CP	%	87			70-130	Pass	
Phenanthrene	N24-JI0013742	СР	%	82			70-130	Pass	
Pyrene	N24-JI0013742	CP	%	84			70-130	Pass	
Spike - % Recovery				D 14			1	[	
	NO4 10040740		0/	Result 1			75 405	Dees	
Arsenic	N24-JI0013743		%	106			75-125	Pass	
Chromium	N24-JI0013743		%	109			75-125	Pass	
Capper	N24-JI0013743		% 0/	114			75-125	Pass	
Lood	N24-JI0013743		70 0/	112			75-125	Pass	
Moreury	N24-JI0013743		70 0/	115			75-125	Pass	
Nickel	N24-JI0013743		/0 0/	111			75-125	Pass	
Zinc	N24-110013743	CP	 %	114			75-125	Pass	
	1124-510015745		70	114				Pass	Qualifying
Test	Lab Sample ID	Source	Units	Result 1			Limits	Limits	Code
Duplicate				Desult	Desult 0	DDD			
Perfluerobutopois a sid (DEDA)				Kesult 1	Result 2	KPD	200/	Darr	
	N24-JIUU13/18		ug/Kg	< 5	< 5	<1	30%	Pass	
	N24-JIUU13/18		ug/kg	< 5	< 5	<1	30% 200/	Pass	
	N24-JIUU13/18		ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PEOA)	N24-JI0013718			< 5	< 5	~1	30%	Pass	
Perfluorononanoic acid (PENA)	N24-110013718		ug/kg	~5	~ 5		30%	Pace	
	112-10013/10		uy/ry	L 20	~ 5		5070	1 033	i



Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate				[			1		
Perfluoroalkyl carboxylic acids (PF	CAs)			Result 1	Result 2	RPD			
Perfluorodecanoic acid (PFDA)	N24-JI0013718	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	N24-JI0013718	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate							1		
Perfluoroalkyl sulfonamido substa	nces	1		Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
N-ethyl- perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	N24-JI0013718	СР	ug/kg	< 10	< 10	<1	30%	Pass	
N-methyl- perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	N24-JI0013718	СР	ug/kg	< 10	< 10	<1	30%	Pass	
Duplicate	Duplicate						1		
Perfluoroalkyl sulfonic acids (PFS)	As)			Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate							1		
n:2 Fluorotelomer sulfonic acids (r	n:2 FTSAs)			Result 1	Result 2	RPD			
1H.1H.2H.2H- perfluorohexanesulfonic acid (4:2 FTSA)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
1H.1H.2H.2H- perfluorooctanesulfonic acid(6:2 FTSA)	N24-JI0013718	СР	ug/kg	< 10	< 10	<1	30%	Pass	
1H.1H.2H.2H- perfluorodecanesulfonic acid (8:2 FTSA)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
1H.1H.2H.2H- perfluorododecanesulfonic acid (10:2 FTSA)	N24-JI0013718	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	N24-JI0013723	CP	%	20	17	14	30%	Pass	



Duplicate									
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C6-C9	N24-JI0013726	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	N24-JI0013726	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	N24-JI0013726	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	N24-JI0013726	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX	1			Result 1	Result 2	RPD			
Benzene	N24-JI0013726	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	N24-JI0013726	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	N24-JI0013726	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	N24-JI0013726	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	N24-JI0013726	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	N24-JI0013726	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate								<b>i</b>	
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
Naphthalene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	N24-JI0013726	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate								1	
Polycyclic Aromatic Hydrocarbons	S			Result 1	Result 2	RPD			
Acenaphthene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	ļ
Acenaphthylene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	N24-JI0013726	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate								1	
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH >C10-C16	N24-JI0013726	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	N24-JI0013726	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	N24-JI0013726	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate				Deville	Devilio	DDD		1	
Sample Properties	NO4 10040700	00	0/	Result 1	Result 2	RPD	0.001/	Deer	
% Moisture	N24-JI0013726	CP	%	16	16	1.6	30%	Pass	
Duplicate				Desilit	Desilie	DDD			
				Result 1	Result 2	RPD			
at 25 °C as rec.)	N24-JI0013726	СР	uS/cm	11	< 10	14	30%	Pass	
pH (1:5 Aqueous extract at 25 °C as rec.)	N24-JI0013726	СР	pH Units	6.3	6.4	pass	30%	Pass	
Duplicate									
Cation Exchange Capacity				Result 1	Result 2	RPD			
Cation Exchange Capacity	S24-JI0010199	NCP	meq/100g	10	10	4.4	30%	Pass	



Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	N24-JI0013734	CP	mg/kg	2.0	2.0	1.4	30%	Pass	
Cadmium	N24-JI0013734	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	N24-JI0013734	CP	mg/kg	5.3	5.2	2.9	30%	Pass	
Copper	N24-JI0013734	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	N24-JI0013734	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	N24-JI0013734	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	N24-JI0013734	СР	ma/ka	< 5	< 5	<1	30%	Pass	
Zinc	N24-JI0013734	СР	mg/kg	7.0	7.2	2.7	30%	Pass	
Duplicate			00						
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					Result 2	RPD			
TRH C10-C14	N24-JI0013736	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	N24-JI0013736	СР	ma/ka	< 50	< 50	<1	30%	Pass	
TRH C29-C36	N24-JI0013736	CP	ma/ka	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	N24-JI0013736	CP	ma/ka	< 0.1	< 0.1	<1	30%	Pass	
Toluene	N24-JI0013736	CP	ma/ka	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	N24-110013736	CP	ma/ka	< 0.1	< 0.1	<1	30%	Pass	
m&n-Xylenes	N24-110013736	CP	ma/ka	< 0.1	< 0.1	<1	30%	Pass	
o-Xylene	N24-110013736	CP	ma/ka	< 0.2	< 0.1	<1	30%	Pass	
Xylenes - Total*	N24-II0013736	CP	ma/ka	< 0.1	< 0.1	<1	30%	Pass	
							0070	1 455	
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
Nanhthalene	N24- 110013736	CP	ma/ka				30%	Pass	
		01	iiig/itg	< 0.0	< 0.0	<u></u>	0070	1 455	
Polycyclic Aromatic Hydrocarbons		Result 1	Result 2	RPD					
Acenaphthene	N24-110013736	CP	ma/ka		< 0.5	<1	30%	Pass	
Acenaphthylene	N24-II0013736	CP	ma/ka	< 0.0	< 0.0	<1	30%	Pass	
Anthracene	N24-II0013736	CP	ma/ka	< 0.0	< 0.0	<1	30%	Pass	
Benz(a)anthracene	N24-II0013736	CP	ma/ka	< 0.0	< 0.0	<1	30%	Pass	
Benzo(a)pyrene	N24-II0013736	CP	ma/ka	< 0.0	< 0.0	<1	30%	Pass	
Benzo(b&i)fluoranthene	N24-110013736	CP	ma/ka	< 0.0	< 0.0	<1	30%	Pass	
Benzo(a h i)pervlene	N24-110013736	CP	ma/ka	< 0.0	< 0.0	<1	30%	Pass	
Benzo(k)fluoranthene	N24-110013736	CP	ma/ka	< 0.5	< 0.5	~1	30%	Pass	
Chrysene	N24-110013736	CP	ma/ka	< 0.5	< 0.5	~1	30%	Pass	
Dibenz(a b)anthracene	N24-II0013736	CP	ma/ka	< 0.0	< 0.0	<1	30%	Pass	
Fluoranthene	N24-110013736	CP	ma/ka	< 0.0	< 0.0	<1	30%	Pass	
Fluorene	N24-110013736	CP	ma/ka	< 0.5	< 0.5	<1	30%	Pass	
Indepo(1.2.3-cd)pyrepe	N24-110013736		mg/kg	< 0.5	< 0.5	~1	30%	Pass	
Naphthalene	N24-110013736		mg/kg	< 0.5	< 0.5	~1	30%	Page	
Phononthrono	N24-JI0013730		mg/kg	< 0.5	< 0.5		30%	Page	
Purene	N24-JI0013730		mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrelie	IN24-JI0013730	UP	тту/ку	< 0.5	< 0.5	<1	30%	Fass	
Tetal Describes 2012 NEDM Exections									
TOLAL RECOVERABLE HYDROCARDONS -			ma/1	Result 1	Result 2	.4	200/	Basa	
	IN24-JIUU13736		mg/Kg	< 50	< 50	<1	30%	Pass	
TRH 2010-034	IN24-JIUU13736		mg/Kg	< 100	< 100	<1	30%	Pass	
IKT >034-040	INZ4-JIUU13736	CP	mg/kg	< 100	< 100	<1	30%	Pass	
				Deput	Desilie	000		1	
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Kesult 1	Result 2	KPD	0001	-	
IKH C6-C9	N24-JI0013737	CP	mg/kg	< 20	< 20	<1	30%	Pass	



Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	N24-JI0013737	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	N24-JI0013737	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	N24-JI0013737	СР	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	N24-JI0013737	СР	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	N24-JI0013737	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	N24-JI0013737	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate							•		
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
Naphthalene	N24-JI0013737	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	N24-JI0013737	СР	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	N24-JI0013738	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	N24-JI0013738	СР	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	N24-JI0013738	CP	mg/kg	18	19	3.2	30%	Pass	
Copper	N24-JI0013738	CP	mg/kg	14	14	<1	30%	Pass	
Lead	N24-JI0013738	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	N24-JI0013738	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	N24-JI0013738	CP	mg/kg	20	21	1.7	30%	Pass	
Zinc	N24-JI0013738	СР	mg/kg	58	59	1.5	30%	Pass	
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C6-C9	N24-JI0013747	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
ВТЕХ				Result 1	Result 2	RPD			
Benzene	N24-JI0013747	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	N24-JI0013747	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	N24-JI0013747	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	N24-JI0013747	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	N24-JI0013747	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	N24-JI0013747	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions	_	Result 1	Result 2	RPD			
Naphthalene	N24-JI0013747	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	N24-JI0013747	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C10-C14	N24-JI0013748	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	N24-JI0013748	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	N24-JI0013748	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate				1					
Polycyclic Aromatic Hydrocarbons	5			Result 1	Result 2	RPD			
Acenaphthene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	



Duplicate									
Polycyclic Aromatic Hydrocarbons	8			Result 1	Result 2	RPD			
Indeno(1.2.3-cd)pyrene	N24-JI0013748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	N24-JI0013748	СР	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	N24-JI0013748	СР	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	N24-JI0013748	СР	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH >C10-C16	N24-JI0013748	СР	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	N24-JI0013748	СР	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	N24-JI0013748	СР	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	N24-JI0013748	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	N24-JI0013748	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	N24-JI0013748	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	N24-JI0013748	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	N24-JI0013748	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	N24-JI0013748	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	N24-JI0013748	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	N24-JI0013748	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	N24-JI0013748	CP	%	9.4	9.0	4.0	30%	Pass	



#### Comments

Sample Integrity	
Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

#### **Qualifier Codes/Comments**

Code Description

N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Q09 The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC

#### Authorised by:

Nileshni Goundar	Analytical Services Manager
Bennel Jiri	Senior Analyst-Asbestos
Caitlin Breeze	Senior Analyst-Inorganic
Caitlin Breeze	Senior Analyst-Metal
Edward Lee	Senior Analyst-Organic
Fang Yee Tan	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Laxman Dias	Senior Analyst-Asbestos
Maria Tian	Senior Analyst-Organic
Mickael Ros	Senior Analyst-Metal
Raymond Siu	Senior Analyst-Volatile
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-PFAS
Roopesh Rangarajan	Senior Analyst-Sample Properties
Roopesh Rangarajan	Senior Analyst-Volatile

Glenn Jackson Managing Director

Final Report - this report replaces any previously issued Report

- Indicates Not Requested

\* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Qualtest 2 Murray Dwyer Circuit Mayfield West NSW 2304





NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

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Emma Coleman

Report Project name Project ID Received Date **1114955-W** WINTON - SUFFOLK PARK NEW24P-0141 Jul 05, 2024

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled			TB.2.7.24 Water N24-JI0014185 Jul 02, 2024
Test/Reference	LOR	Unit	
втех			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	75



#### Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
BTEX	Sydney	Jul 09, 2024	14 Days
Method: LTM-ORG-2010 BTEX and Volatile TRH			

•••	ourofin	ABN: 50 00	Environme	ent Testing A	Australia Pty Lto	l							Eurofii	15 ARL	Pty Lt 9 898	td Eurofins ProMicro Pty Ltd ABN: 47 009 120 549	NZBN: 94290460	ronment	Testing NZ I	_td	
web: w email:	ww.eurofins.com.au EnviroSales@eurofins.co	Melbourne         Geelong         Sydney         Canberra           6 Monterey Road         19/8 Lewalan Street 179 Magowar Road Unit 1,2 Dac Dandenong South         Grovedale         Girraween         Mitchell           au         VIC 3175         VIC 3216         NSW 2145         ACT 2911           au         +61 3 8564 5000         +61 3 8564 5000         +61 2 9900 8400         +61 2 6113 8           ofins.com         NATA# 1261         NATA# 1261         NATA# 1261         NATA# 1261           site# 1254         Site# 25403         Site# 18217         Site# 25466						ane Smallwoo rie 4172 1 7 3902 # 1261 20794 &	od Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 4 NATA# Site# 25	stle st Drive d West 304 968 8448 1261 5079	;	Perth 46-48 B Welshpo WA 610 +61 8 62 NATA# 2 Site# 23	anksia R bol 253 4444 2377 70	Road	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucklan Unit C1, Mount V Aucklan +64 9 5 IANZ# 1	nd (Focus) /4 Pacific Rise, Vellington, id 1061 25 0568 I308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
Co Ao	ompany Name: Idress:	Qualtest 2 Murray Dwy Mayfield West NSW 2304	er Circuit	t								Or Re Ph Fa	der N port # one: x:	o.: #:	111 02 4 02 4	4955 1968 4468 1960 9775	Received Due: Priority: Contact N	: lame:	Jul 5, 20 Jul 10, 2 3 Day Emma 0	24 11:33 AM 2024 Coleman	
Pr Pr	oject Name: oject ID:	WINTON - SU NEW24P-014	FFOLK I 1	PARK												Eurofir	ns Analytical	Service	es Manago	er : Andrew B	lack
		S	ample C	Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Mel	bourne Laborate	ory - NATA # 1	261 Site	# 1254									X								
Syd	ney Laboratory	- NATA # 1261	Site # 1	8217			X		Х	X	X	Х		X	X	-					
May	field West Labo	oratory - NATA	# 1261	Site # 250	79			X								-					
Exte	ernal Laboratory	/	1-													-					
No	Sample ID	Sample Date	Samp	ne	Matrix	LAB ID															
1	TPW1 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013718	X					X		X	X	4					
2	TPW2 0.0-0.1	Jul 02, 2024		Soil		24-JI0013719	X			+		X		X	X	4					
3	TPW/4 0 0-0 1	Jul 02, 2024		Soll		24-JIUU13720	x					x		X		4					
5	AST1 0 0-0 1	Jul 02, 2024		Soil		24-110013721						X		x	x	4					
6	AST1 0 4-0 5	Jul 02 2024		Soil		24-110013723						X		x		4					
7	WBY1 0.0-0.1	Jul 02. 2024		Soil	N	24-JI0013724	х					X		X	x	1					
8	WBY2 0.0-0.1	Jul 02. 2024		Soil	N	24-JI0013725						X		X	X	1					
9	WBTP01 0.0- 0.1	Jul 02, 2024		Soil	N	24-JI0013726	х			х		х	x	x							
10	WBTP02 0.0- 0.1	Jul 02, 2024		Soil	N	24-JI0013727						х		х							
11	TPS1 0.0-0.1	Jul 02, 2024		Soil	N	24-JI0013728						Х		Х		]					

	ourofin		ABN: 50 005 085 5									05 015	L Pty Li a sas	td Eurofins ProMicro Pty Ltd	J Eurofins Envi	ronment <sup>*</sup> 24954	Testing NZ L	td			
Me 6 M Da Web: www.eurofins.com.au +6' email: EnviroSales@eurofins.com NA Site Company Name: Qualtest Address: 2 Murray			Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Stre Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney eet 179 Magowar Roa Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra d Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisb et 1/21 S Murar QLD T: +61 NATA: Site#	ane Smallwoo rie 4172 I 7 3902 # 1261 20794 &	od Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 1 Site# 25	tle t Drive West 304 968 8448 1261 6079	3	Perth 46-48 B Welshpo WA 610 +61 8 62 NATA# 2 Site# 23	anksia F pol 253 444 2377	Road	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucklar Unit C1/ Mount V Aucklan +64 9 5 IANZ# 1	nd (Focus) 14 Pacific Rise, Vellington, d 1061 25 0568 308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
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P P	roject Name: roject ID:	WINT NEW2	ON - SUFFO 24P-0141	LK PARK												Eurofir	ns Analytical	Service	es Manage	er : Andrew Bl	lack
			Samp	le Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Ме	Ibourne Laborat	ory - N	ATA # 1261	Site # 1254									Х			_					
Sy	dney Laboratory	- NAT	A # 1261 Site	e # 18217			Х		Х	Х	X	Х		Х	Х	_					
Ма	yfield West Labo	oratory	- NATA # 12	261 Site # 25	079			X								-					
12	TPS3 0.0-0.1	Jul 02	2, 2024	Soi	i N	24-JI0013729	X					Х		Х		-					
13	TPS3 0.9-1.0	Jul 02	2, 2024	Soi	I N	24-JI0013730						Х		Х		-					
14	TPS6 0.4-0.5	Jul 02	2, 2024	Soi	I N	24-JI0013731						Х		Х		-					
15	TPS8 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013732	X					Х		Х		-					
16	WPP1 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013733						Х		Х	Х	-					
17	WPP2 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013734	Х					Х		Х		-					
18	WPP3 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013735						Х		Х		-					
19	WPP4 0.0-0.1	Jul 02	2, 2024	Soi	I N	24-JI0013736						Х		Х		-					
20	TPQ1 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013737						Х		Х		-					
21	TPQ2 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013738				Х		Х	X	Х		-					
22	TPQ2 1.4-1.5	Jul 03	3, 2024	Soi	I N	24-JI0013739						Х		Х							
23	TPQ5 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013740	Х					Х		Х	Х						
24	TPQ5 0.4-0.5	Jul 03	3, 2024	Soi	I N	24-JI0013741						Х		Х							
25	TPQ6 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013742						Х		Х							
26	TPQ7 0.0-0.1	Jul 03	3, 2024	Soi	I N	24-JI0013743						Х		Х							

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Melbourne 6 Monterey Road     Geelong 19/8 Lewalan Street 179 Magowar Road Unit 1,2 Dacre Street     Brisbane     Newcastle     Perth     Perth ProMicro       web: www.eurofins.com.au email: EnviroSales@eurofins.com     19/8 Lewalan Street 179 Magowar Road Unit 1,2 Dacre Street     1/21 Smallwood Place 1/2 Frost Drive Mutchell     46-48 Banksia Road     46-48 Banksia Road     46-48 Banksia Road       web: www.eurofins.com.au email: EnviroSales@eurofins.com     VIC 3175     N/UC 3216     NSW 2145     ACT 2911     QLD 4172     NSW 2304     Wa 6106     Welshpool     Welshpool       NATA# 1261     NATA# 1261     NATA# 1261     NATA# 1261     NATA# 1261     NATA# 1261     NATA# 2561       Site# 1254     Site# 25403     Site# 18217     Site# 25466     Site# 20794 & 2780     Site# 25079     Site# 2370     Site# 2554						Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucklan Unit C1/ Mount W Auckland +64 9 52 IANZ# 1	d (Focus) 4 Pacific Rise, /ellington, 1 1061 25 0568 308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga           1277 Cameron Road,           Gate Pa,           Tauranga 3112           +64 9 525 0568           IANZ# 1402										
Co Ao	ompany Name: Idress:	Qualte 2 Murr Mayfie NSW 2	est ay Dwyer Cii Id West 2304	rcuit								Or Re Ph Fa	der N port i ione: x:	o.: #:	111- 02 4 02 4	4955 4968 4468 4960 9775	Received Due: Priority: Contact N	lame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 2024 Coleman	
Pr Pr	oject Name: oject ID:	WINTO NEW2	ON - SUFFO 4P-0141	LK PARK												Eurofir	ns Analytical	Service	s Manage	er : Andrew B	lack
			Samp	le Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Mel	bourne Laborate	ory - NA	ATA # 1261 \$	Site # 1254									X			-					
Syd	ney Laboratory	- NATA	A # 1261 Site	e # 18217			Х		Х	Х	Х	Х		Х	Х	-					
Мау	field West Labo	ratory	- NATA # 12	261 Site # 25	079			X								-					
27	TPQ8 0.0-0.1	Jul 03	, 2024	Soi	il N	24-JI0013744						Х		Х		-					
28	TPQ9 0.0-0.1	Jul 03	, 2024	Soi	il N	24-JI0013745						Х		Х							
29	TPQ10 0.0-0.1	Jul 03	, 2024	Soi	il N	24-JI0013746						Х		Х		-					
30	TPQ11 0.0-0.1	Jul 03	, 2024	Soi	il N	24-JI0013747	X					Х		Х		-					
31	S3	Jul 03	, 2024	Soi	il N	24-JI0013748						Х		Х		-					
32	S5	Jul 03	, 2024	Soi	il N	24-JI0013749						Х		Х		-					
33	D.2.7.24	Jul 02	, 2024	Soi	il N	24-JI0013750						Х		Х		-					
34	TPW1 0.2-0.3	Jul 02	, 2024	Soi	il N	24-JI0013751			Х							-					
35	TPW2 0.2-0.3	Jul 02	, 2024	Soi	il N	24-JI0013752		ļ	X												
36	TPW3 0.2-0.3	Jul 02	, 2024	Soi	il N	24-JI0013753			Х							4					
37	TPW4 0.2-0.3	Jul 02	, 2024	Soi	il N	24-JI0013754			Х							-					
38	AST1 0.5-0.6	Jul 02	, 2024	Soi	il N	24-JI0013755			Х												
39	WBY 0.4-0.5	Jul 02	, 2024	Soi	il N	24-JI0013756			Х												
40	WBY 0.6-0.7	Jul 02	, 2024	Soi	il N	24-JI0013757			Х												
41	WBY2 0.9-1.0	Jul 02	, 2024	Soi	il N	24-JI0013758			Х							]					

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web: w email:	Melbourne     Geelong     Sydney     Canberra       6 Monterey Road     19/8 Lewalan Street 179 Magowar Road Unit 1,2 Dac     Dandenong South     Girraween     Mitchell       web: www.eurofins.com.au     VIC 3175     VIC 3216     NSW 2145     ACT 2911       ermail: EnviroSales@eurofins.com     NATA# 1261     NATA# 1261     NATA# 1261     NATA# 1261       NATA# 1261     Site# 25403     Site# 18217     Site# 25466						Brish et 1/21 s Muras QLD T: +6 NATA Site#	eane Smallwoo rrie 4172 1 7 3902 # 1261 20794 &	od Place 4600 : 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 4 NATA# Site# 25	stle st Drive d West 304 968 8448 1261 5079	3	Perth 46-48 B Welshpo WA 610 +61 8 6 NATA# 2 Site# 23	anksia R bol 6 253 444 2377 70	Road 4	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland Unit C1/4 Mount We Auckland +64 9 525 IANZ# 13	d (Focus) Pacific Rise, ellington, 1061 5 0568 908	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga           1277 Cameron Road,           Gate Pa,           Tauranga 3112           +64 9 525 0568           IANZ# 1402
Co Ao	ompany Name: ddress:	Qualtest 2 Murray Mayfield NSW 23	/ Dwyer Cir West 04	rcuit								Or Re Ph Fa	der N port a ione: x:	o.: #:	1114 02 4 02 4	4955 968 4468 960 9775	Received Due: Priority: Contact N	: lame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 024 Coleman	
Pr Pr	oject Name: oject ID:	WINTON NEW24F	N - SUFFOI P-0141	LK PARK												Eurofir	is Analytical	Services	s Manage	er : Andrew B	lack
			Samp	le Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Mel	bourne Laborate	ory - NAT	FA # 1261 \$	Site # 1254									X								
Syd	Iney Laboratory	- NATA #	# 1261 Site	# 18217			Х		Х	х	х	х		х	Х						
May	field West Labo	oratory - I	NATA # 12	61 Site # 25	079			X													
42	WBY2 0.4-0.5	Jul 02, 2	2024	Soi	1 1	N24-JI0013759			х												
43	WBTP01 0.4- 0.5	Jul 02, 2	2024	Soi	1 1	N24-JI0013760			х												
44	WBTP01 0.6- 0.7	Jul 02, 2	2024	Soi	1 1	N24-JI0013761			х												
45	WBTP01 1.3- 1.4	Jul 02, 2	2024	Soi	1 1	N24-JI0013762			Х												
46	WBTP02 0.3- 0.4	Jul 02, 2	2024	Soi	ı r	N24-JI0013763			X												
47	TP04 0.04-0.5	Jul 02, 2	2024	Soi		N24-JI0013764		-	X					<u> </u>							
48	<u>TP01 4 5 4 5</u>	Jul 02, 2	2024	Soi		N24-JI0013765			X												
49	<u>IPS1 1.5-1.6</u>	Jul 02, 2	2024	Soi		N24-JI0013766		-	X												
50	1PS3 0.4-0.5	Jul 02, 2	2024	Soi	<u> </u>	N24-JI0013767			X												
51	<u>1PS3 1.4-1.5</u>	Jul 02, 2	2024	Soi	<u>   </u>	N24-JI0013768			X												
52	TP00 0 4 0 5	Jul 02, 2	2024	Soi		N24-JIUU13770			X												
53	1PS3 2.4-2.5	Jul 02, 2	2024	Soi	1 1	N24-JI0013771			Х												

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Webc 6 Mon Dande veb: www.eurofins.com.au email: EnviroSales@eurofins.com Company Name: Qualtest Address: 2 Murray D Mavfield W	Allourne Monterey Road andenong South C 3175 1 3 8564 5000 ATA# 1261 we# 1254	Geelong 19/8 Lewalan Stre Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney eet 179 Magowar Roa Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra d Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisb 1/21 S Murar QLD T: +61 NATA; Site#	ane Smallwoo rie 4172 I 7 3902 # 1261 20794 &	od Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 25	tle t Drive West 04 968 8448 261 079	\$	Perth 46-48 B Welshpo WA 610 +61 8 62 NATA# 2 Site# 23	anksia R ol 253 4444 377 70	toad	Perth ProMicro           46-48 Banksia Road           Welshpool           WA 6106           +61 8 6253 4444           NATA# 2561           Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucklar Unit C1/ Mount V Aucklan +64 9 5 IANZ# 1	nd (Focus) /4 Pacific Rise, Vellington, Id 1061 25 0568 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402		
Con Ado	mpany Name: dress:	Qualtes 2 Murra Mayfield NSW 23	it ly Dwyer Ci d West 304	rcuit								Or Re Ph Fa	der N port i one: x:	o.: #:	111- 02 4 02 4	4955 4968 4468 4960 9775	Received Due: Priority: Contact N	: Iame:	Jul 5, 20 Jul 10, 2 3 Day Emma 0	24 11:33 AM 024 Coleman	
Pro Pro	ject Name: ject ID:	WINTO NEW24	N - SUFFO P-0141	LK PARK												Eurofir	ns Analytical	Service	es Manage	er : Andrew B	lack
			Samp	le Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Melbo	ourne Laborato	ory - NA	TA # 1261	Site # 1254									X			-					
Sydn	ey Laboratory	- NATA	# 1261 Site	e # 18217			Х		Х	Х	Х	Х		Х	Х	-					
Mayfi	ield West Labo	ratory -	NATA # 12	261 Site # 250	079			X								-					
54	TPS4 0.0-0.1	Jul 02,	2024	Soi	I N	24-JI0013772			Х							-					
55	TPS4 0.1-0.2	Jul 02,	2024	Soi	I N	24-JI0013773			Х							4					
56	TPS5 0.0-0.1	Jul 02,	2024	Soi	I N	24-JI0013774			Х							4					
57	TPS5 0.2-0.3	Jul 02,	2024	Soi	I N	24-JI0013775			Х							-					
58	TPS6 0.0-0.1	Jul 02, 1	2024	Soi	I N	24-JI0013776			X							-					
59	TPS7 0.0-0.1	Jul 02, 1	2024	Soi	I N	24-JI0013778			X							-					
60	TPS7 0.2-0.3	Jul 02, 1	2024	Soi	I N	24-JI0013779			X							-					
61	TPS8 0.4-0.5	Jul 02,	2024	Soi	I N	24-JI0013780			Х							-					
62	TPS8 0.9-1.0	Jul 02,	2024	Soi	I N	24-JI0013781			Х							-					
63	WPP1 0.1-0.2	Jul 02,	2024	Soi	I N	24-JI0013782			Х							-					
64	WPP2 0.4-0.5	Jul 02,	2024	Soi	I N	24-JI0013783			Х						<u> </u>	4					
65	WPP3 0.2-0.3	Jul 02,	2024	Soi	I N	24-JI0013784	<u> </u>		Х							4					
66	WPP4 0.2-0.3	Jul 02,	2024	Soi	I N	24-JI0013785	<u> </u>		Х							4					
67	TPQ1 0.4-0.5	Jul 03,	2024	Soi	I N	24-JI0013786			Х							4					
68	TPQ1 1.3-1.4	Jul 03,	2024	Soi	I N	24-JI0013787			Х												

		Eu	Eurofins Environment Testing Australia Pty Ltd     ABN: 50 005 085 521										Eurofi	1S ARL	- Pty Lt	td Eurofins ProMicro Pty Ltd	d Eurofins Envi	ronment	Festing NZ L	_td	
	eurorin	IS Me 6 M	elbourne Monterey Road	Geelong 19/8 Lewalan Stree	Sydney et 179 Magowar Ro	Canberra ad Unit 1,2 Dacre Stree	Brisb t 1/21 S	ane Smallwoo	od Place	Newcas 1/2 Fros	tle		Perth 46-48 B	anksia R	oad	Perth ProMicro 46-48 Banksia Road	Auckland 35 O'Rorke Road	Aucklar Unit C1/	d (Focus) 4 Pacific Rise,	Christchurch 43 Detroit Drive	Tauranga 1277 Cameron Road,
web: v email:	ww.eurofins.com.au EnviroSales@eurofins.co	Dai VIC +61 om NA Site	TABENONG South C 3175 1 3 8564 5000 TA# 1261 e# 1254	VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	QLD T: +61 NATA	ne 4172   7 3902 # 1261 20794 &	4600 2780	NSW 23 +61 2 49 NATA# 1 Site# 25	968 8448 968 8448 1261 979	3	WA 610 +61 8 62 NATA# 2 Site# 23	253 4444 377 70	4	Weisnpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland +64 9 52 IANZ# 1	211061 250568 308	Christchurch 7675 +64 3 343 5201 IANZ# 1290	Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
C A	ompany Name: ddress:	Qualtest 2 Murray Mayfield NSW 23	t y Dwyer Cir d West 304	rcuit								Or Re Ph Fa	der N port i ione: x:	o.: #:	1114 02 4 02 4	4955 4968 4468 4960 9775	Received Due: Priority: Contact N	: lame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	024 11:33 AM 2024 Coleman	
Pi Pi	oject Name: oject ID:	WINTON NEW24	N - SUFFOI P-0141	LK PARK												Eurofir	ns Analytical	Service	s Manage	er : Andrew B	lack
Sample Detail Melbourne Laboratory - NATA # 1261 Site # 1254 Sydney Laboratory - NATA # 1261 Site # 18217							Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Mel	bourne Laborate	ory - NA	TA # 1261 \$	Site # 1254									Х								
Syc	Iney Laboratory	- NATA	# 1261 Site	e # 18217			Х		Х	Х	Х	Х		Х	Х						
May	field West Labo	oratory -	NATA # 12	61 Site # 250	79			Х													
69	TPQ2 0.4-0.5	Jul 03, 2	2024	Soil	Ν	I24-JI0013788			Х												
70	TPQ2 0.9-1.0	Jul 03, 2	2024	Soil	Ν	I24-JI0013789			Х							_					
71	TPQ2 1.9-2.0	Jul 03, 2	2024	Soil	Ν	I24-JI0013790			Х												
72	TPQ2 2.0-2.1	Jul 03, 2	2024	Soil	Ν	I24-JI0013791			Х							_					
73	TPQ3 0.0-0.1	Jul 03, 2	2024	Soil	Ν	124-J10013792			Х							-					
74	TPQ3 0.2-0.3	Jul 03, 2	2024	Soil	Ν	124-J10013793			Х							_					
75	TPQ4 0.0-0.1	Jul 03, 2	2024	Soil	Ν	I24-JI0013794			Х												
76	TPQ4 0.2-0.3	Jul 03, 2	2024	Soil	Ν	I24-JI0013795			Х												
77	TPQ5 0.6-0.7	Jul 03, 2	2024	Soil	Ν	I24-JI0013796			Х												
78	TPQ6 0.4-0.5	Jul 03, 2	2024	Soil	Ν	I24-JI0013797			Х												
79	TPQ6 1.4-1.5	Jul 03, 2	2024	Soil	Ν	I24-JI0013798			Х												
80	TPQ6 1.5-1.6	Jul 03, 2	2024	Soil	Ν	I24-JI0013799			Х												
81	TPQ7 0.2-0.3	Jul 03, 2	2024	Soil	Ν	I24-JI0013800			Х												
82	TPOQ7 0.4- 0.5	Jul 03, 2	2024	Soil	Ν	I24-JI0013801			х												

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web: ema	: www.eurofins.com.au	<b>S</b>	Melbourne         6           6 Monterey Road         Dandenong South           VIC 3175         +61 3 8564 5000           NATA# 1261         Site# 1254	Geelong 19/8 Lewalan Str Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney eet 179 Magowar Roa Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra dd Unit 1,2 Dacre Stree Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisb t 1/21 S Murar QLD T: +6' NATA Site#	ane Smallwoo 4172 1 7 3902 # 1261 20794 &	od Place 4600 2780	Newcas 1/2 Fros Mayfield NSW 23 +61 2 49 NATA# 25	stle st Drive d West 304 968 8448 1261 5079	3	Perth 46-48 B Welshp WA 610 +61 8 6 NATA# 2 Site# 23	anksia R pol 253 444 2377	Road	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckla Unit C1 Mount \ Aucklar +64 9 5 IANZ#	nd (Focus) /4 Pacific Rise, Wellington, rd 1061 r25 0568 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
¢ A	Company Name: Address:	Qualte 2 Mur Mayfie NSW	est rray Dwyer Ci eld West 2304	rcuit								Or Re Pr Fa	rder N eport = none: ix:	o.: #:	111 02 4 02 4	4955 4968 4468 4960 9775	Received Due: Priority: Contact N	: lame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 024 Coleman	
F	Project Name: Project ID:	WINT NEW2	ON - SUFFO 24P-0141	LK PARK												Eurofi	ns Analytical	Servic	es Manage	er : Andrew Bl	lack
			Samp	le Detail			Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Me	elbourne Laborato	ory - N	NATA # 1261	Site # 1254									Х								
Sy	dney Laboratory	- NAT	A # 1261 Site	e # 18217			Х		Х	Х	Х	Х		Х	Х						
Ма	ayfield West Labo	ratory	/ - NATA # 12	261 Site # 25	079			X													
83	TPQ8 0.3-0.4	Jul 0	3, 2024	So	il N	24-JI0013802			Х												
84	TPQ8 1.3-1.4	Jul 0	3, 2024	So	il N	24-JI0013803			Х												
85	TPQ8 1.8-1.9	Jul 0	3, 2024	So	il N	24-JI0013804			Х												
86	TPQ9 0.4-0.5	Jul 0	3, 2024	So	il N	24-JI0013805			Х												
87	TPQ9 0.8-0.9	Jul 0	3, 2024	So	il N	24-JI0013806			Х												
88	TPQ10 0.4-0.5	Jul 0	3, 2024	So	il N	24-JI0013807			Х												
89	TPQ10 0.8-0.9	Jul 0	3, 2024	So	il N	24-JI0013808			Х												
90	TPQ11 0.4-0.5	Jul 0	3, 2024	So	il N	24-JI0013809			Х												
91	TPQ11 0.9-1.0	Jul 0	3, 2024	So	il N	24-JI0013810			Х							]					
92	TPQ11 1.3-1.4	Jul 0	3, 2024	So	il N	24-JI0013811			Х							]					
93	S1	Jul 0	3, 2024	So	il N	24-JI0013812			Х							]					
94	S2	Jul 0	3, 2024	So	il N	24-JI0013813	1		Х						1	]					
95	S4	Jul 0	3, 2024	So	il N	24-JI0013814	1		х							1					
96	S6	Jul 0	3, 2024	So	il N	24-JI0013815	1		х							1					
97	D1.2.7.24	Jul 02	2, 2024	So	il N	24-JI0013816			Х							]					
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		E	Eurofins Enviro	onment Testing	Australia Pty Lto	1							Eurofi	ns ARL	. Pty Lt	d Eurofins ProMicro Pty Ltd	Eurofins Envir	onment T	Testing NZ L	.td	
	eurofin	S A	S ABN: 50 005 085 521										ABN: 91	05 0159	9 898	ABN: 47 009 120 549	NZBN: 942904602	4954			
web: w email:	ww.eurofins.com.au EnviroSales@eurofins.co	urofins.com.au     6 Monterey Road Dandenong South +61 3 8564 5000     1/9 Levalan Street 179 Magwara Road Unit 1,2 Dacre Street 1/2 Magwar					Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2661 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Aucklan Unit C1/4 Mount W Auckland +64 9 52 IANZ# 13	d (Focus) 4 Pacific Rise, /ellington, 1 1061 25 0568 308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402									
Co Ac Pr	ompany Name: Idress:	Qualte 2 Murr Mayfie NSW 2	est ay Dwyer Ci eld West 2304 2014 - SUEEO	rcuit								Or Re Ph Fa	der N port # one: x:	o.: #:	1114 02 4 02 4	4955 968 4468 960 9775	Received: Due: Priority: Contact Na	ame:	Jul 5, 20 Jul 10, 2 3 Day Emma C	24 11:33 AM 024 coleman	
Pr	oject ID:	NEW2	4P-0141													Eurofin	s Analytical S	Service	s Manage	er : Andrew B	lack
Sample Detail Melbourne Laboratory - NATA # 1261 Site # 1254							Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25 °C as rec.)	BTEX	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)						
Mel	bourne Laborate	ory - NA	ATA # 1261	Site # 1254									х								
Syd	ney Laboratory	- NATA	A # 1261 Site	e # 18217			X		Х	Х	Х	Х		Х	Х						
Мау	field West Labo	ratory	- NATA # 12	261 Site # 25	079			X													
98	T1.2.7.24	Jul 02	, 2024	Soi	il N	24-JI0013817			X												
99	D.3.7.24	Jul 03	, 2024	Soi	il N	124-JI0013818			Х												
100	T.3.7.24	Jul 03	, 2024	Soi	II N	124-JI0013819			X												
101	D1.3.7.24	Jul 03	, 2024	Soi		124-JI0013820			X												
102	ASB FRAG 1	Jul 03	, 2024	Bui Ma	ilding N terials	124-J10013821 124-J10013822		x	X												
104	TPS6 0.5-0.6	Jul 02	. 2024	Soi	il N	24-JI0014155			x												
105	TB.2.7.24	Jul 02	, 2024	Wa	ter N	24-JI0014185					х										
Tes	t Counts						10	1	70	2	1	33	2	33	7						



#### Internal Quality Control Review and Glossary

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- 2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
- 3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
- 4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- 5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
- 7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- 8. Samples were analysed on an 'as received' basis.
- 9. Information identified in this report with blue colour indicates data provided by customers that may have an impact on the results.
- 10. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units		
mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
μg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

#### Terms

Unite

••••••	
APHA	American Public Health Association
CEC	Cation Exchange Capacity
сос	Chain of Custody
СР	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
твто	Tributyltin oxide (bis-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

#### **QC - Acceptance Criteria**

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is <30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 - 150%, VOC recoveries 50 - 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

#### **QC Data General Comments**

- 1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- 3. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 4. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- 5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data



#### **Quality Control Results**

Test				Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
BTEX									
Benzene			mg/L	< 0.001			0.001	Pass	
Toluene			mg/L	< 0.001			0.001	Pass	
Ethylbenzene			mg/L	< 0.001			0.001	Pass	
m&p-Xylenes			mg/L	< 0.002			0.002	Pass	
o-Xylene			mg/L	< 0.001			0.001	Pass	
Xylenes - Total*			mg/L	< 0.003			0.003	Pass	
LCS - % Recovery									
BTEX									
Benzene			%	116			70-130	Pass	
Toluene			%	114			70-130	Pass	
Ethylbenzene			%	111			70-130	Pass	
m&p-Xylenes			%	112			70-130	Pass	
o-Xylene			%	111			70-130	Pass	
Xylenes - Total*			%	112			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
втех				Result 1					
Benzene	S24-JI0010169	NCP	%	95			70-130	Pass	
Toluene	S24-JI0010169	NCP	%	84			70-130	Pass	
Ethylbenzene	S24-JI0010169	NCP	%	97			70-130	Pass	
m&p-Xylenes	S24-JI0010169	NCP	%	101			70-130	Pass	
o-Xylene	S24-JI0010169	NCP	%	99			70-130	Pass	
Xylenes - Total*	S24-JI0010169	NCP	%	100			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	N24-JI0014185	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	N24-JI0014185	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	N24-JI0014185	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	N24-JI0014185	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	N24-JI0014185	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	N24-JI0014185	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	



#### Comments

Sample Integrity	
Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

#### Authorised by:

Nileshni Goundar Roopesh Rangarajan Analytical Services Manager Senior Analyst-Volatile

Glenn Jackson Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

\* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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### ce: Sydney, pdf page: 1 SGS Ref: SE20007\_COC SGS Newcastle

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Company	Qualtest			Pro	ect N≌	NE	V24P-014	1				Project	t Manager	Emma Coler	man			Sam	pler(s	,	B.S	now		
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	Client Sample ID	Sa Dai dd/mr	impled le/Time nlyy hismm	Matrix Solid (S) Water (W)																20	10	, ŠĻ	Other (Asb	Sample Comments / Dangerous Goods Hazard War
	D.2.7.24	3/	/07/24	Soil		Sec.					×											1		
1	T.2.7.24	3/	07/24	Soil			- Alter					×										1		PLEASE SEND TO SGS
	D1.2.7.24	3/	07/24	Soil																		1		
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P. Rubarray 11/07/24 @ 11.05



### SAMPLE RECEIPT ADVICE

CLIENT DETAILS	SS	LABORATORY DETA	ILS	
Contact	Emma Coleman	Manager	Shane McDermott	
Client	QUALTEST LABORATORY NSW PTY LTD	Laboratory	SGS Alexandria Environmental	
Address	2 MURRAY DWYER CIRCUIT MAYFIELD WEST NSW 2304	Address	Unit 16, 33 Maddox St Alexandria NSW 2015	
Telephone	61 2 49684468	Telephone	+61 2 8594 0400	
Facsimile	(Not specified)	Facsimile	+61 2 8594 0499	
Email	emmacoleman@qualtest.com.au	Email	au.environmental.sydney@sgs.com	
Project	NEW24P-0141 Winton - Suffolk Park	Samples Received	Thu 11/7/2024	
Order Number	NEW24P-0141	Report Due	Tue 16/7/2024	
Samples	1	SGS Reference	SE268007	

SUBMISSION DETAILS

This is to confirm that 1 sample was received on Thursday 11/7/2024. Results are expected to be ready by COB Tuesday 16/7/2024. Please quote SGS reference SE268007 when making enquiries. Refer below for details relating to sample integrity upon receipt.

- Sample counts by matrix Date documentation received Samples received without headspace Sample container provider Samples received in correct containers Sample cooling method Complete documentation received
- 1 Soil 11/7/2024 Yes Other Lab Yes Ice Bricks Yes

Type of documentation received Samples received in good order Sample temperature upon receipt Turnaround time requested Sufficient sample for analysis Samples clearly labelled COC Yes 5.7°C Three Days Yes Yes

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS -

This document is issued by the Company under its General Conditions of Service accessible at <u>www.sqs.com/en/Terms-and-Conditions.aspx</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

SGS Australia Pty Ltd ABN 44 000 964 278 Environment, Health and Safety

Unit 16 33 Maddox St PO Box 6432 Bourke Rd BC Alexandria NSW 2015 Alexandria NSW 2015

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www.sgs.com.au



### SAMPLE RECEIPT ADVICE

#### CLIENT DETAILS

#### Client QUALTEST LABORATORY NSW PTY LTD

Project NEW24P-0141 Winton - Suffolk Park

- SUMMAR	OF ANALYSIS						
No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	T.2.7.24	1	26	7	10	11	7

\_ CONTINUED OVERLEAF



### SAMPLE RECEIPT ADVICE

CLIENT DETAILS

- SUMMARY OF ANALYSIS

#### Client QUALTEST LABORATORY NSW PTY LTD

Project NEW24P-0141 Winton - Suffolk Park

No.	Sample ID	Moisture Content
001	T.2.7.24	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document. The numbers shown in the table indicate the number of results requested in each package. Please indicate as soon as possible should your request differ from these details . Testing as per this table shall commence immediately unless the client intervenes with a correction .


## **ANALYTICAL REPORT**





CLIENT DETAILS		LABORATORY DE	LABORATORY DETAILS		
Contact	Emma Coleman	Manager	Shane McDermott		
Client	QUALTEST LABORATORY NSW PTY LTD	Laboratory	SGS Alexandria Environmental		
Address	2 MURRAY DWYER CIRCUIT MAYFIELD WEST NSW 2304	Address	Unit 16, 33 Maddox St Alexandria NSW 2015		
Telephone	61 2 49684468	Telephone	+61 2 8594 0400		
Facsimile	(Not specified)	Facsimile	+61 2 8594 0499		
Email	emmacoleman@qualtest.com.au	Email	au.environmental.sydney@sgs.com		
Project	NEW24P-0141 Winton - Suffolk Park	SGS Reference	SE268007 R0		
Order Number	NEW24P-0141	Date Received	11/7/2024		
Samples	1	Date Reported	12/7/2024		

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES

Akheeqar BENIAMEEN Chemist

Shane MCDERMOTT Laboratory Manager



Senior Chemist

Kamrul AHSAN Senior Chemist

Acm/m/

Ly Kim HA Organic Section Head

SGS Australia Pty Ltd ABN 44 000 964 278

Environment, Health and Safety

Unit 16 33 Maddox St PO Box 6432 Bourke Rd BC Alexandria NSW 2015 Alexandria NSW 2015 Australiat +61 2 8594 0400Australiaf +61 2 8594 0499

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## VOC's in Soil [AN433] Tested: 11/7/2024

			T.2.7.24
			SOIL
			- 3/7/2024
PARAMETER	UOM	LOR	SE268007.001
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1



## Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 11/7/2024

			T.2.7.24
			SOIL
PARAMETER	UOM	LOR	SE268007.001
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25



## TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 11/7/2024

			T.2.7.24
			SOIL
PARAMETER	UOM	LOR	3/7/2024 SE268007.001
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210



## **ANALYTICAL RESULTS**

## PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 11/7/2024

			T.2.7.24
			SOIL
			-
PARAMETER	UOM	LOR	3/7/2024 SE268007.001
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <lor=0*< td=""><td>TEQ (mg/kg)</td><td>0.2</td><td>&lt;0.2</td></lor=0*<>	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <lor=lor*< td=""><td>TEQ (mg/kg)</td><td>0.3</td><td>&lt;0.3</td></lor=lor*<>	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <lor=lor 2*<="" td=""><td>TEQ (mg/kg)</td><td>0.2</td><td>&lt;0.2</td></lor=lor>	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8



## **ANALYTICAL RESULTS**

### Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 11/7/2024

			T.2.7.24
			SOIL
PARAMETER	UOM	LOR	SE268007.001
Arsenic, As	mg/kg	1	4
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.7
Copper, Cu	mg/kg	0.5	15
Lead, Pb	mg/kg	1	4
Nickel, Ni	mg/kg	0.5	1.1
Zinc, Zn	mg/kg	2	12



## Mercury in Soil [AN312] Tested: 11/7/2024

			T.2.7.24
			SOIL
PARAMETER	UOM	LOR	SE268007.001
Mercury	mg/kg	0.05	<0.05



## Moisture Content [AN002] Tested: 11/7/2024

			T.2.7.24
			SOIL
PARAMETER	UOM	LOR	SE268007.001
% Moisture	%w/w	1	19.6



METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting.
AN420	Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <lor <="" <lor="" all="" and="" are="" assuming="" half="" lor="" lor.<="" results="" second="" td="" the="" third="" zero,=""></lor>
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.



#### FOOTNOTES -

*	NATA accreditation does not cover
	the performance of this service.
**	Indicative data, theoretical holding
	time exceeded.

\*\*\* Indicates that both \* and \*\* apply.

Not analysed.
 NVL Not validated.
 IS Insufficient sample for analysis.
 LNR Sample listed, but not received.

UOM Unit of Measure. LOR Limit of Reporting. ↑↓ Raised/lowered Limit of Reporting.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received. Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- a. 1 Bq is equivalent to 27 pCi
- b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: <u>www.sgs.com.au/en-gb/environment-health-and-safety</u>.

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## STATEMENT OF QA/QC PERFORMANCE

CLIENT DETAILS		LABORATORY DETAIL	s
Contact Client Address	Emma Coleman QUALTEST LABORATORY NSW PTY LTD 2 MURRAY DWYER CIRCUIT MAYFIELD WEST NSW 2304	Manager Laboratory Address	Shane McDermott SGS Alexandria Environmental Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	61 2 49684468	Telephone	+61 2 8594 0400
Facsimile	(Not specified)	Facsimile	+61 2 8594 0499
Email	emmacoleman@qualtest.com.au	Email	au.environmental.sydney@sgs.com
Project	NEW24P-0141 Winton - Suffolk Park	SGS Reference	<b>SE268007 R0</b>
Order Number	NEW24P-0141	Date Received	11 Jul 2024
Samples	1	Date Reported	12 Jul 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document. This QA/QC Statement must be read in conjunction with the referenced Analytical Report. The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Alexandria Environmental laboratory).

Sample counts by matrix	1 Soil	Type of documentation received	COC	
Date documentation received	11/7/2024	Samples received in good order	Yes	
Samples received without headspace	Yes	Sample temperature upon receipt	5.7°C	
Sample container provider	Other Lab	Turnaround time requested	Next Day	
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes	
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes	
Complete documentation received	Yes			

SGS Australia Pty Ltd ABN 44 000 964 278

SAMPLE SUMMARY

Environment, Health and Safety

Unit 16 33 Maddox St PO Box 6432 Bourke Rd Alexandria NSW 2015 Alexandria NSW 2015 t +61 2 8594 0400 f +61 2 8594 0499

Australia

Australia

0499

www.sgs.com.au



## HOLDING TIME SUMMARY

## SE268007 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in Green when within suggested criteria or Red with an appended dagger symbol (†) when outside suggested criteria. If the

Mercury in Soil							Method: I	ME-(AU)-[ENV]AN312
Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T.2.7.24	SE268007.001	LB317426	03 Jul 2024	11 Jul 2024	31 Jul 2024	11 Jul 2024	31 Jul 2024	12 Jul 2024
Moisture Content							Method: I	AE-(AU)-[ENV]AN002
Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T.2.7.24	SE268007.001	LB317424	03 Jul 2024	11 Jul 2024	17 Jul 2024	11 Jul 2024	16 Jul 2024	12 Jul 2024
PAH (Polynuclear Aromat	tic Hydrocarbons) in Soil						Method: I	ME-(AU)-[ENV]AN420
Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T.2.7.24	SE268007.001	LB317422	03 Jul 2024	11 Jul 2024	17 Jul 2024	11 Jul 2024	20 Aug 2024	12 Jul 2024
Total Recoverable Eleme	nts in Soil/Waste Solids/Ma	terials by ICPOES					Method: ME-(AU	)-[ENV]AN040/AN320
Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T.2.7.24	SE268007.001	LB317425	03 Jul 2024	11 Jul 2024	30 Dec 2024	11 Jul 2024	30 Dec 2024	12 Jul 2024
TDU /Tefel Deserves ble l	hules and see ) in Oall							

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T.2.7.24	SE268007.001	LB317422	03 Jul 2024	11 Jul 2024	17 Jul 2024	11 Jul 2024	20 Aug 2024	12 Jul 2024

VOC's in Soil							Method: ME-(AU)-[ENV]AN433		
Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed	
T.2.7.24	SE268007.001	LB317423	03 Jul 2024	11 Jul 2024	17 Jul 2024	11 Jul 2024	17 Jul 2024	12 Jul 2024	

Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[E						ME-(AU)-[ENV]AN433		
Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
T.2.7.24	SE268007.001	LB317423	03 Jul 2024	11 Jul 2024	17 Jul 2024	11 Jul 2024	17 Jul 2024	12 Jul 2024



## **SURROGATES**

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in Green when within suggested criteria or Red with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

#### PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420 Parameter Sample Nam Sample Numb Units Criteria Recovery % 2-fluorobiphenyl (Surrogate) 70 - 130% T.2.7.24 SE268007.001 % 111 d14-p-terphenyl (Surrogate) T.2.7.24 SE268007.001 % 70 - 130% 108 SE268007.001 d5-nitrobenzene (Surrogate) T.2.7.24 % 70 - 130% 112 VOC's in Soil Method: ME-(AU)-[ENV]AN433 Parameter Sample Name Sample Number Units Criteria Recovery % Bromofluorobenzene (Surrogate) T.2.7.24 SE268007.001 60 - 130% 88 % T.2.7.24 SE268007.001 60 - 130% d4-1,2-dichloroethane (Surrogate) % 80 d8-toluene (Surrogate) T.2.7.24 SE268007.001 % 60 - 130% 84 Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433 Parameter Units Criteria Recovery % Sample Name Sample Numb Bromofluorobenzene (Surrogate) T.2.7.24 SE268007.001 60 - 130% % 88 d4-1,2-dichloroethane (Surrogate) T.2.7.24 SE268007.001 % 60 - 130% 80 T.2.7.24 SE268007.001 60 - 130% 84 d8-toluene (Surrogate) %



## **METHOD BLANKS**

## SE268007 R0

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in Green when within suggested criteria or Red with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil		Meth	od: ME-(AU)-[ENV]AN312	
Sample Number	Parameter	Units	LOR	Result
LB317426.001	Mercury	mg/kg	0.05	<0.05

#### PAH (Polynuclear Aromatic Hydrocarbons) in Soil

PAH (Polynuclear Aromatic	Hydrocarbons) in Soil			Metho	d: ME-(AU)-[ENV]AN420
Sample Number		Parameter	Units	LOR	Result
LB317422.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	115
		2-fluorobiphenyl (Surrogate)	%	-	113
		d14-p-terphenyl (Surrogate)	%	-	108
Total Recoverable Element	s in Soil/Waste Solids/Mat	erials by ICPOES		Method: ME-(	AU)-[ENV]AN040/AN320
Sample Number		Parameter	Units	LOR	Result
LB317425.001		Arsenic, As	mg/kg	1	<1
		On dealers Ord		0.0	-0.0

	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0
TRH (Total Recoverable Hydrocarbons) in Soil			Metho	d. ME-(ALI)-IENVIAN403

TRH (Total Recoverable Hydrocarbons) in Soil			Metho	od: ME-(AU)-[ENV]AN403
Sample Number	Parameter	Units	LOR	Result
LB317422.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil				Met	hod: ME-(AU)-[ENV]AN433
Sample Number		Parameter	Units	LOR	Result
LB317423.001	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1
	Hydrocarbons	Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	99
		d8-toluene (Surrogate)	%	-	103
		Bromofluorobenzene (Surrogate)	%	-	105
	Totals	Total BTEX*	mg/kg	0.6	<0.6
Volatile Petroleum Hyd	rocarbons in Soll			Met	hod: ME-(AU)-[ENV]AN433
Sample Number		Parameter	Units	LOR	Result
LB317423.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	99



Method: ME-(ALI)-JENV/JAN420

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in Green when within suggested criteria or Red with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Mercury in Soil					Meth	od: ME-(AU)-	[ENV]AN312
Original	Duplicate	Parameter	Units LOR	Original	Duplicate	Criteria %	RPD %
SE268007.001	LB317426.004	Mercury	mg/kg 0.05	<0.05	0.08	109	41

#### Moisture Content

Moisture Content					Meth	od: ME-(AU)-	[ENV]AN002	
Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE268011.003	LB317424.005	% Moisture	%w/w	1	19.4	18.1	35	7

#### PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Original	Duplicato		Parameter	Unite		Original	Duplicato	Critoria %	PDD %
SE269007 001	L P217422 004		Naphthalana	onits	0.1			200	0
3E200007.001	LB317422.004			mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenanthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Elugraph	mg/kg	0.1	<0.1	<0.1	200	0
			Phonenthropo	mg/kg	0.1	<0.1	<0.1	200	0
			Anthroppe	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Purene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&i)fluoranthene		0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene		0.1	<0.1	<0.1	200	0
			Benzo(a)nvrene		0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	ma/ka	0.1	<0.1	<0.1	200	0
			Dibenzo(ab)anthracene	ma/ka	0.1	<0.1	<0.1	200	0
			Benzo(ghi)pervlene	ma/ka	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs. BaP TEQ <lor=0*< td=""><td>ma/ka</td><td>0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>200</td><td>0</td></lor=0*<>	ma/ka	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <lor=lor 2*<="" td=""><td>mg/kg</td><td>0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>175</td><td>0</td></lor=lor>	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <lor=lor*< td=""><td>mg/kg</td><td>0.3</td><td>&lt;0.3</td><td>&lt;0.3</td><td>134</td><td>0</td></lor=lor*<>	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	30	10
		Ū.	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	7
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
Total Recoverable	Elements in Soil/Was	ste Solids/Materials	by ICPOES				Method: ME	-(AU)-IENVIA	N040/AN320
Original	Duplicate		Parameter	Units	LOR	Original	Dunlicate	Critoria %	RDD %
SE268007.001	LB317425.004		Arsenic As	ma/ka	1	4	3	59	21
02200001.001	20011120.001		Cadmium Cd	ma/ka	0.3	<0.3	<0.3	200	0
			Chromium Cr	ma/ka	0.5	3.7	3.5	44	8
			Copper, Cu	ma/ka	0.5	15	16	33	6
			Nickel Ni	ma/ka	0.5	11	12	74	7
			Lead Pb	ma/ka	1	4	4	55	7
			Zinc. Zn	ma/ka	2	12	12	47	1
TRH (Total Recove	erable Hvdrocarbons)	in Soil		5.5			Meth	od: ME-(AU)	-IENVIAN40
Original	Dunlicate		Parameter			Original	Dunlicate	Criteria %	RPD %
SE268007.001	L B317422 004		TRH C10-C14	ma/ka	20	<20	<20	200	0
02200007.001	20017422.004		TBH C15-C28	mg/kg	45	<45	<45	200	0
			TBH C29-C36		45	<45	<45	200	0
			TBH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	ma/ka	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	ma/ka	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	ma/ka	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	ma/ka	25	<25	<25	200	0
			TRH >C16-C34 (F3)	ma/ka	90	<90	<90	200	0
			TRH >C34-C40 (F4)	ma/ka	120	<120	<120	200	0
L									-



Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in Green when within suggested criteria or Red with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

VOC's in Soil							Meth	nod: ME-(AU)-	ENVJAN433
Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE268007.001	LB317423.004	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	8.0	50	0
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.3	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.2	50	6
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
Volatile Petroleum	n Hydrocarbons in Soi	l					Meth	od: ME-(AU)-	ENVJAN433
Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE268007.001	LB317423.004		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.0	8.0	50	0
			d8-toluene (Surrogate)	mg/kg	-	8.4	8.3	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.2	50	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0



Method: ME-(AU)-[ENV]AN420

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in Green when within suggested criteria or Red with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil					1	Nethod: ME-(A	.U)-[ENV]AN312
Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317426.002	Mercury	mg/kg	0.05	0.21	0.2	80 - 120	103

#### PAH (Polynuclear Aromatic Hydrocarbons) in Soil

		-			_			-
Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317422.002		Naphthalene	mg/kg	0.1	4.5	4	60 - 140	113
		Acenaphthylene	mg/kg	0.1	4.9	4	60 - 140	121
		Acenaphthene	mg/kg	0.1	4.4	4	60 - 140	110
		Phenanthrene	mg/kg	0.1	4.6	4	60 - 140	115
		Anthracene	mg/kg	0.1	5.2	4	60 - 140	130
		Fluoranthene	mg/kg	0.1	4.3	4	60 - 140	108
		Pyrene	mg/kg	0.1	4.5	4	60 - 140	113
		Benzo(a)pyrene	mg/kg	0.1	5.2	4	60 - 140	129
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	110
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	118
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	103
Total Recoverable I	Elements in Soil/V	Vaste Solids/Materials by ICPOES				Method:	ME-(AU)-[EN	V]AN040/AN320
Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317425.002		Arsenic, As	mg/kg	1	340	318.22	80 - 120	108
		Cadmium, Cd	mg/kg	0.3	5.1	4.81	70 - 130	105
		Chromium, Cr	mg/kg	0.5	41	38.31	80 - 120	106
		Copper, Cu	mg/kg	0.5	300	290	80 - 120	103
		Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
		Lead, Pb	mg/kg	1	92	89.9	80 - 120	103
		Zinc. Zn	ma/ka	2	270	273	80 - 120	100
TDU (Total Deseure	neble Ubulne cerber						Anthone MET (A	
IRH (Total Recove	rable Hydrocarbo						Nethod: ME-(A	
Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317422.002		TRH C10-C14	mg/kg	20	51	40	60 - 140	127
		TRH C15-C28	mg/kg	45	53	40	60 - 140	131
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	90
	TRH F Bands	TRH >C10-C16	mg/kg	25	52	40	60 - 140	130
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	117
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	84
VOC's in Soil						N	vethod: ME-(A	U)-[ENV]AN433
Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317423.002	Monocyclic	Benzene	mg/kg	0.1	4.0	5	60 - 140	80
	Aromatic	Toluene	mg/kg	0.1	4.6	5	60 - 140	92
		Ethylbenzene	mg/kg	0.1	4.8	5	60 - 140	95
		m/p-xylene	mg/kg	0.2	9.6	10	60 - 140	96
		o-xylene	mg/kg	0.1	4.8	5	60 - 140	96
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.2	10	70 - 130	102
		d8-toluene (Surrogate)	mg/kg	-	10.5	10	70 - 130	105
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
Volatile Petroleum I	Hydrocarbons in S	Soil				N	Method: ME-(A	U)-[ENV]AN433
Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery <u>%</u>
LB317423.002		TRH C6-C10	mg/kg	25	71	92.5	60 - 140	76
		TRH C6-C9	mg/kg	20	61	80	60 - 140	77
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.2	10	70 - 130	102
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	43	62.5	60 - 140	69



## **MATRIX SPIKES**

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in Green when within suggested criteria or Red with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

QC Sample Sample Number Parameter Units LOR



Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in Green when within suggested criteria or Red with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.



#### Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: <a href="https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf">https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf</a>

- \* NATA accreditation does not cover the performance of this service.
- \*\* Indicative data, theoretical holding time exceeded.
- \*\*\* Indicates that both \* and \*\* apply.
- Sample not analysed for this analyte.
- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.
- ① At least 2 of 3 surrogates are within acceptance criteria.
- 2 RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- 6 LOR was raised due to sample matrix interference.
- <sup>1</sup> LOR was raised due to dilution of significantly high concentration of analyte in sample.
- Image: Image:
- Recovery failed acceptance criteria due to sample heterogeneity.
- <sup>®</sup> LOR was raised due to high conductivity of the sample (required dilution).
- t Refer to relevant report comments for further information.

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# APPENDIX L: Data Validation Report

## QA/QC DATA VALIDATION REPORT Job No: NEW24P-0141-AA

Eurofins reports: 1114955-S, 1114955-AID, 1114955-W SGS Australia report: SE269007

## 1. SAMPLE HANDLING

Item	Yes/No	Comments
Were the sample holding times met?	Yes	
Were the samples in proper custody between collection in the field and reaching the laboratory?	Yes	
Were the samples properly and adequately preserved?	Yes	
Were the samples received by the laboratory in good condition?	Yes	

## Sampling Handling was:

Satisfactory : √	Partially Satisfactory:	Unsatisfactory:
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## 2. PRECISION AND ACCURACY ASSESSMENT

Item	Yes/No	Comment
Was a NATA registered laboratory used?	Yes	-
Did the laboratory perform the requested tests?	Yes	-
Were the laboratory methods adopted NATA endorsed?	Yes	-
Were the appropriate test procedures followed?	Yes	-
Were the reporting limits satisfactory?	Yes	-
Was the NATA seal on the reports?	Yes	-
Were the reports signed by an authorised person?	Yes	-

## Laboratory Precision and Accuracy was:

	Satisfactory : $\checkmark$	Partially Satisfactory:	Unsatisfactory:
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## 3. FIELD QA/QC

## Soil Samples

	Soil
No. Samples Analysed	33
No. of Duplicates	1
No. of Triplicates	1
No. of Wash Blanks	0
No. of Trip Blanks	1
No. of Trip Spikes	0

## No. Days Sampling

Item	Soil
Number of Days Sampling	2
Number of Sampling Events	1

## **Field Duplicates**

ltem	Yes/No	Comments
Were an adequate number of field duplicates collected?	Yes	Duplicates collected at a rate of 1 per 16 samples.
Were RPDs within control limits? No Limit for 5-10 x EQL and 30% for >10 x EQL	Yes	

## Trip Blanks/Trip Spikes

Item	Yes/No	Comments
Were an adequate number of trip blanks and trip spikes collected?	Yes	Trip blanks collected at a rate of 1 per sampling event.
Were the trip blanks free of contaminants? (If no, comment whether the contaminants present are also detected in the samples and whether they are common laboratory chemicals).	Yes	-
Were the trip spikes within recovery limits (between 80% and 120%)	N/A	

## **Rinsate Samples**

Item	Yes/No	Comments
Were an adequate number of rinsate samples used? (1 per day of using reusable sampling equipment – trowel, hand auger etc)	Yes	No rinsate samples were collected as no reusable sampling equipment was used.

Were the rinsate samples free of contaminants? (If no, comment whether the contaminants present are also detected in the samples and	N/A	-
whether they are common laboratory		
chemicals).		

## 4. LABORATORY INTERNAL QUALITY CONTROL PROCEDURES

A) Type of QA/QC Sample	Yes/No	Comments
Laboratory Blanks/Reagent Blanks (at least 1 per batch)	Yes	-
Laboratory Duplicates (at least 1 per batch or 1 per 10 samples)	Yes	-
Matrix Spikes, Matrix Spike Duplicates (1 for each soil type)	Yes	-
Laboratory Control Spike	Yes	-
Surrogate (where appropriate)	Yes	-

Item	Yes/No	Comments
<b>B)</b> Were the laboratory blanks and/or reagent blanks free of contamination?	Yes	-
C) Were the spike recoveries within control limits? I: Organics/inorganics/metals (50% to 150%) II: Phenols (20% to 130%)	Yes	-
<b>D)</b> Were the RPDs of the laboratory duplicates within control limits?	Yes	_
<b>E)</b> Were the surrogate recoveries within control limits?	No	A surrogate for PAHs (p-Terphenyl-d14) was not reported for sample D.2.7.24. The lab quoted code Q09 which states: "The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC." Based on this, the surrogate recovery is not considered to affect the data usability.

## Laboratory Internal QA/QC was:

Satisfactory :	$\checkmark$	Partially Satisfactory:	Unsatisfactory:

## 5. DATA USABILITY

Item Yes/No Comments
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## QA/QC DATA VALIDATION REPORT

Was the data directly usable?	Yes	
Was the data usable with the following corrections/modifications? (see comments)	NA	
Was the data not usable?	NA	