

Diona Pty Ltd
 Level 2/2 Burbank Place
 Norwest NSW 2153

17 September 2020

Report Number: 11140-ER-1-1 (Rev 1)
Project Name: Ausgrid – Feeder 265 Replacement Project
Site Location: Bunnerong Substation to Maroubra Substation NSW 2035
Report Type: Waste Classification Report
Sample Locations: Insitu soil materials from borehole locations BH1 to BH12

Summary Table

Soil Materials Assessed	Waste Classification
BH1 to BH3: fill soils 0.1m to 2.0m below ground level (bgl)	General Solid Waste (TCLP1/SCC1)
BH3 to BH12: fill soils ranging between 0.1m ~ 2.0m bgl with underlying VENM	General Solid Waste (CT1)
BH3 to BH12: natural soils 0.1 ~ 2.0m bgl to depth of excavation	Virgin Excavated Natural Material (VENM)

1. Introduction

Alliance Geotechnical Pty Ltd (AG) was engaged by Diona Pty Ltd (the client) to assess the insitu soil materials from within a proposed electrical conduit alignment, located between Bunnerong Substation to Maroubra Substation NSW 2035 (refer to **Figure 1 to Figure 3, Attachment 1**). The purpose of the assessment were to understand the contamination characteristics (if any) of soil materials to facilitate offsite disposal (only).

The following investigation/classification has been undertaken with reference to the relevant sections of the *Protection of the Environment Operations POEO Act 1997* (POEO ACT 1997) and NSW EPA Waste Classification Guidelines Part 1: Classifying Waste (2014).

2. History and production of waste

AG was informed by the client that the *in-situ* soil materials will be excavated for the installation of underground electrical conduits.

Information on the history of waste in the sampling area was not provided to AG however the site was observed to be situated within the road corridor surrounded by a mixture of residential, recreational, commercial and industrial land use.

On 25th August 2020, a review of the NSW EPA compiled List of Contaminated Sites was completed. The review indicated that the site was not the subject of any notifications to the NSW EPA under Section 60 of the *Contaminated Land Management Act 1997* (CLM Act 1997) however was within the vicinity of sites which are subject to notifications.

A review of the NSW EPA Record of Notices was completed on 25th August 2020. The review indicated that the site was not the subject of any notifications to the NSW Office of Environment and Heritage under Section 58 of the CLM Act 1997 (CLM Act 1997) however was within the vicinity of sites which are subject to notifications.

A review of the public register under the *Protection of the Environment Operations Act, 1997* (the POEO Act) was completed on 25th August 2020. The review indicated that no environment protection licenses, penalty notices issued by the NSW EPA, convictions under the POEO Act or pollution studies and reduction programs applied to the site however did apply to surrounding properties, refer to **EPA Searches, Attachment 6**.

3. Acid sulfate soils

A review of <https://www.environment.nsw.gov.au/eSpade2Webapp> indicated that the site is located in an area mapped as 'No Known Occurrence'.

Further assessment into acid sulfate soils is considered unwarranted.

4. Geological Survey

The NSW Department of Mineral Resources Geological Map of Sydney (Scale 1:250,000) indicated the residual soils within the site to be underlain by the Quaternary Period (Qa) alluvium, gravel, sand, silt and clay.

5. Field work

The site was visited by an appropriately experienced environmental consultant on 11 and 12 August 2020 and the below observations were made:

- Twelve (12) boreholes (BH1 and BH12) were advanced within the proposed alignment located within the road way using a ute mounted drill rig;
- All boreholes were advanced to a maximum depth of 3.0m below ground surface level (bgl). Soil samples were collected from within this depth of excavation (**Site Photographs, Attachment 2**);
- A total of twenty-eight (28) soil samples were collected from insitu soils;
- During sample collection, no foreign materials, hydrocarbon odours, staining or asbestos containing material (ACM) was observed within the sampled insitu soil materials on site; and
- No shells or jarosite was noted during the sample collection activities.

The materials encountered during excavation were observed to generally comprise:

- 0.0-0.1m bgl – FILL: ASPHALT, fine to medium grained, grey, fine to coarse grained
- 0.1 ~ 2.0m bgl – FILL: Sandy GRAVEL, fine to medium grained, grey, fine to coarse grained sands & SAND, fine to medium grained, brown; and
- >0.1m ~ 2.0m bgl – INFERRED NATURAL: SAND, fine to medium grained, pale grey/yellow/brown underlain by SANDSTONE (bedrock), refer to **Environmental Borehole Logs, Attachment 5**.

6. Quantity of materials

AG understands from the client that the total water main footprint is estimated to be approximately 3.8km length, 1.0m width and depth of excavation to be approximately 1.5m bgs (the total volume would be approximately 5,700m³. Assuming a bulk density of 1.8 tonne / m³, AG estimate approximately 10,260 tonnes of excess material may be generated based on the above assumptions.

7. Laboratory analysis

A total of twenty-eight (28) soil samples (collected from BH1 to BH12) were scheduled for analysis at a NATA accredited laboratory for a selected range of the following parameters:

- arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc (Heavy metals);
- total recoverable hydrocarbons (TRHs);
- polycyclic aromatic hydrocarbons (PAHs);
- benzene, toluene, ethyl benzene, total xylene and naphthalene (BTEXN);
- polychlorinated biphenyls (PCBs);

- organochlorine pesticides (OCPs);
- organophosphorus pesticides (OPPs); and
- asbestos ID (0.01%)

The identifiers for all twenty-eight (28) samples taken were as follows:

BH1-0.3-0.5, BH1-0.7-0.9, BH1-1.1-1.3, BH2-0.4-0.6, BH2-0.8-1.0, BH2-2.0-2.2, BH3-0.3-0.5, BH3-0.5-0.7, BH3-1.0-1.2, BH4-0.4-0.6, BH4-0.7-0.9, BH5-0.35-0.5, BH6-0.3-0.5, BH6-0.8-1.0, BH7-0.3-0.5, BH7-0.9-1.0, BH7-1.6-1.8, BH8-0.1-0.3, BH8-0.7-0.9, BH9-0.3-0.5, BH9-1.0-1.2, BH10-0.6-0.8, BH10-1.1-1.3, BH11-0.3-0.5, BH11-1.2-1.4, BH12-0.4-0.6, BH12-0.8-1.0 and BH12-1.6-1.8.

The results of the analysis are presented in **Table 1, Attachment 3 and Laboratory Documentation, Attachment 4**.

7.1. Soil sampling and transportation

Upon inspection and logging of the material, soil samples were recovered by an appropriately experienced environmental consultant from AG and sent to a NATA accredited laboratory for analysis. The samples were recovered from site using disposable nitrile gloves and transferred into laboratory supplied 250mL glass jars, which were sealed with Teflon lids and zip lock sealed 500mL asbestos bags. The sealed samples were placed into a chilled esky and transported to Eurofins | Mgt, under Chain of Custody (COC) procedures. A new pair of nitrile gloves were used at each sample location to prevent cross-contamination.

7.2. Laboratory quality assurance and quality control

Eurofins Scientific | Environment Testing is registered by NATA for chemical testing (1261) and quality system compliance to ISO/IEC 17025. A component of this quality system is checks on the analytical equipment to assess the accuracy of the results. Duplicates, spikes and blanks were not collected. However, based on the following, AG considers the quality of the data to be acceptable:

- Primary samples were analysed by a NATA accredited laboratory;
- No evidence of odours or staining was observed in samples collected;
- Soil samples were collected using disposable gloves, in order to reduce the risk of cross contamination;
- Samples were placed in insulated containers with ice during storage and transport;
- Laboratory results for samples analysed for volatile contaminants of concern were less than the limit of reporting;
- Laboratory analytical results of primary samples were within the expected ranges in the context of this project and based on field observations; and
- AG considers the risk of volatile losses during storage and handling to be low.

8. Laboratory results

8.1. Waste classification assessment

The 6-step classification procedure in NSW EPA *Waste Classification Guidelines* 2014 were followed, with the results presented in **Table 8.1** below:

Table 8.1. NSW EPA *Waste Classification Guidelines* (2014) – 6 Step Classification Procedure

Step	Material Observation
1 <i>Is the waste special waste?</i>	No. No asbestos was observed or detected.
2 <i>Is the waste liquid waste?</i>	No. The material comprised a soil matrix.
3 <i>Is the waste pre-classified?</i>	No. The material is not pre-classified with reference to <i>WCG NSW EPA 2014</i> however the VENM is pre-classified under General Solid Waste (non-putrescible).

Step	Material Observation
4	<p><i>Does the waste possess hazardous characteristics</i></p> <p>No. The waste was not observed to contain or considered at risk to contain explosives, gases, flammable solids, oxidising agents, organic peroxides, toxic substances, corrosive substances, coal tar, batteries, lead paint or dangerous goods containers.</p>
5	<p><i>Waste classification using chemical assessment.</i></p> <p>Yes.</p> <p><u>Lead</u></p> <p>Laboratory analytical results for soil sample 'BH2-0.8-1.0' (110 mg/kg) exceeded the general solid waste contaminant threshold (CT1) criteria for lead (100 mg/kg). As such, toxicity characteristic leaching potential (TCLP) preparation of the soil sample and subsequent analysis of the elutriate was completed. The analytical result (< 0.01 mg/L) did not exceed the general solid waste TCLP1 maximum concentration (5 mg/L). As TCLP analysis was undertaken, a revised specific contaminant concentration (SCC1) was applicable (1050 mg/kg) as outlined in the NSW EPA <i>Waste Classification Guidelines Part 1: Classifying Waste</i> (2014).</p>
	<p><u>Nickel</u></p> <p>Laboratory analytical results for soil sample 'BH1-0.3-0.5' (76 mg/kg) exceeded the general solid waste contaminant threshold (CT1) criteria for nickel (40 mg/kg). As such, toxicity characteristic leaching potential (TCLP) preparation of the soil sample and subsequent analysis of the elutriate was completed. The analytical result (0.01 mg/L) did not exceed the general solid waste TCLP1 maximum concentration (2 mg/L). As TCLP analysis was undertaken, a revised specific contaminant concentration (SCC1) was applicable (1050 mg/kg) as outlined in the NSW EPA <i>Waste Classification Guidelines Part 1: Classifying Waste</i> (2014).</p> <p><u>Benzo(a)pyrene</u></p> <p>Laboratory analytical results for soil sample 'BH3-0.3-0.5' (1.0 mg/kg) was found to be exceeding the general solid waste contaminant threshold (CT1) criteria for benzo(a)pyrene (0.8 mg/kg) and soil sample 'BH2-0.8-1.0' (6.7 mg/kg) exceeding the general solid waste contaminant threshold (CT2) criteria for benzo(a)pyrene (3.2 mg/kg). As such, a toxicity characteristic leaching potential (TCLP) preparation of the soil sample (with the highest concentration) and subsequent analysis of the elutriate was completed. The analytical results (<0.001 mg/L) did not exceed the general solid waste TCLP1 maximum concentration (0.04 mg/L) as outlined in the NSW EPA <i>Waste Classification Guidelines Part 1: Classifying Waste</i> (2014). As TCLP analysis was undertaken, a revised specific contaminant concentration (SCC1) was applicable (10 mg/kg).</p> <p><u>Remaining Soil Samples</u></p> <p>All remaining soil samples returned analytical results lower than the general solid waste (CT1) criteria, as outlined in the EPA NSW <i>Waste Classification Guidelines</i> (2014) and lower than the maximum average/absolute maximum concentration criteria as outlined in the NSW EPA <i>Excavated Natural Material Order 2014</i>.</p> <p>Furthermore, samples from inferred natural material did not exceed the background ranges as outlined in DA Berkman's <i>Field Geologist's Manual</i> (1976).</p> <p>6 <i>Is the waste putrescible or non-putrescible?</i></p> <p>Non-putrescible. The fill does not contain materials considered to be putrescible. *</p>

*wastes that are generally not classified as putrescible include soils, timber, garden trimmings, agricultural, forest and crop materials, and natural fibrous organic and vegetative materials.

9. Waste classification

Based on AG's laboratory analytical results, fieldwork observations, insitu soils within the proposed alignment are classified as **General Solid Waste (TCLP1/SCC1)**, **General Solid Waste (CT1)** and **Virgin Excavated Natural Material (VENM)** in accordance with the NSW EPA *Waste Classification Guidelines Part 1: Classifying Waste (2014)*.

10. Disposal

If the material was to be excavated and disposed based on the currently available data, AG recommends that:

- the waste be disposed of to an appropriately NSW EPA licenced waste receiving facility; and
- the waste generator retains transport and tipping records for all waste removed from site.

Should unexpected finds be uncovered during excavation of the insitu material described in this waste classification, works are to cease and a suitably qualified environmental consultant engaged to assess the potential implication with regard to this waste classification.

This conclusion must be read in conjunction with the statement of limitations presented in **Section 11**.

11. Statement of limitations

The findings presented in this report are based on chemical analysis, physical observations made during a site inspection, and anecdotal information that were made available during the course of this investigation. To the best of our knowledge, these observations represent a reasonable interpretation of the general condition of the site at the time of report completion.

This report has been prepared solely for the use of the client to whom it is addressed and no other party is entitled to rely on its findings.

No warranties are made as to the information provided in this report. All conclusions and recommendations made in this report are of the professional opinions of personnel involved with the project and while normal checking of the accuracy of data has been conducted, any circumstances outside the scope of this report or which are not made known to personnel and which may impact on those opinions is not the responsibility of Alliance Geotechnical Pty Ltd.

Should you need any further information, please do not hesitate to contact the undersigned.

For and on behalf of,
Alliance Geotechnical Pty Ltd



Isabelle Figatowski
B. Sci (Env Consulting)
Environmental Consultant

Reviewed by:

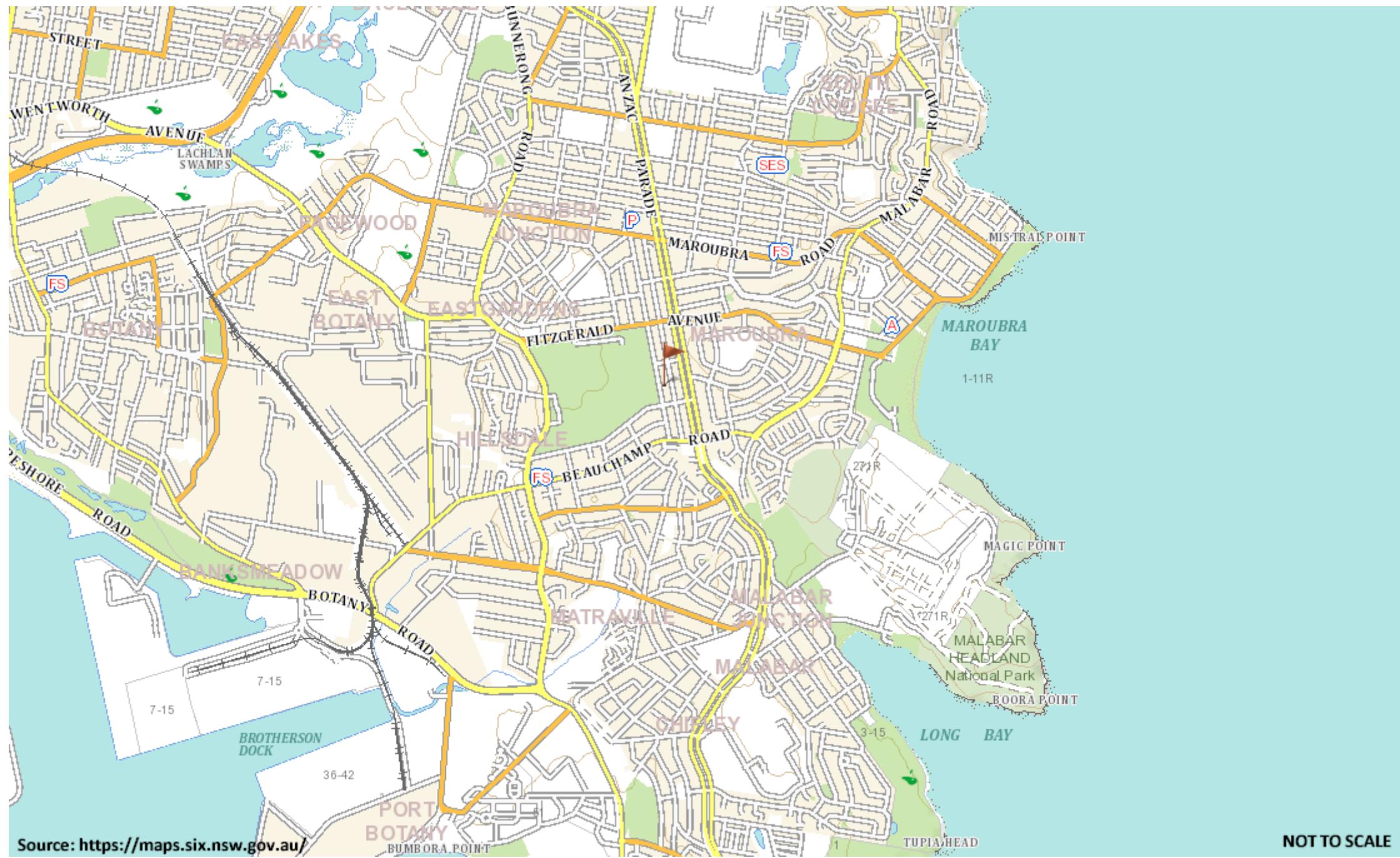


Michael Dunesky
B. Ap Sci (Env Mgt)
Senior Environmental Scientist

Attachments:

- 1) Figures
- 2) Site Photograph's
- 3) Results Summary Tables
- 4) Laboratory Reports and Chain of Custody Documentation
- 5) Environmental Borehole Logs
- 6) EPA Searches

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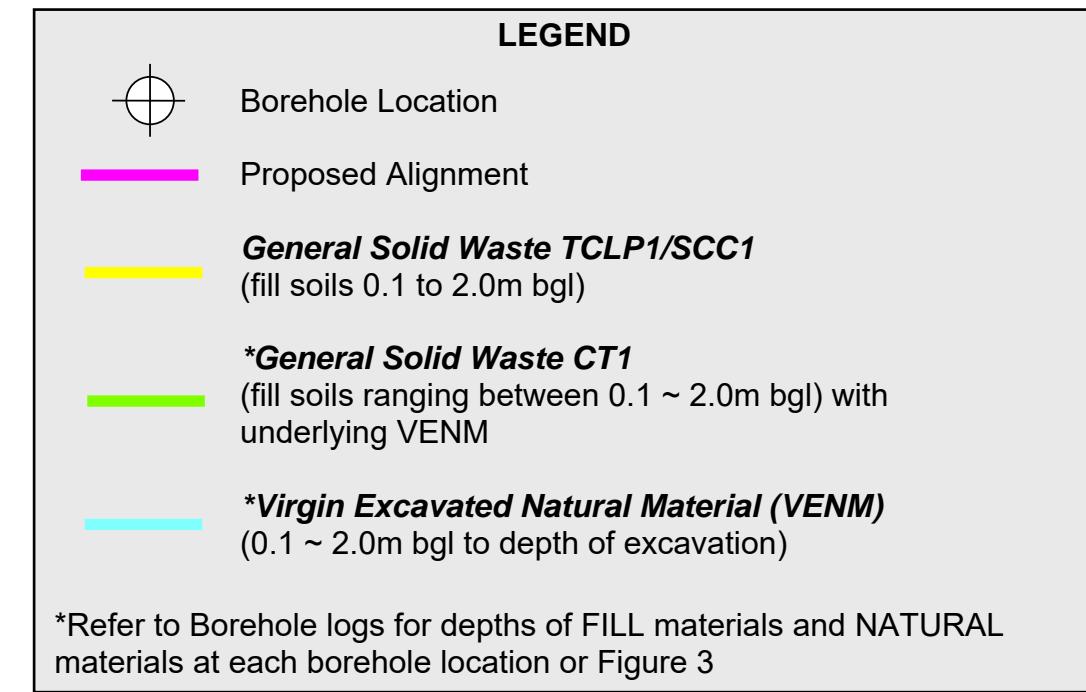
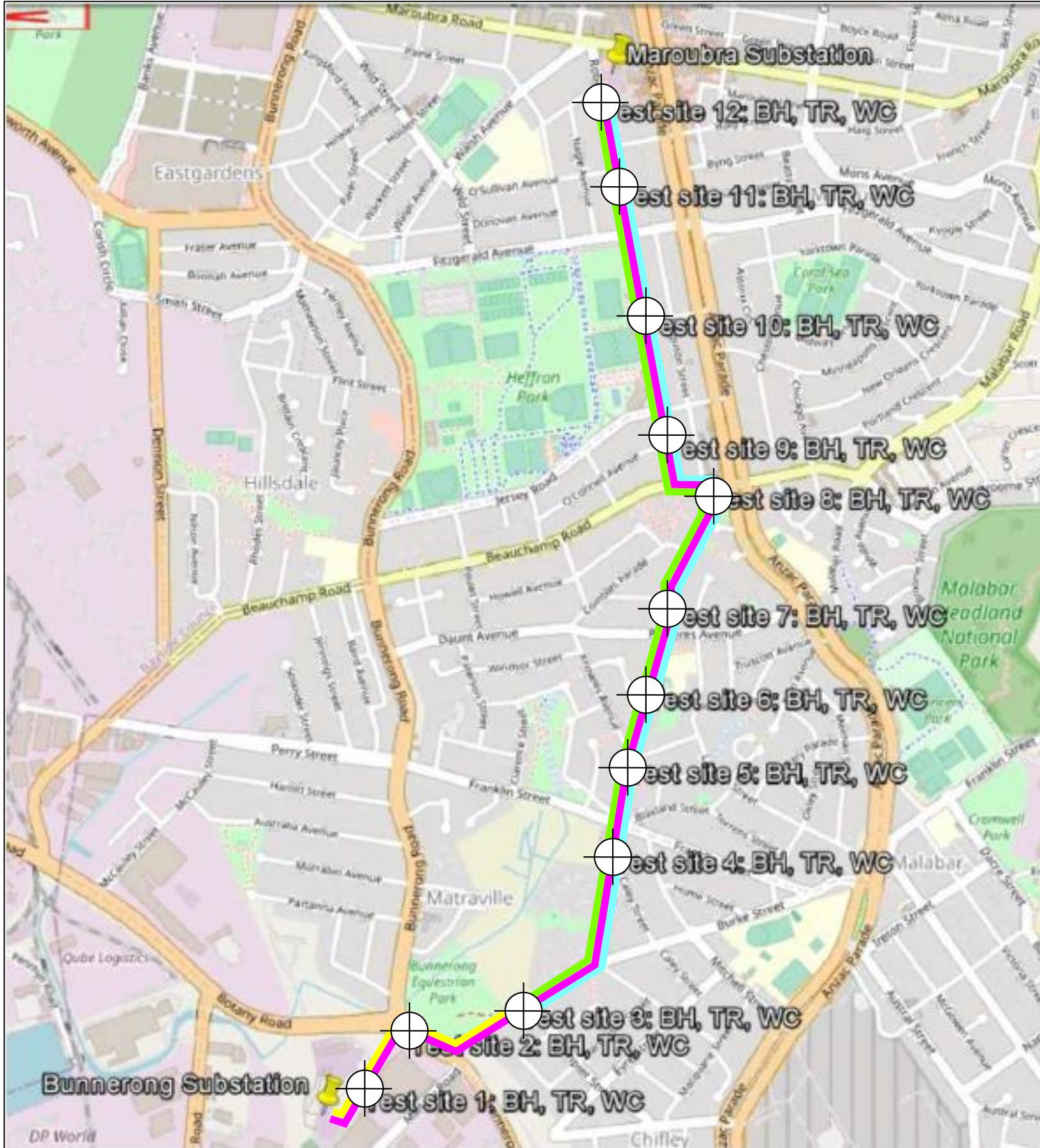


Table 2: Borehole approximate locations

BOREHOLE NO	LATITUDE	LONGITUDE
1	33°58'8.16"S	151°13'48.22"E
2	33°58'2.87"S	151°13'53.57"E
3	33°58'0.82"S	151°14'6.29"E
4	33°57'46.08"S	151°14'16.89"E
5	33°57'37.61"S	151°14'18.51"E
6	33°57'30.60"S	151°14'20.84"E
7	33°57'22.69"S	151°14'23.01"E
8	33°57'11.50"S	151°14'28.02"E
9	33°57'6.13"S	151°14'22.93"E
10	33°56'55.03"S	151°14'20.38"E
11	33°56'42.74"S	151°14'17.47"E
12	33°56'34.72"S	151°14'15.56"E

Coordinates provided by client

Borehole	Depth (excluding 0.1m asphalt)	Classification
BH1	0.1-0.5 >0.5m	GSW TCLP1 VENM
BH2	0.1-2.0m >2.0m	GSW TCLP1 VENM
BH3	0.1-0.7 >0.7m	GSW TCLP1 VENM
BH4	0.1-0.6 >0.6m	GSW CT1 VENM
BH5	0.1-0.5 >0.5m	GSW CT1 VENM
BH6	0.1-0.2 >0.2m	GSW CT1 VENM
BH7	0.1-0.2 >0.2m	GSW CT1 VENM
BH8	0.0-0.4 >0.4m	GSW CT1 VENM
BH9	0.1-0.2 >0.2m	GSW CT1 VENM
BH10	0.1-0.5 >0.5m	GSW CT1 VENM
BH11	>0.1m	VENM
BH12	0.1-0.2 >0.2m	GSW CT1 VENM

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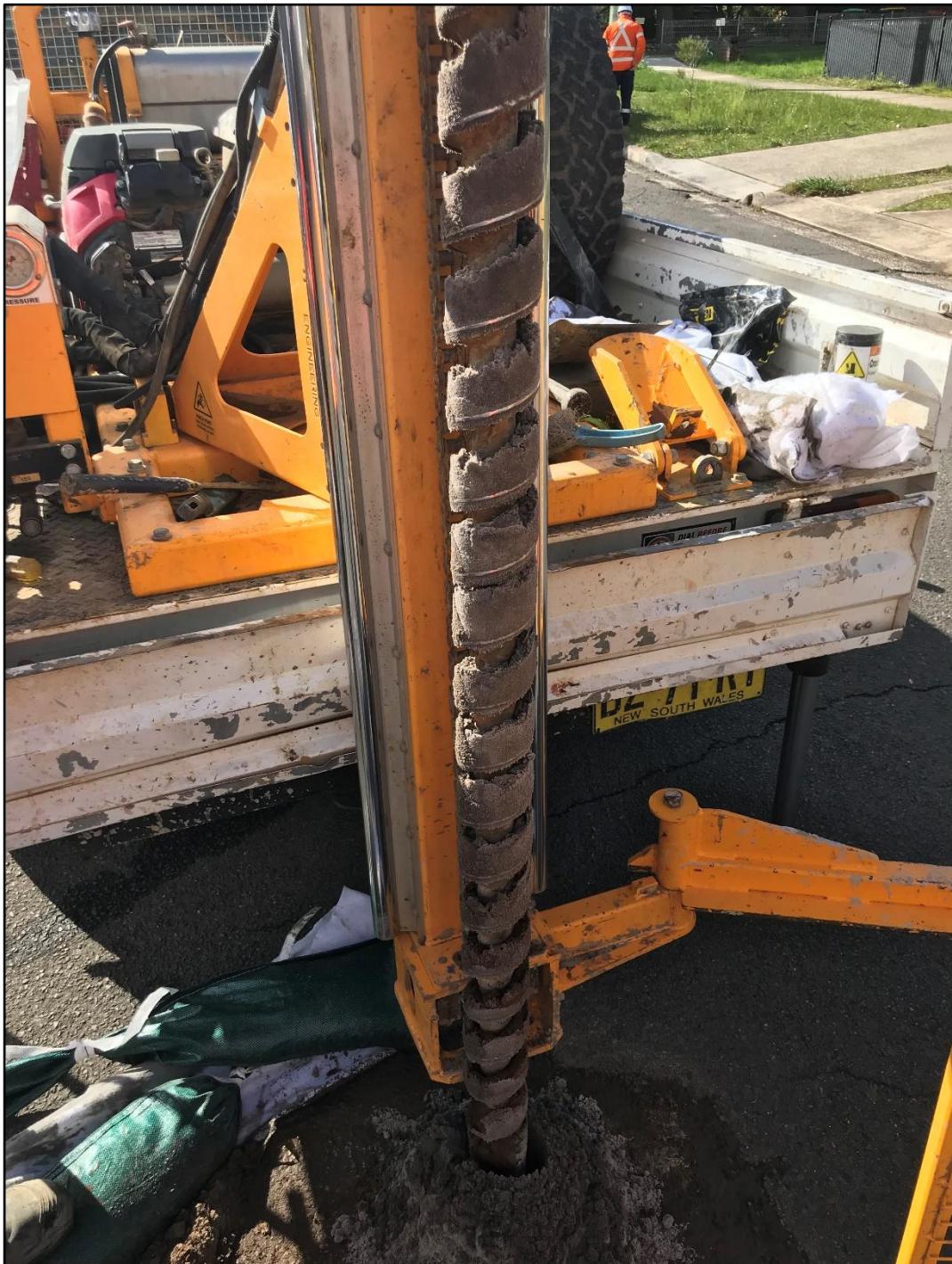


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Environment Testing

Alliance Geotechnical
10 Welder Road
Seven Hills
NSW 2147



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: Matt Swinbourn

Report 737759-S
Project name FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID 11140
Received Date Aug 13, 2020

Client Sample ID			BH1 0.3-0.5 Soil S20-Au20097 Aug 12, 2020	BH1 0.7-0.9 Soil S20-Au20098 Aug 12, 2020	BH1 1.1-1.3 Soil S20-Au20099 Aug 12, 2020	BH2 0.4-0.6 Soil S20-Au20100 Aug 12, 2020
Sample Matrix		LOR	Unit			
Eurofins Sample No.						
Date Sampled						
Test/Reference						
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
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	%	62	67	75	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	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
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	0.8
Benzo(a)pyrene TEQ (upper bound)*	0.5	mg/kg	1.2	1.2	1.2	1.3
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	1.0
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.3
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

Client Sample ID			BH1 0.3-0.5 Soil S20-Au20097	BH1 0.7-0.9 Soil S20-Au20098	BH1 1.1-1.3 Soil S20-Au20099	BH2 0.4-0.6 Soil S20-Au20100
Date Sampled	LOR	Unit	Aug 12, 2020	Aug 12, 2020	Aug 12, 2020	Aug 12, 2020
Test/Reference						
Polycyclic Aromatic Hydrocarbons						
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	2.3
2-Fluorobiphenyl (surr.)	1	%	85	101	97	84
p-Terphenyl-d14 (surr.)	1	%	84	112	107	81
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	68	-	-	47
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	8.9	-	-	8.7
% Moisture	1	%	9.9	1.6	1.5	9.1
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	2.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	26	< 5	< 5	9.2
Copper	5	mg/kg	120	< 5	< 5	45
Lead	5	mg/kg	< 5	< 5	< 5	43
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	76	< 5	< 5	6.7
Zinc	5	mg/kg	83	< 5	< 5	65
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4,4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4,4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4,4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
d-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Diethylrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.2	mg/kg	-	< 0.2	< 0.2	-
Toxaphene	1	mg/kg	-	< 1	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
Vic EPA IWGR 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	-
Vic EPA IWGR 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	-

Client Sample ID	LOR	Unit	BH1 0.3-0.5 Soil S20-Au20097 Aug 12, 2020	BH1 0.7-0.9 Soil S20-Au20098 Aug 12, 2020	BH1 1.1-1.3 Soil S20-Au20099 Aug 12, 2020	BH2 0.4-0.6 Soil S20-Au20100 Aug 12, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference						
Organochlorine Pesticides						
Dibutylchlorendate (surr.)	1	%	-	INT	129	-
Tetrachloro-m-xylene (surr.)	1	%	-	83	88	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Bolstar	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlорfenvinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Coumaphos	2	mg/kg	-	< 2	< 2	-
Demeton-S	0.2	mg/kg	-	< 0.2	< 0.2	-
Demeton-O	0.2	mg/kg	-	< 0.2	< 0.2	-
Diazinon	0.2	mg/kg	-	< 0.2	< 0.2	-
Dichlorvos	0.2	mg/kg	-	< 0.2	< 0.2	-
Dimethoate	0.2	mg/kg	-	< 0.2	< 0.2	-
Disulfoton	0.2	mg/kg	-	< 0.2	< 0.2	-
EPN	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethion	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethoprop	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenitrothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fensulfothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Malathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Merphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Methyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Mevinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Monocrotophos	2	mg/kg	-	< 2	< 2	-
Naled	0.2	mg/kg	-	< 0.2	< 0.2	-
Omethoate	2	mg/kg	-	< 2	< 2	-
Phorate	0.2	mg/kg	-	< 0.2	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Pyrazophos	0.2	mg/kg	-	< 0.2	< 0.2	-
Ronnel	0.2	mg/kg	-	< 0.2	< 0.2	-
Terbufos	0.2	mg/kg	-	< 0.2	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Tokuthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Trichloronate	0.2	mg/kg	-	< 0.2	< 0.2	-
Triphenylphosphate (surr.)	1	%	-	INT	101	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1232	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1242	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1248	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1254	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1260	0.5	mg/kg	-	< 0.5	< 0.5	-
Total PCB*	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibutylchlorendate (surr.)	1	%	-	INT	129	-
Tetrachloro-m-xylene (surr.)	1	%	-	83	88	-

Client Sample ID			BH2 0.8-1.0 Soil S20-Au20101 Aug 12, 2020	BH2 2.0-2.2 Soil S20-Au20102 Aug 12, 2020	BH3 0.3-0.5 Soil S20-Au20103 Aug 12, 2020	BH3 0.5-0.7 Soil S20-Au20104 Aug 12, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	21	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	420	< 50	110	< 50
TRH C29-C36	50	mg/kg	430	< 50	150	80
TRH C10-C36 (Total)	50	mg/kg	871	< 50	260	80
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	%	68	84	70	74
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	710	< 100	200	< 100
TRH >C34-C40	100	mg/kg	270	< 100	130	< 100
TRH >C10-C40 (total)*	100	mg/kg	980	< 100	330	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	10	< 0.5	1.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	10	0.6	1.8	0.8
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	10	1.2	2.0	1.3
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	0.7	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	1.8	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	5.9	< 0.5	1.8	0.9
Benzo(a)pyrene	0.5	mg/kg	6.7	< 0.5	1.0	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	6.4	< 0.5	2.0	1.3
Benzo(g.h.i)perylene	0.5	mg/kg	5.9	< 0.5	0.6	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	4.7	< 0.5	0.9	< 0.5
Chrysene	0.5	mg/kg	5.2	< 0.5	1.2	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	1.4	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	18	< 0.5	1.7	< 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	4.6	< 0.5	0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	12	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	17	< 0.5	1.9	< 0.5
Total PAH*	0.5	mg/kg	90.3	< 0.5	11.6	2.2
2-Fluorobiphenyl (surr.)	1	%	76	83	74	59
p-Terphenyl-d14 (surr.)	1	%	83	83	77	62
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	28	-	170	72
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	8.1	-	8.2	6.1
% Moisture	1	%	7.1	7.2	9.1	4.3

Client Sample ID			BH2 0.8-1.0 Soil S20-Au20101	BH2 2.0-2.2 Soil S20-Au20102	BH3 0.3-0.5 Soil S20-Au20103	BH3 0.5-0.7 Soil S20-Au20104
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	2.5	< 2	< 2	< 2
Cadmium	0.4	mg/kg	0.5	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	8.7	< 5	31	< 5
Copper	5	mg/kg	40	< 5	18	< 5
Lead	5	mg/kg	110	< 5	< 5	< 5
Mercury	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	13	< 5	38	< 5
Zinc	5	mg/kg	93	< 5	26	7.4
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4,4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4,4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4,4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-BHC	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-BHC	0.05	mg/kg	-	< 0.05	-	-
d-BHC	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.1	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.2	mg/kg	-	< 0.2	-	-
Toxaphene	1	mg/kg	-	< 1	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	-	-
Dibutylchlorendate (surr.)	1	%	-	64	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	71	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Bolstar	0.2	mg/kg	-	< 0.2	-	-
Chlорfenvinphos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	-
Coumaphos	2	mg/kg	-	< 2	-	-
Demeton-S	0.2	mg/kg	-	< 0.2	-	-
Demeton-O	0.2	mg/kg	-	< 0.2	-	-
Diazinon	0.2	mg/kg	-	< 0.2	-	-
Dichlorvos	0.2	mg/kg	-	< 0.2	-	-
Dimethoate	0.2	mg/kg	-	< 0.2	-	-
Disulfoton	0.2	mg/kg	-	< 0.2	-	-

Client Sample ID			BH2 0.8-1.0 Soil S20-Au20101 Aug 12, 2020	BH2 2.0-2.2 Soil S20-Au20102 Aug 12, 2020	BH3 0.3-0.5 Soil S20-Au20103 Aug 12, 2020	BH3 0.5-0.7 Soil S20-Au20104 Aug 12, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
Organophosphorus Pesticides						
EPN	0.2	mg/kg	-	< 0.2	-	-
Ethion	0.2	mg/kg	-	< 0.2	-	-
Ethoprop	0.2	mg/kg	-	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	-
Fenitrothion	0.2	mg/kg	-	< 0.2	-	-
Fensulfothion	0.2	mg/kg	-	< 0.2	-	-
Fenthion	0.2	mg/kg	-	< 0.2	-	-
Malathion	0.2	mg/kg	-	< 0.2	-	-
Merphos	0.2	mg/kg	-	< 0.2	-	-
Methyl parathion	0.2	mg/kg	-	< 0.2	-	-
Mevinphos	0.2	mg/kg	-	< 0.2	-	-
Monocrotophos	2	mg/kg	-	< 2	-	-
Naled	0.2	mg/kg	-	< 0.5	-	-
Omethoate	2	mg/kg	-	< 2	-	-
Phorate	0.2	mg/kg	-	< 0.2	-	-
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Pyrazophos	0.2	mg/kg	-	< 0.2	-	-
Ronnel	0.2	mg/kg	-	< 0.2	-	-
Terbufos	0.2	mg/kg	-	< 0.2	-	-
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	-	-
Tokuthion	0.2	mg/kg	-	< 0.2	-	-
Trichloronate	0.2	mg/kg	-	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	-	72	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1242	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1248	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1254	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1260	0.5	mg/kg	-	< 0.5	-	-
Total PCB*	0.5	mg/kg	-	< 0.5	-	-
Dibutylchlorendate (surr.)	1	%	-	64	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	71	-	-

Client Sample ID			BH3 1.0-1.2 Soil S20-Au20105 Aug 12, 2020	BH4 0.4-0.6 Soil S20-Au20106 Aug 12, 2020	BH4 0.7-0.9 Soil S20-Au20107 Aug 12, 2020	BH5 0.35-0.5 Soil S20-Au20108 Aug 11, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
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

Client Sample ID			BH3 1.0-1.2 Soil S20-Au20105 Aug 12, 2020	BH4 0.4-0.6 Soil S20-Au20106 Aug 12, 2020	BH4 0.7-0.9 Soil S20-Au20107 Aug 12, 2020	BH5 0.35-0.5 Soil S20-Au20108 Aug 11, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
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	%	75	72	78	63
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	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
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 ^{N07}	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	0.8
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	0.8
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.8
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	2.4
2-Fluorobiphenyl (surr.)	1	%	99	97	99	100
p-Terphenyl-d14 (surr.)	1	%	102	94	98	94
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	33	-	-
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	8.1	-	-
% Moisture	1	%	< 1	4.8	3.5	2.9
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	< 5	5.2
Copper	5	mg/kg	< 5	< 5	< 5	< 5
Lead	5	mg/kg	< 5	< 5	< 5	6.0

Client Sample ID			BH3 1.0-1.2 Soil S20-Au20105 Aug 12, 2020	BH4 0.4-0.6 Soil S20-Au20106 Aug 12, 2020	BH4 0.7-0.9 Soil S20-Au20107 Aug 12, 2020	BH5 0.35-0.5 Soil S20-Au20108 Aug 11, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Heavy Metals						
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	< 5	12
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.1	< 0.1
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	-	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	137	-	80	79
Tetrachloro-m-xylene (surr.)	1	%	92	-	90	88
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	-	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2

Client Sample ID			BH3 1.0-1.2 Soil S20-Au20105	BH4 0.4-0.6 Soil S20-Au20106	BH4 0.7-0.9 Soil S20-Au20107	BH5 0.35-0.5 Soil S20-Au20108
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	-	< 2	< 2
Naled	0.2	mg/kg	< 0.2	-	< 0.5	< 0.5
Omethoate	2	mg/kg	< 2	-	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	106	-	88	97
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	137	-	80	79
Tetrachloro-m-xylene (surr.)	1	%	92	-	90	88

Client Sample ID			BH6 0.3-0.5 Soil S20-Au20109	BH6 0.8-1.0 Soil S20-Au20110	BH7 0.3-0.5 Soil S20-Au20111	BH7 0.9-1.0 Soil S20-Au20112
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
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
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	%	68	69	77	60

Client Sample ID			BH6 0.3-0.5 Soil S20-Au20109 Aug 11, 2020	BH6 0.8-1.0 Soil S20-Au20110 Aug 11, 2020	BH7 0.3-0.5 Soil S20-Au20111 Aug 11, 2020	BH7 0.9-1.0 Soil S20-Au20112 Aug 11, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	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
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 ^{N07}	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	%	100	95	96	102
p-Terphenyl-d14 (surr.)	1	%	90	92	91	95
% Moisture	1	%	3.1	12	3.2	2.9
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
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	< 5
Lead	5	mg/kg	6.5	6.0	< 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	< 5	5.2	< 5	< 5
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			BH6 0.3-0.5 Soil S20-Au20109 Aug 11, 2020	BH6 0.8-1.0 Soil S20-Au20110 Aug 11, 2020	BH7 0.3-0.5 Soil S20-Au20111 Aug 11, 2020	BH7 0.9-1.0 Soil S20-Au20112 Aug 11, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
Organochlorine Pesticides						
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	96	100	109	111
Tetrachloro-m-xylene (surr.)	1	%	101	91	99	108
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlорfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Morphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			BH6 0.3-0.5 Soil S20-Au20109 Aug 11, 2020	BH6 0.8-1.0 Soil S20-Au20110 Aug 11, 2020	BH7 0.3-0.5 Soil S20-Au20111 Aug 11, 2020	BH7 0.9-1.0 Soil S20-Au20112 Aug 11, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
Organophosphorus Pesticides						
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	85	101	105	116
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	96	100	109	111
Tetrachloro-m-xylene (surr.)	1	%	101	91	99	108

Client Sample ID			BH7 1.6-1.8 Soil S20-Au20113 Aug 11, 2020	BH8 0.1-0.3 Soil S20-Au20114 Aug 11, 2020	BH8 0.7-0.9 Soil S20-Au20115 Aug 11, 2020	BH9 0.3-0.5 Soil S20-Au20116 Aug 11, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
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
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	%	62	65	59	63
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	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			BH7 1.6-1.8 Soil S20-Au20113 Aug 11, 2020	BH8 0.1-0.3 Soil S20-Au20114 Aug 11, 2020	BH8 0.7-0.9 Soil S20-Au20115 Aug 11, 2020	BH9 0.3-0.5 Soil S20-Au20116 Aug 11, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
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 ^{N07}	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	%	95	91	93	100
p-Terphenyl-d14 (surr.)	1	%	86	83	92	98
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	< 10	-	-
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	6.0	-	-
% Moisture	1	%	21	5.3	10	2.0
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
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	< 5
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	< 5
Zinc	5	mg/kg	< 5	15	< 5	13
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05

Client Sample ID			BH7 1.6-1.8 Soil S20-Au20113 Aug 11, 2020	BH8 0.1-0.3 Soil S20-Au20114 Aug 11, 2020	BH8 0.7-0.9 Soil S20-Au20115 Aug 11, 2020	BH9 0.3-0.5 Soil S20-Au20116 Aug 11, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
Organochlorine Pesticides						
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	-	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	101	-	110	123
Tetrachloro-m-xylene (surr.)	1	%	98	-	103	105
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Chlорfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	-	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	-	< 2	< 2
Naled	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	-	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	102	-	110	110

Client Sample ID			BH7 1.6-1.8 Soil S20-Au20113 Aug 11, 2020	BH8 0.1-0.3 Soil S20-Au20114 Aug 11, 2020	BH8 0.7-0.9 Soil S20-Au20115 Aug 11, 2020	BH9 0.3-0.5 Soil S20-Au20116 Aug 11, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	101	-	110	123
Tetrachloro-m-xylene (surr.)	1	%	98	-	103	105

Client Sample ID			BH9 1.0-1.2 Soil S20-Au20117 Aug 11, 2020	BH10 0.6-0.8 Soil S20-Au20118 Aug 11, 2020	BH10 1.1-1.3 Soil S20-Au20119 Aug 11, 2020	BH11 0.3-0.5 Soil S20-Au20120 Aug 11, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
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
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	%	71	74	69	70
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	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
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

Client Sample ID			BH9 1.0-1.2 Soil S20-Au20117 Aug 11, 2020	BH10 0.6-0.8 Soil S20-Au20118 Aug 11, 2020	BH10 1.1-1.3 Soil S20-Au20119 Aug 11, 2020	BH11 0.3-0.5 Soil S20-Au20120 Aug 11, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(b&j)fluoranthene ^{N07}	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	%	90	97	98	100
p-Terphenyl-d14 (surr.)	1	%	93	89	88	89
% Moisture	1	%	2.9	< 1	< 1	1.4
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
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	< 5
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	< 5
Zinc	5	mg/kg	< 5	< 5	< 5	< 5
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			BH9 1.0-1.2 Soil S20-Au20117 Aug 11, 2020	BH10 0.6-0.8 Soil S20-Au20118 Aug 11, 2020	BH10 1.1-1.3 Soil S20-Au20119 Aug 11, 2020	BH11 0.3-0.5 Soil S20-Au20120 Aug 11, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
Organochlorine Pesticides						
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchloroendate (surv.)	1	%	112	113	99	104
Tetrachloro-m-xylene (surv.)	1	%	102	101	101	108
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlорfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Morphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surv.)	1	%	107	99	100	90
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH9 1.0-1.2 Soil S20-Au20117 Aug 11, 2020	BH10 0.6-0.8 Soil S20-Au20118 Aug 11, 2020	BH10 1.1-1.3 Soil S20-Au20119 Aug 11, 2020	BH11 0.3-0.5 Soil S20-Au20120 Aug 11, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	112	113	99	104
Tetrachloro-m-xylene (surr.)	1	%	102	101	101	108

Client Sample ID			BH11 1.2-1.4 Soil S20-Au20121 Aug 11, 2020	BH12 0.4-0.6 Soil S20-Au20122 Aug 11, 2020	BH12 0.8-1.0 Soil S20-Au20123 Aug 11, 2020	BH12 1.6-1.8 Soil S20-Au20124 Aug 11, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
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
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	%	62	72	68	66
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	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
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 ^{N07}	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

Client Sample ID			BH11 1.2-1.4 Soil S20-Au20121 Aug 11, 2020	BH12 0.4-0.6 Soil S20-Au20122 Aug 11, 2020	BH12 0.8-1.0 Soil S20-Au20123 Aug 11, 2020	BH12 1.6-1.8 Soil S20-Au20124 Aug 11, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	101	89	90	103
p-Terphenyl-d14 (surr.)	1	%	91	78	85	96
% Moisture	1	%	2.1	3.5	8.3	4.6
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	6.1	< 5
Copper	5	mg/kg	< 5	< 5	< 5	< 5
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	< 5
Zinc	5	mg/kg	7.3	< 5	< 5	< 5
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	115	84	105	119
Tetrachloro-m-xylene (surr.)	1	%	106	96	88	104

Client Sample ID			BH11 1.2-1.4 Soil S20-Au20121 Aug 11, 2020	BH12 0.4-0.6 Soil S20-Au20122 Aug 11, 2020	BH12 0.8-1.0 Soil S20-Au20123 Aug 11, 2020	BH12 1.6-1.8 Soil S20-Au20124 Aug 11, 2020
Sample Matrix	LOR	Unit				
Eurofins Sample No.						
Date Sampled						
Test/Reference						
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Morphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	98	74	59	73
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	115	84	105	119
Tetrachloro-m-xylene (surr.)	1	%	106	96	88	104

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

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 - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Aug 17, 2020	14 Days
BTEX - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Aug 17, 2020	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Aug 17, 2020	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Aug 17, 2020	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Aug 17, 2020	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Aug 17, 2020	180 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Aug 17, 2020	14 Days
Organophosphorus Pesticides - Method: LTM-ORG-2220 Organophosphorus Pesticides by GC-MS	Sydney	Aug 17, 2020	14 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Aug 17, 2020	28 Days
Conductivity (1:5 aqueous extract at 25°C as rec.) - Method: LTM-INO-4030 Conductivity	Sydney	Aug 19, 2020	7 Days
pH (1:5 Aqueous extract at 25°C as rec.) - Method: LTM-GEN-7090 pH in soil by ISE	Sydney	Aug 19, 2020	7 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Aug 13, 2020	14 Days

Australia

Melbourne 6 Monterey Road Dandenong South VIC 3175 Phone : +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794	Perth 2/91 Leach Highway Kewdale WA 6105 Phone : +61 8 9251 9600 NATA # 1261 Site # 23736	Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone : +61 2 4968 8448
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New Zealand

Auckland 35 O'Rorke Road Penrose, Auckland 1061 Phone : +64 9 526 45 51 IANZ # 1327	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Phone : 0800 856 450 IANZ # 1290
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Company Name: Alliance Geotechnical
Address: 10 Welder Road
 Seven Hills
 NSW 2147

Project Name: FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID: 11140

Order No.:
Report #: 737759
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Aug 13, 2020 6:36 PM
Due: Aug 20, 2020
Priority: 5 Day
Contact Name: Matt Swinbourn

Eurofins Analytical Services Manager : Andrew Black

Sample Detail

Alliance WAC Suite
1:TRH(B)TEXNPAHM8(OCP)(OPP/PCBA/Asb
Alliance ENM Exemption Suite 2014 NSW
EPA Inc Asbestos AS4964

Moisture Set

Melbourne Laboratory - NATA Site # 1254 & 14271

Sydney Laboratory - NATA Site # 18217

Brisbane Laboratory - NATA Site # 20794

Perth Laboratory - NATA Site # 23736

Newcastle Laboratory

External Laboratory

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	BH1 0.3-0.5	Aug 12, 2020		Soil	S20-Au20097	X	X	
2	BH1 0.7-0.9	Aug 12, 2020		Soil	S20-Au20098	X		X
3	BH1 1.1-1.3	Aug 12, 2020		Soil	S20-Au20099	X		X
4	BH2 0.4-0.6	Aug 12, 2020		Soil	S20-Au20100	X	X	
5	BH2 0.8-1.0	Aug 12, 2020		Soil	S20-Au20101	X	X	
6	BH2 2.0-2.2	Aug 12, 2020		Soil	S20-Au20102	X		X
7	BH3 0.3-0.5	Aug 12, 2020		Soil	S20-Au20103	X	X	
8	BH3 0.5-0.7	Aug 12, 2020		Soil	S20-Au20104	X	X	
9	BH3 1.0-1.2	Aug 12, 2020		Soil	S20-Au20105	X		X

Australia

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 Site # 1254 & 14271

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 Lane Cove West NSW 2066
 Phone : +61 2 9900 8400
 NATA # 1261 Site # 18217

Brisbane
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 Murarrie QLD 4172
 Phone : +61 7 3902 4600
 NATA # 1261 Site # 20794

Perth
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 Kewdale WA 6105
 Phone : +61 8 9251 9600
 NATA # 1261
 Site # 23736

Newcastle
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 Mayfield East NSW 2304
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 Phone : +61 2 4968 8448

New Zealand

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 IANZ # 1327

Christchurch
 43 Detroit Drive
 Rolleston, Christchurch 7675
 Phone : 0800 856 450
 IANZ # 1290

Company Name: Alliance Geotechnical
Address: 10 Welder Road
 Seven Hills
 NSW 2147

Project Name: FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID: 11140

Order No.:
Report #: 737759
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Aug 13, 2020 6:36 PM
Due: Aug 20, 2020
Priority: 5 Day
Contact Name: Matt Swinbourn

Eurofins Analytical Services Manager : Andrew Black

Sample Detail

						Alliance WAC Suite	Alliance ENM Exemption Suite 2014 NSW	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217				X	X	X		
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
10	BH4 0.4-0.6	Aug 12, 2020		Soil	S20-Au20106	X	X	
11	BH4 0.7-0.9	Aug 12, 2020		Soil	S20-Au20107	X		X
12	BH5 0.35-0.5	Aug 11, 2020		Soil	S20-Au20108	X		X
13	BH6 0.3-0.5	Aug 11, 2020		Soil	S20-Au20109	X		X
14	BH6 0.8-1.0	Aug 11, 2020		Soil	S20-Au20110	X		X
15	BH7 0.3-0.5	Aug 11, 2020		Soil	S20-Au20111	X		X
16	BH7 0.9-1.0	Aug 11, 2020		Soil	S20-Au20112	X		X
17	BH7 1.6-1.8	Aug 11, 2020		Soil	S20-Au20113	X		X
18	BH8 0.1-0.3	Aug 11, 2020		Soil	S20-Au20114	X	X	
19	BH8 0.7-0.9	Aug 11, 2020		Soil	S20-Au20115	X		X
20	BH9 0.3-0.5	Aug 11, 2020		Soil	S20-Au20116	X		X
21	BH9 1.0-1.2	Aug 11, 2020		Soil	S20-Au20117	X		X
22	BH10 0.6-0.8	Aug 11, 2020		Soil	S20-Au20118	X		X

Australia

Melbourne
 6 Monterey Road
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 NATA # 1261
 Site # 23736

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New Zealand

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 43 Detroit Drive
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 Phone : 0800 856 450
 IANZ # 1290

Company Name: Alliance Geotechnical
Address: 10 Welder Road
 Seven Hills
 NSW 2147

Project Name: FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID: 11140

Order No.:
Report #: 737759
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Aug 13, 2020 6:36 PM
Due: Aug 20, 2020
Priority: 5 Day
Contact Name: Matt Swinbourn

Eurofins Analytical Services Manager : Andrew Black

Sample Detail

Melbourne Laboratory - NATA Site # 1254 & 14271

Sydney Laboratory - NATA Site # 18217

Brisbane Laboratory - NATA Site # 20794

Perth Laboratory - NATA Site # 23736

23	BH10 1.1-1.3	Aug 11, 2020		Soil	S20-Au20119	X		X
24	BH11 0.3-0.5	Aug 11, 2020		Soil	S20-Au20120	X		X
25	BH11 1.2-1.4	Aug 11, 2020		Soil	S20-Au20121	X		X
26	BH12 0.4-0.6	Aug 11, 2020		Soil	S20-Au20122	X		X
27	BH12 0.8-1.0	Aug 11, 2020		Soil	S20-Au20123	X		X
28	BH12 1.6-1.8	Aug 11, 2020		Soil	S20-Au20124	X		X
Test Counts					28	7	21	

Alliance WAC Suite
 1-TRHB/TEXNPAHM8/OCPP/PCBA/Asp
 Alliance ENM Exemption Suite 2014 NSW
 EPA Inc Asbestos AS4964

Moisture Set

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to '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 prior to sample receipt deadlines as stated on the SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - 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.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a 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 is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. 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.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
10. 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							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
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							
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							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
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							
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							
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlорfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	86			70-130	Pass	
TRH C10-C14	%	82			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	102			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	93			70-130	Pass	
m&p-Xylenes	%	92			70-130	Pass	
o-Xylene	%	93			70-130	Pass	
Xylenes - Total*	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	97			70-130	Pass	
TRH C6-C10	%	81			70-130	Pass	
TRH >C10-C16	%	82			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	98			70-130	Pass	
Anthracene	%	89			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	91			70-130	Pass	
Benzo(g,h,i)perylene	%	90			70-130	Pass	
Benzo(k)fluoranthene	%	103			70-130	Pass	
Chrysene	%	98			70-130	Pass	
Dibenz(a,h)anthracene	%	91			70-130	Pass	
Fluoranthene	%	90			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	94			70-130	Pass	
Naphthalene	%	97			70-130	Pass	
Phenanthrene	%	95			70-130	Pass	
Pyrene	%	93			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	109			80-120	Pass	
Cadmium	%	109			80-120	Pass	
Chromium	%	107			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
Copper	%	107			80-120	Pass		
Lead	%	106			80-120	Pass		
Mercury	%	107			80-120	Pass		
Nickel	%	108			80-120	Pass		
Zinc	%	103			80-120	Pass		
LCS - % Recovery								
Organochlorine Pesticides								
Chlordanes - Total	%	76			70-130	Pass		
4,4'-DDD	%	73			70-130	Pass		
4,4'-DDE	%	81			70-130	Pass		
4,4'-DDT	%	87			70-130	Pass		
a-BHC	%	83			70-130	Pass		
Aldrin	%	77			70-130	Pass		
b-BHC	%	80			70-130	Pass		
d-BHC	%	87			70-130	Pass		
Dieldrin	%	75			70-130	Pass		
Endosulfan I	%	87			70-130	Pass		
Endosulfan II	%	84			70-130	Pass		
Endosulfan sulphate	%	73			70-130	Pass		
Endrin	%	81			70-130	Pass		
Endrin aldehyde	%	79			70-130	Pass		
Endrin ketone	%	71			70-130	Pass		
g-BHC (Lindane)	%	84			70-130	Pass		
Heptachlor	%	75			70-130	Pass		
Heptachlor epoxide	%	73			70-130	Pass		
Hexachlorobenzene	%	80			70-130	Pass		
Methoxychlor	%	71			70-130	Pass		
LCS - % Recovery								
Organophosphorus Pesticides								
Diazinon	%	89			70-130	Pass		
Dimethoate	%	90			70-130	Pass		
Ethion	%	98			70-130	Pass		
Fenitrothion	%	122			70-130	Pass		
Methyl parathion	%	120			70-130	Pass		
Mevinphos	%	93			70-130	Pass		
LCS - % Recovery								
Polychlorinated Biphenyls								
Aroclor-1016	%	97			70-130	Pass		
Aroclor-1260	%	79			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 Fractions				Result 1				
TRH C6-C9	S20-Au26503	NCP	%	81		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
TRH C6-C10	S20-Au26503	NCP	%	83		70-130	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons				Result 1				
Acenaphthene	S20-Au23427	NCP	%	101		70-130	Pass	
Acenaphthylene	S20-Au23427	NCP	%	107		70-130	Pass	
Anthracene	S20-Au23427	NCP	%	98		70-130	Pass	
Benz(a)anthracene	S20-Au23427	NCP	%	82		70-130	Pass	
Benzo(a)pyrene	S20-Au23427	NCP	%	86		70-130	Pass	
Benzo(b&j)fluoranthene	S20-Au23427	NCP	%	93		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	S20-Au23427	NCP	%	87			70-130	Pass	
Benzo(k)fluoranthene	S20-Au23427	NCP	%	98			70-130	Pass	
Chrysene	S20-Au23427	NCP	%	80			70-130	Pass	
Dibenz(a.h)anthracene	S20-Au23427	NCP	%	77			70-130	Pass	
Fluoranthene	S20-Au23427	NCP	%	106			70-130	Pass	
Fluorene	S20-Au23427	NCP	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S20-Au23427	NCP	%	81			70-130	Pass	
Naphthalene	S20-Au23427	NCP	%	105			70-130	Pass	
Phenanthrene	S20-Au23427	NCP	%	99			70-130	Pass	
Pyrene	S20-Au23427	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S20-Au07861	NCP	%	92			70-130	Pass	
4,4'-DDD	S20-Au18001	NCP	%	78			70-130	Pass	
4,4'-DDE	S20-Au07861	NCP	%	94			70-130	Pass	
4,4'-DDT	S20-Au18001	NCP	%	90			70-130	Pass	
a-BHC	S20-Au18001	NCP	%	71			70-130	Pass	
Aldrin	S20-Au18001	NCP	%	122			70-130	Pass	
b-BHC	S20-Au18001	NCP	%	90			70-130	Pass	
d-BHC	S20-Au18001	NCP	%	85			70-130	Pass	
Dieldrin	S20-Au07861	NCP	%	84			70-130	Pass	
Endosulfan I	S20-Au07861	NCP	%	86			70-130	Pass	
Endosulfan II	S20-Au18001	NCP	%	79			70-130	Pass	
Endosulfan sulphate	S20-Au18001	NCP	%	97			70-130	Pass	
Endrin	S20-Au18001	NCP	%	70			70-130	Pass	
Endrin aldehyde	S20-Au18001	NCP	%	92			70-130	Pass	
g-BHC (Lindane)	S20-Au18001	NCP	%	87			70-130	Pass	
Heptachlor	S20-Au18001	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S20-Au18483	NCP	%	101			70-130	Pass	
Dimethoate	S20-Au18483	NCP	%	86			70-130	Pass	
Ethion	S20-Au18483	NCP	%	110			70-130	Pass	
Fenitrothion	S20-Au18483	NCP	%	83			70-130	Pass	
Methyl parathion	S20-Au18483	NCP	%	127			70-130	Pass	
Mevinphos	S20-Au18483	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S20-Au18001	NCP	%	76			70-130	Pass	
Aroclor-1260	S20-Au07861	NCP	%	123			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Endrin ketone	S20-Au28673	NCP	%	92			70-130	Pass	
Heptachlor epoxide	S20-Au28673	NCP	%	90			70-130	Pass	
Hexachlorobenzene	S20-Au28673	NCP	%	107			70-130	Pass	
Methoxychlor	S20-Au28673	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S20-Au20109	CP	%	93			70-130	Pass	
Toluene	S20-Au20109	CP	%	82			70-130	Pass	
Ethylbenzene	S20-Au20109	CP	%	77			70-130	Pass	
m&p-Xylenes	S20-Au20109	CP	%	78			70-130	Pass	
o-Xylene	S20-Au20109	CP	%	78			70-130	Pass	
Xylenes - Total*	S20-Au20109	CP	%	78			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions									
Naphthalene	S20-Au20109	CP	%	75			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions									
TRH C10-C14	S20-Au20111	CP	%	79			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions									
TRH >C10-C16	S20-Au20111	CP	%	80			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-Au20111	CP	%	103			75-125	Pass	
Cadmium	S20-Au20111	CP	%	101			75-125	Pass	
Chromium	S20-Au20111	CP	%	95			75-125	Pass	
Copper	S20-Au20111	CP	%	94			75-125	Pass	
Lead	S20-Au20111	CP	%	101			75-125	Pass	
Mercury	S20-Au20111	CP	%	100			75-125	Pass	
Nickel	S20-Au20111	CP	%	96			75-125	Pass	
Zinc	S20-Au20111	CP	%	92			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S20-Au20121	CP	%	89			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S20-Au20121	CP	%	90			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-Au20121	CP	%	110			75-125	Pass	
Cadmium	S20-Au20121	CP	%	111			75-125	Pass	
Chromium	S20-Au20121	CP	%	125			75-125	Pass	
Copper	S20-Au20121	CP	%	125			75-125	Pass	
Lead	S20-Au20121	CP	%	107			75-125	Pass	
Mercury	S20-Au20121	CP	%	117			75-125	Pass	
Nickel	S20-Au20121	CP	%	125			75-125	Pass	
Zinc	S20-Au20121	CP	%	110			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S20-Au23447	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate								
				Result 1	Result 2	RPD		
Conductivity (1:5 aqueous extract at 25°C as rec.)	S20-Au20097	CP	uS/cm	68	69	2.0	30%	Pass
pH (1:5 Aqueous extract at 25°C as rec.)	S20-Au20097	CP	pH Units	8.9	8.7	Pass	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	S20-Au20098	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	S20-Au20098	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	S20-Au20098	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	S20-Au20098	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	S20-Au20098	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	S20-Au20098	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	S20-Au20098	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S20-Au20098	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	S20-Au20098	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	S20-Au19931	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-BHC	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S20-Au19931	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Toxaphene	S20-Au18558	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	S20-Au19931	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Demeton-O	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Diazinon	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dichlorvos	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dimethoate	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Disulfoton	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
EPN	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethion	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethoprop	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethyl parathion	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenitrothion	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fensulfothion	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenthion	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Malathion	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Merphos	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methyl parathion	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Mevinphos	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Monocrotophos	S20-Au19931	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Naled	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Omethoate	S20-Au19931	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Phorate	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pirimiphos-methyl	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pyrazophos	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ronnel	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Terbufos	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tetrachlorvinphos	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tokuthion	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Trichloronate	S20-Au19931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls				Result 1	Result 2	RPD		
Aroclor-1016	S20-Au25412	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1221	S20-Au25412	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1232	S20-Au25412	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1242	S20-Au25412	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1248	S20-Au25412	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1254	S20-Au25412	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1260	S20-Au25412	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Total PCB*	S20-Au25412	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	S20-Au20100	CP	%	9.1	10	11	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S20-Au20100	CP	mg/kg	2.7	2.5	10	30%	Pass
Cadmium	S20-Au20100	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	S20-Au20100	CP	mg/kg	9.2	11	14	30%	Pass
Copper	S20-Au20100	CP	mg/kg	45	20	79	30%	Fail
Lead	S20-Au20100	CP	mg/kg	43	37	15	30%	Pass
Mercury	S20-Au20100	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	S20-Au20100	CP	mg/kg	6.7	6.3	6.0	30%	Pass
Zinc	S20-Au20100	CP	mg/kg	65	52	22	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C10-C14	S20-Au20102	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	S20-Au20102	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	S20-Au20102	CP	mg/kg	< 50	< 50	<1	30%	Pass

Duplicate							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			Result 1	Result 2	RPD		
TRH >C10-C16	S20-Au20102	CP	mg/kg	< 50	< 50	<1	30% Pass
TRH >C16-C34	S20-Au20102	CP	mg/kg	< 100	< 100	<1	30% Pass
TRH >C34-C40	S20-Au20102	CP	mg/kg	< 100	< 100	<1	30% Pass
Duplicate							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			Result 1	Result 2	RPD		
TRH C6-C9	S20-Au20108	CP	mg/kg	< 20	< 20	<1	30% Pass
Duplicate							
BTEX			Result 1	Result 2	RPD		
Benzene	S20-Au20108	CP	mg/kg	< 0.1	< 0.1	<1	30% Pass
Toluene	S20-Au20108	CP	mg/kg	< 0.1	< 0.1	<1	30% Pass
Ethylbenzene	S20-Au20108	CP	mg/kg	< 0.1	< 0.1	<1	30% Pass
m&p-Xylenes	S20-Au20108	CP	mg/kg	< 0.2	< 0.2	<1	30% Pass
o-Xylene	S20-Au20108	CP	mg/kg	< 0.1	< 0.1	<1	30% Pass
Xylenes - Total*	S20-Au20108	CP	mg/kg	< 0.3	< 0.3	<1	30% Pass
Duplicate							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			Result 1	Result 2	RPD		
Naphthalene	S20-Au20108	CP	mg/kg	< 0.5	< 0.5	<1	30% Pass
TRH C6-C10	S20-Au20108	CP	mg/kg	< 20	< 20	<1	30% Pass
Duplicate							
			Result 1	Result 2	RPD		
% Moisture	S20-Au20110	CP	%	12	12	1.0	30% Pass
Duplicate							
Heavy Metals			Result 1	Result 2	RPD		
Arsenic	S20-Au20110	CP	mg/kg	< 2	< 2	<1	30% Pass
Cadmium	S20-Au20110	CP	mg/kg	< 0.4	< 0.4	<1	30% Pass
Chromium	S20-Au20110	CP	mg/kg	< 5	< 5	<1	30% Pass
Copper	S20-Au20110	CP	mg/kg	< 5	< 5	<1	30% Pass
Lead	S20-Au20110	CP	mg/kg	6.0	6.4	7.0	30% Pass
Mercury	S20-Au20110	CP	mg/kg	< 0.1	< 0.1	<1	30% Pass
Nickel	S20-Au20110	CP	mg/kg	< 5	< 5	<1	30% Pass
Zinc	S20-Au20110	CP	mg/kg	5.2	8.3	46	30% Fail Q15
Duplicate							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			Result 1	Result 2	RPD		
TRH C6-C9	S20-Au20118	CP	mg/kg	< 20	< 20	<1	30% Pass
Duplicate							
BTEX			Result 1	Result 2	RPD		
Benzene	S20-Au20118	CP	mg/kg	< 0.1	< 0.1	<1	30% Pass
Toluene	S20-Au20118	CP	mg/kg	< 0.1	< 0.1	<1	30% Pass
Ethylbenzene	S20-Au20118	CP	mg/kg	< 0.1	< 0.1	<1	30% Pass
m&p-Xylenes	S20-Au20118	CP	mg/kg	< 0.2	< 0.2	<1	30% Pass
o-Xylene	S20-Au20118	CP	mg/kg	< 0.1	< 0.1	<1	30% Pass
Xylenes - Total*	S20-Au20118	CP	mg/kg	< 0.3	< 0.3	<1	30% Pass
Duplicate							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			Result 1	Result 2	RPD		
Naphthalene	S20-Au20118	CP	mg/kg	< 0.5	< 0.5	<1	30% Pass
TRH C6-C10	S20-Au20118	CP	mg/kg	< 20	< 20	<1	30% Pass
Duplicate							
			Result 1	Result 2	RPD		
% Moisture	S20-Au20120	CP	%	1.4	1.8	24	30% Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S20-Au20120	CP	mg/kg	< 2	< 2	<1	30%	Pass
Cadmium	S20-Au20120	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	S20-Au20120	CP	mg/kg	< 5	< 5	<1	30%	Pass
Copper	S20-Au20120	CP	mg/kg	< 5	< 5	<1	30%	Pass
Lead	S20-Au20120	CP	mg/kg	< 5	< 5	<1	30%	Pass
Mercury	S20-Au20120	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	S20-Au20120	CP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	S20-Au20120	CP	mg/kg	< 5	< 5	<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

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
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Inorganic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)

**Glenn Jackson****General Manager**

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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Alliance Geotechnical
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Seven Hills
NSW 2147



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025—Testing
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: Matt Swinbourn
Report 737759-AID
Project Name FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID 11140
Received Date Aug 13, 2020
Date Reported Aug 20, 2020

Methodology:

Asbestos Fibre Identification

Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of 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.

Unknown Mineral Fibres

Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as 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 Samples

The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous 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.

NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.

Bonded asbestos-containing material (ACM)

The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 4964 - 2004.

NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk 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 epoxy 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). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, 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 of 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 Name FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID 11140
Date Sampled Aug 11, 2020 to Aug 12, 2020
Report 737759-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH1 0.3-0.5	20-Au20097	Aug 12, 2020	Approximate Sample 121g Sample consisted of: Yellowish coarse-grained sandy soil, rocks and sandstone	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH1 0.7-0.9	20-Au20098	Aug 12, 2020	Approximate Sample 119g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH1 1.1-1.3	20-Au20099	Aug 12, 2020	Approximate Sample 109g Sample consisted of: Yellow fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH2 0.4-0.6	20-Au20100	Aug 12, 2020	Approximate Sample 132g Sample consisted of: Brown coarse-grained sandy soil and sandstone	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH2 0.8-1.0	20-Au20101	Aug 12, 2020	Approximate Sample 120g Sample consisted of: Grey coarse-grained sandy soil, sandstone and bituminous rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH2 2.0-2.2	20-Au20102	Aug 12, 2020	Approximate Sample 138g Sample consisted of: Grey fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH3 0.3-0.5	20-Au20103	Aug 12, 2020	Approximate Sample 101g Sample consisted of: Black coarse-grained sandy soil and sandstone	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH3 0.5-0.7	20-Au20104	Aug 12, 2020	Approximate Sample 113g Sample consisted of: Dark grey fine-grained sandy soil, rocks, bituminous-like material and corroded material	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH3 1.0-1.2	20-Au20105	Aug 12, 2020	Approximate Sample 103g Sample consisted of: Grey fine-grained sandy soil and bituminous-like material	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH4 0.4-0.6	20-Au20106	Aug 12, 2020	Approximate Sample 92g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH4 0.7-0.9	20-Au20107	Aug 12, 2020	Approximate Sample 158g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH5 0.35-0.5	20-Au20108	Aug 11, 2020	Approximate Sample 122g Sample consisted of: Brown coarse-grained sandy soil, sandstone and bituminous-like material	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH6 0.3-0.5	20-Au20109	Aug 11, 2020	Approximate Sample 141g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH6 0.8-1.0	20-Au20110	Aug 11, 2020	Approximate Sample 185g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH7 0.3-0.5	20-Au20111	Aug 11, 2020	Approximate Sample 160g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH7 0.9-1.0	20-Au20112	Aug 11, 2020	Approximate Sample 115g Sample consisted of: Dark brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH7 1.6-1.8	20-Au20113	Aug 11, 2020	Approximate Sample 230g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH8 0.1-0.3	20-Au20114	Aug 11, 2020	Approximate Sample 169g Sample consisted of: Dark brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH8 0.7-0.9	20-Au20115	Aug 11, 2020	Approximate Sample 135g Sample consisted of: Dark brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH9 0.3-0.5	20-Au20116	Aug 11, 2020	Approximate Sample 174g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH9 1.0-1.2	20-Au20117	Aug 11, 2020	Approximate Sample 177g Sample consisted of: Dark brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH10 0.6-0.8	20-Au20118	Aug 11, 2020	Approximate Sample 141g Sample consisted of: Light brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH10 1.1-1.3	20-Au20119	Aug 11, 2020	Approximate Sample 151g Sample consisted of: Beige fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH11 0.3-0.5	20-Au20120	Aug 11, 2020	Approximate Sample 133g Sample consisted of: Yellow fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH11 1.2-1.4	20-Au20121	Aug 11, 2020	Approximate Sample 138g Sample consisted of: Yellow fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH12 0.4-0.6	20-Au20122	Aug 11, 2020	Approximate Sample 143g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH12 0.8-1.0	20-Au20123	Aug 11, 2020	Approximate Sample 117g Sample consisted of: Dark brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH12 1.6-1.8	20-Au20124	Aug 11, 2020	Approximate Sample 112g Sample consisted of: Brown fine-grained sandy soil	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported. A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

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
Asbestos - LTM-ASB-8020	Sydney	Aug 13, 2020	Indefinite

Australia

Melbourne 6 Monterey Road Dandenong South VIC 3175 Phone : +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794	Perth 2/91 Leach Highway Kewdale WA 6105 Phone : +61 8 9251 9600 NATA # 1261 Site # 23736	Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone : +61 2 4968 8448
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New Zealand

Auckland 35 O'Rorke Road Penrose, Auckland 1061 Phone : +64 9 526 45 51 IANZ # 1327	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Phone : 0800 856 450 IANZ # 1290
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Company Name: Alliance Geotechnical
Address: 10 Welder Road
 Seven Hills
 NSW 2147

Project Name: FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID: 11140

Order No.:
Report #: 737759
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Aug 13, 2020 6:36 PM
Due: Aug 20, 2020
Priority: 5 Day
Contact Name: Matt Swinbourn

Eurofins Analytical Services Manager : Andrew Black

Sample Detail

Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217			X	X	X			
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Newcastle Laboratory								
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	BH1 0.3-0.5	Aug 12, 2020		Soil	S20-Au20097	X	X	
2	BH1 0.7-0.9	Aug 12, 2020		Soil	S20-Au20098	X		X
3	BH1 1.1-1.3	Aug 12, 2020		Soil	S20-Au20099	X		X
4	BH2 0.4-0.6	Aug 12, 2020		Soil	S20-Au20100	X	X	
5	BH2 0.8-1.0	Aug 12, 2020		Soil	S20-Au20101	X	X	
6	BH2 2.0-2.2	Aug 12, 2020		Soil	S20-Au20102	X		X
7	BH3 0.3-0.5	Aug 12, 2020		Soil	S20-Au20103	X	X	
8	BH3 0.5-0.7	Aug 12, 2020		Soil	S20-Au20104	X	X	
9	BH3 1.0-1.2	Aug 12, 2020		Soil	S20-Au20105	X		X

Australia

Melbourne
 6 Monterey Road
 Dandenong South VIC 3175
 Phone : +61 3 8564 5000
 NATA # 1261
 Site # 1254 & 14271

Sydney
 Unit F3, Building F
 16 Mars Road
 Lane Cove West NSW 2066
 Phone : +61 2 9900 8400
 NATA # 1261 Site # 18217

Brisbane
 1/21 Smallwood Place
 Murarrie QLD 4172
 Phone : +61 7 3902 4600
 NATA # 1261 Site # 20794

Perth
 2/91 Leach Highway
 Kewdale WA 6105
 Phone : +61 8 9251 9600
 NATA # 1261
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New Zealand

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Received: Aug 13, 2020 6:36 PM
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Contact Name: Matt Swinbourn

Eurofins Analytical Services Manager : Andrew Black

Sample Detail

						Moisture Set	Alliance WAC Suite 1:TRH(B)TEXNPAHM8(OCP)/OPP/PCBA/Asb EPA Inc Asbestos AS4964	Alliance ENM Exemption Suite 2014 NSW
Melbourne Laboratory - NATA Site # 1254 & 14271						X		
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
10	BH4 0.4-0.6	Aug 12, 2020		Soil	S20-Au20106	X	X	
11	BH4 0.7-0.9	Aug 12, 2020		Soil	S20-Au20107	X		X
12	BH5 0.35-0.5	Aug 11, 2020		Soil	S20-Au20108	X		X
13	BH6 0.3-0.5	Aug 11, 2020		Soil	S20-Au20109	X		X
14	BH6 0.8-1.0	Aug 11, 2020		Soil	S20-Au20110	X		X
15	BH7 0.3-0.5	Aug 11, 2020		Soil	S20-Au20111	X		X
16	BH7 0.9-1.0	Aug 11, 2020		Soil	S20-Au20112	X		X
17	BH7 1.6-1.8	Aug 11, 2020		Soil	S20-Au20113	X		X
18	BH8 0.1-0.3	Aug 11, 2020		Soil	S20-Au20114	X	X	
19	BH8 0.7-0.9	Aug 11, 2020		Soil	S20-Au20115	X		X
20	BH9 0.3-0.5	Aug 11, 2020		Soil	S20-Au20116	X		X
21	BH9 1.0-1.2	Aug 11, 2020		Soil	S20-Au20117	X		X
22	BH10 0.6-0.8	Aug 11, 2020		Soil	S20-Au20118	X		X

Australia

Melbourne 6 Monterey Road Dandenong South VIC 3175 Phone : +61 3 8564 5000 NATA # 1261	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 Site # 1261 & 14271	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794	Perth 2/91 Leach Highway Kewdale WA 6105 Phone : +61 8 9251 9600 NATA # 1261	Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone : +61 2 4968 8448 Site # 23736
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New Zealand

Auckland 35 O'Rorke Road Penrose, Auckland 1061 Phone : +64 9 526 45 51 IANZ # 1327	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Phone : 0800 856 450 IANZ # 1290
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Company Name: Alliance Geotechnical
Address: 10 Welder Road
 Seven Hills
 NSW 2147

Project Name: FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID: 11140

Order No.:
Report #: 737759
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Aug 13, 2020 6:36 PM
Due: Aug 20, 2020
Priority: 5 Day
Contact Name: Matt Swinbourn

Eurofins Analytical Services Manager : Andrew Black

Sample Detail

						Moisture Set	Alliance WAC Suite 1:TRH(B)TEXNPAHM8/OCP/OPP/PCBA/Asb EPA Inc Asbestos AS4964	Alliance ENM Exemption Suite 2014 NSW
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217				X	X	X		
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
23	BH10 1.1-1.3	Aug 11, 2020		Soil	S20-Au20119	X		X
24	BH11 0.3-0.5	Aug 11, 2020		Soil	S20-Au20120	X		X
25	BH11 1.2-1.4	Aug 11, 2020		Soil	S20-Au20121	X		X
26	BH12 0.4-0.6	Aug 11, 2020		Soil	S20-Au20122	X		X
27	BH12 0.8-1.0	Aug 11, 2020		Soil	S20-Au20123	X		X
28	BH12 1.6-1.8	Aug 11, 2020		Soil	S20-Au20124	X		X
Test Counts						28	7	21

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to '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 prior to sample receipt deadlines as stated on the Sample Receipt Advice.

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: weight for weight basis

grams per kilogram

Filter loading:

fibres/100 graticule areas

Reported Concentration:

fibres/mL

Flowrate:

L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to "non-bonded / friable".
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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
N/A	Not applicable

Asbestos Counter/Identifier:

Sayeed Abu Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias Senior Analyst-Asbestos (NSW)

**Glenn Jackson**
General Manager

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](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

**Alliance Geotechnical
10 Welder Road
Seven Hills
NSW 2147**



**NATA Accredited
Accreditation Number 1261
Site Number 18217**

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: Matt Swinbourn

Report 739735-L
Project name ADDITIONAL - FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID 11140
Received Date Aug 25, 2020

Client Sample ID	LOR	Unit	BH1 0.3-0.5 US Leachate S20-Au37750 Not Provided ^{l12}	BH2 0.8-1.0 US Leachate S20-Au37751 Not Provided ^{l12}	BH3 0.3-0.5 US Leachate S20-Au37752 Not Provided ^{l12}
Sample Matrix					
Eurofins Sample No.					
Date Sampled					
Test/Reference	LOR	Unit			
Heavy Metals					
Lead	0.01	mg/L	-	< 0.01	-
Nickel	0.01	mg/L	0.01	-	-
USA Leaching Procedure					
Leachate Fluid ^{C01}		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.2	6.9	6.8
pH (off)	0.1	pH Units	5.2	5.2	5.3
pH (USA HCl addition)	0.1	pH Units	1.7	1.7	1.7
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene	0.001	mg/L	-	< 0.001	< 0.001

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

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
Heavy Metals	Sydney	Aug 26, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
USA Leaching Procedure	Sydney	Aug 25, 2020	14 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			
Polycyclic Aromatic Hydrocarbons	Sydney	Aug 25, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			

Australia

Melbourne
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 Dandenong South VIC 3175
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 NATA # 1261
 Site # 1254 & 14271

Sydney
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 Lane Cove West NSW 2066
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 NATA # 1261 Site # 18217

Brisbane
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 Phone : +61 7 3902 4600
 NATA # 1261 Site # 20794

Perth
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 Phone : +61 8 9251 9600
 NATA # 1261
 Site # 23736

Newcastle
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 Mayfield East NSW 2304
 PO Box 60 Wickham 2293
 Phone : +61 2 4968 8448

New Zealand

Auckland
 35 O'Rorke Road
 Penrose, Auckland 1061
 Phone : +64 9 526 45 51
 IANZ # 1327

Christchurch
 43 Detroit Drive
 Rolleston, Christchurch 7675
 Phone : 0800 856 450
 IANZ # 1290

Company Name: Alliance Geotechnical
Address:
 10 Welder Road
 Seven Hills
 NSW 2147

Project Name: ADDITIONAL - FEEDER 265 INVESTIGATION WORKS MAROUBRA
Project ID: 11140

Order No.:
Report #: 739735
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Aug 25, 2020 9:37 AM
Due: Sep 1, 2020
Priority: 5 Day
Contact Name: Matt Swinbourn

Eurofins Analytical Services Manager : Andrew Black

Sample Detail

Benzo(a)pyrene	Lead	Nickel	USA Leaching Procedure

Melbourne Laboratory - NATA Site # 1254 & 14271

Sydney Laboratory - NATA Site # 18217

Brisbane Laboratory - NATA Site # 20794

Perth Laboratory - NATA Site # 23736

Newcastle Laboratory

External Laboratory

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	BH1 0.3-0.5	Not Provided		US Leachate	S20-Au37750		X	X
2	BH2 0.8-1.0	Not Provided		US Leachate	S20-Au37751	X	X	
3	BH3 0.3-0.5	Not Provided		US Leachate	S20-Au37752	X		X
Test Counts				2	1	1	3	

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to '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 prior to sample receipt deadlines as stated on the SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - 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.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a 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 is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. 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.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
10. 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									
Heavy Metals									
Lead		mg/L		< 0.01			0.01	Pass	
Nickel		mg/L		< 0.01			0.01	Pass	
Method Blank									
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene		mg/L		< 0.001			0.001	Pass	
LCS - % Recovery									
Heavy Metals									
Lead		%		98			80-120	Pass	
Nickel		%		101			80-120	Pass	
LCS - % Recovery									
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene		%		130			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals									
Nickel	S20-Au37120	NCP	%	100			75-125	Pass	
Spike - % Recovery									
Heavy Metals									
Lead	S20-Au37120	NCP	%	97			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene	S20-Au30762	NCP	%	116			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals									
Lead	S20-Au37750	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Nickel	S20-Au37750	CP	mg/L	0.01	0.01	4.0	30%	Pass	
Duplicate									
Heavy Metals									
Lead	S20-Au40020	NCP	mg/L	0.08	0.07	8.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene	S20-Au31414	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Comments**Sample Integrity**

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	No
Appropriate sample containers have been used	No
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
I12	Where sampling date has not been provided, Eurofins Environment Testing is not able to determine whether analysis has been performed within recommended holding times.

Authorised By

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)

**Glenn Jackson****General Manager**

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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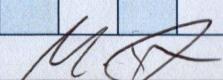


CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

 Sydney LaboratoryUnit F3 Bld F, 16 Mars Rd, Lane Cove West, NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com Brisbane LaboratoryUnit 1, 21 Smallwood Pl, Murarrie, QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com Perth LaboratoryUnit 2, 91 Leach Highway, Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com Melbourne Laboratory2 Kingston Town Close, Oakleigh, VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

10 f 3

Company	ALLIANCE GEOTECHNICAL		Project No	11140		Project Manager	MATTHEW SWINBURN		Sampler(s)	ZUBAIR KHAN			
Address	10 WELDER ROAD, SEVEN HILLS NSW		Project Name	FEEDER 265 INVESTIGATION WORKS, MAROUBRA		EDD Format (ESdat, EQuIS, Custom)			Handed over by	ZUBAIR KHAN			
Contact Name	Matthew Swinburn								Email for Invoice	admin@allgeo.com.au			
Phone No	0420 560 417								Email for Results	enviro@allgeo.com.au matt@allgeo.com.au			
Special Directions									Containers	Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)			
Purchase Order									1L Plastic	<input type="checkbox"/> Overnight (9am)*			
Quote ID No									250ml Plastic	<input type="checkbox"/> 1 Day*			
No	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))						125ml Plastic	<input checked="" type="checkbox"/> 2 Day			
1	BH1 0.3-0.5	12-8-20	S						200ml Amber Glass	<input type="checkbox"/> 3 Day*			
2	BH1 0.7-0.9		S						40ml VOA Vial	<input checked="" type="checkbox"/> 5 Day			
3	BH1 1.1-1.3		S						500ml PFAS Bottle	<input type="checkbox"/> Other ()			
4	BH2 0.4-0.6		S						Jar (Glass or HDPE)	<input type="checkbox"/> Sample Comments / Dangerous Goods Hazard Warning			
5	BH2 0.8-1.0		S						Other (Abelards AS9654 WA Guidelines)				
6	BH2 2.0-2.2		S										
7	BH3 0.3-0.5		S										
8	BH3 0.5-0.7		S										
9	BH3 1.0-1.2	V	S										
10	BH4 0.4-0.6	V	S										
Total Counts										10			
Method of Shipment	<input checked="" type="checkbox"/> Courier (#)	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Postal	Name		Signature			Date	13-8-20	Time	4 : 00pm	
Eurofins mgt Laboratory Use Only	Received By			SYD BNE MEL PER ADL NTL DRW		Signature			Date	13-8-20	Time	6.36	
	Received By			SYD BNE MEL PER ADL NTL DRW		Signature			Date	/ /	Time	/ :	
												Report No	737759

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CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

 Sydney Laboratory

Unit F3 Bid.F, 16 Mars Rd, Lane Cove West, NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

 Brisbane Laboratory

Unit 1, 21 Smallwood Pl, Murarrie, QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

 Perth Laboratory

Unit 2, 91 Leach Highway, Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

 Melbourne Laboratory

2 Kingston Town Close, Oakleigh, VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	ALLIANCE GEOTECHNICAL		Project №	11140	Project Manager	MATTHEW SWINBURN		Sampler(s)	ZUBAIR KHAN		
Address	10 WELDER ROAD, SEVEN HILLS NSW		Project Name	FEEDER 265 INVESTIGATION WORKS, MAROUBRA		EDD Format (ESdat, EQuIS, Custom)			Handed over by	ZUBAIR KHAN	
Contact Name	Matthew Swinburn								Email for Invoice	admin@allgeo.com.au	
Phone №	0420 560 417								Email for Results	matt@allgeo.com.au	
Special Directions									Containers	Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)	
Purchase Order										<input type="checkbox"/> Overnight (9am)* <input type="checkbox"/> 1 Day* <input checked="" type="checkbox"/> 2 Day* <input type="checkbox"/> 3 Day* <input checked="" type="checkbox"/> 5 Day* <input type="checkbox"/> Other ()	
Quote ID №										Sample Comments / Dangerous Goods Hazard Warning <small>Other (Refer AS4563, WA Guidelines)</small>	
Nº	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))								
1	BH4 0.7-0.9	↓	S							X	N
2	BH5 0.35-0.5	11-8-20	S							X	N
3	BH6 0.3-0.5		S							X	N
4	BH6 0.8-1.0		S							X	N
5	BH7 0.3-0.5		S							X	N
6	BH7 0.9-1.0		S							X	N
7	BH7 1.6-1.8		S							X	N
8	BH8 0.1-0.3		S							X	F
9	BH8 0.7-0.9		S							X	N
10	BH9 0.3-0.5		S							X	N
Total Counts										10	
Method of Shipment	<input checked="" type="checkbox"/> Courier (#)	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Postal	Name		Signature		Date	Time		4 : 00pm
Eurofins mgt Laboratory Use Only	Received By	Grace Tudur		SYD BNE MEL PER ADL NTL DRW		Signature	Date 13-8-20		Time 6:36	Temperature 21.57	Report No 737759
	Received By			SYD BNE MEL PER ADL NTL DRW		Signature	Date ___/___/___		Time ___:___	Temperature ___	Report No ___

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CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

 Sydney LaboratoryUnit F3 Bld F, 16 Mars Rd, Lane Cove West, NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com Brisbane LaboratoryUnit 1, 21 Smallwood Pl, Murarrie, QLD 4172
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08 9251 9600 EnviroSampleWA@eurofins.com Melbourne Laboratory2 Kingston Town Close, Oakleigh, VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	ALLIANCE GEOTECHNICAL			Project No	11140			Project Manager	MATTHEW SWINBURN			Sampler(s)	ZUBAIR KHAN	
Address	10 WELDER ROAD, SEVEN HILLS NSW			Project Name	FEEDER 265 INVESTIGATION WORKS, MAROUBRA			EDD Format (ESdat, EQuiS, Custom)				Handed over by	ZUBAIR KHAN	
Contact Name	Matthew Swinburn											Email for Invoice	admin@allgeo.com.au	
Phone No	0420 560 417											Email for Results	matt@allgeo.com.au	
Special Directions				Analyses								Containers	Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)	
Purchase Order												1L Plastic	<input type="checkbox"/> Overnight (9am)*	
Quote ID No												250ml Plastic	<input type="checkbox"/> 1 Day*	
												125ml Plastic	<input type="checkbox"/> 3 Day*	
												200ml Amber Glass	<input checked="" type="checkbox"/> 5 Day	
												40ml VOA vial	* Surcharges apply	
												500ml FFAS Bottle		
												Jar (Glass or HDPE)		
												Other (Asbestos AS4664, WA Guidelines)		
No	Client Sample ID		Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))									Sample Comments / Dangerous Goods Hazard Warning	
1	BH9 1.0-1.2			S									X	N
2	BH10 0.6-0.8			S									X	N
3	BH10 1.1-1.3			S									X	N
4	BH11 0.3-0.5			S									X	N
5	BH11 1.2-1.4			S									X	N
6	BH12 0.4-0.6			S									X	N
7	BH12 0.8-1.0			S									X	N
8	BH12 1.6-1.8			S									X	N
9														
10														
Total Counts													8	

Method of Shipment	<input checked="" type="checkbox"/> Courier (#)	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Postal	Name	Signature	Date	Time	Time
Eurofins mgt Laboratory Use Only	Received By	SYD BNE MEL PER ADL NTL DRW		Signature	Date	13/8/20	6:36	Temperature
	Received By	SYD BNE MEL PER ADL NTL DRW		Signature	Date	1/1/1	Time	Report No

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#AU04_Enviro_Sample_NSW

From: Andrew Black
Sent: Tuesday, 25 August 2020 9:38 AM
To: #AU04_Enviro_Sample_NSW; #AU04_COCONSW
Subject: 1 DAY TAT ADDITIONAL LEACHATES: FW: Eurofins Test Results, Invoice - Report 737759 : Site FEEDER 265 INVESTIGATION WORKS MAROUBRA (11140)

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Urgent 1 day TAT additional for leachate thanks team

Andrew Black
Phone: +61 410 220 750
Email: AndrewBlack@eurofins.com

From: Alexander Williams <alex@allgeo.com.au>
Sent: Tuesday, 25 August 2020 9:37 AM
To: Andrew Black <AndrewBlack@eurofins.com>; Matthew Swinbourn <matt@allgeo.com.au>; Michael Dunesky <michael@allgeo.com.au>
Cc: enviro <enviro@allgeo.com.au>
Subject: RE: Eurofins Test Results, Invoice - Report 737759 : Site FEEDER 265 INVESTIGATION WORKS MAROUBRA (11140)

EXTERNAL EMAIL*

Cheers Andrew,

Could we please run urgent TCLP for:

Lead: BH2 – 0.8-1.0

Nickel: BH1 – 0.3-0.5

B(a)P: BH2 – 0.8-1.0 & BH3 – 0.3-0.5

Regards,

Alexander Williams
Graduate Environmental Consultant
Mobile: 0418 343 007 | Email: alex@allgeo.com.au



Office Email: admin@allgeo.com.au - **Website:** allgeo.com.au - **Office Phone:** 1800 288 188

Postal Address: PO Box 275, Seven Hills NSW 1730 / Office & Laboratory Address: 8-10 Welder Road, Seven Hills NSW 2147

From: AndrewBlack@eurofins.com <AndrewBlack@eurofins.com>

Sent: Thursday, 20 August 2020 8:39 PM

To: Matthew Swinbourn <matt@allgeo.com.au>

Cc: enviro <enviro@allgeo.com.au>

Subject: Eurofins Test Results, Invoice - Report 737759 : Site FEEDER 265 INVESTIGATION WORKS MAROUBRA (11140)

Regards

Andrew Black
Analytical Services Manager

Eurofins | Environment Testing

Unit 7

7 Friesian Close

SANDGATE NSW 2304

AUSTRALIA

Phone: +61 299 008 490

Mobile: +61 410 220 750

Email: AndrewBlack@eurofins.com

Website:environment.eurofins.com.au

[EnviroNote 1098 - Melbourne PFAS Accreditation](#)

[EnviroNote 1103 - NATA Accreditation for Dioxins](#)

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ATTACHMENT 5
ENVIRONMENTAL BOREHOLE LOGS

Borehole Log

Client: Diona Pty Ltd Project: Ausgrid - Feeder 265 Replacement Project Location: Bunnerong Substation to Maroubra Substation, NSW 2035						Started: 12/08/2020	Finished: 12/08/2020
Rig Type: Ute-mounted Drill Rig Hole Location: Bunnerong Substation. Refer to Figure 2. Driller: TM						Logged: ZT	Borehole Size 0.1 mm
RL Surface: m		Contractor: Alliance Geotechnical				Bearing: ---	Checked: MD
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks
ADT						ASPHALT	
						FILL: Sandy GRAVEL, fine to medium grained, grey, fine to coarse grained sands.	D No potential asbestos containing materials, hydrocarbon odours or staining observed.
						FILL: Clayey SAND with traces of gravel, fine to medium grained sands, brown, medium plasticity.	M BH1-0.3-0.5 No potential asbestos containing materials, hydrocarbon odours or staining observed.
			0.5		SP	ALLUVIAL: SAND, fine to medium grained, pale grey/yellow.	M BH1-0.7-0.9 No potential asbestos containing materials, hydrocarbon odours or staining observed.
			1.0				
			1.5				
			2.0			Borehole BH1 terminated at 2m	
			2.5				
			3.0				

Borehole Log

Client: Diona Pty Ltd
Project: Ausgrid - Feeder 265 Replacement Project
Location: Bunnerong Substation to Maroubra Substation, NSW 2035

Started: 12/08/2020

Finished: 12/08/2020

Borehole Size 0.1 mm

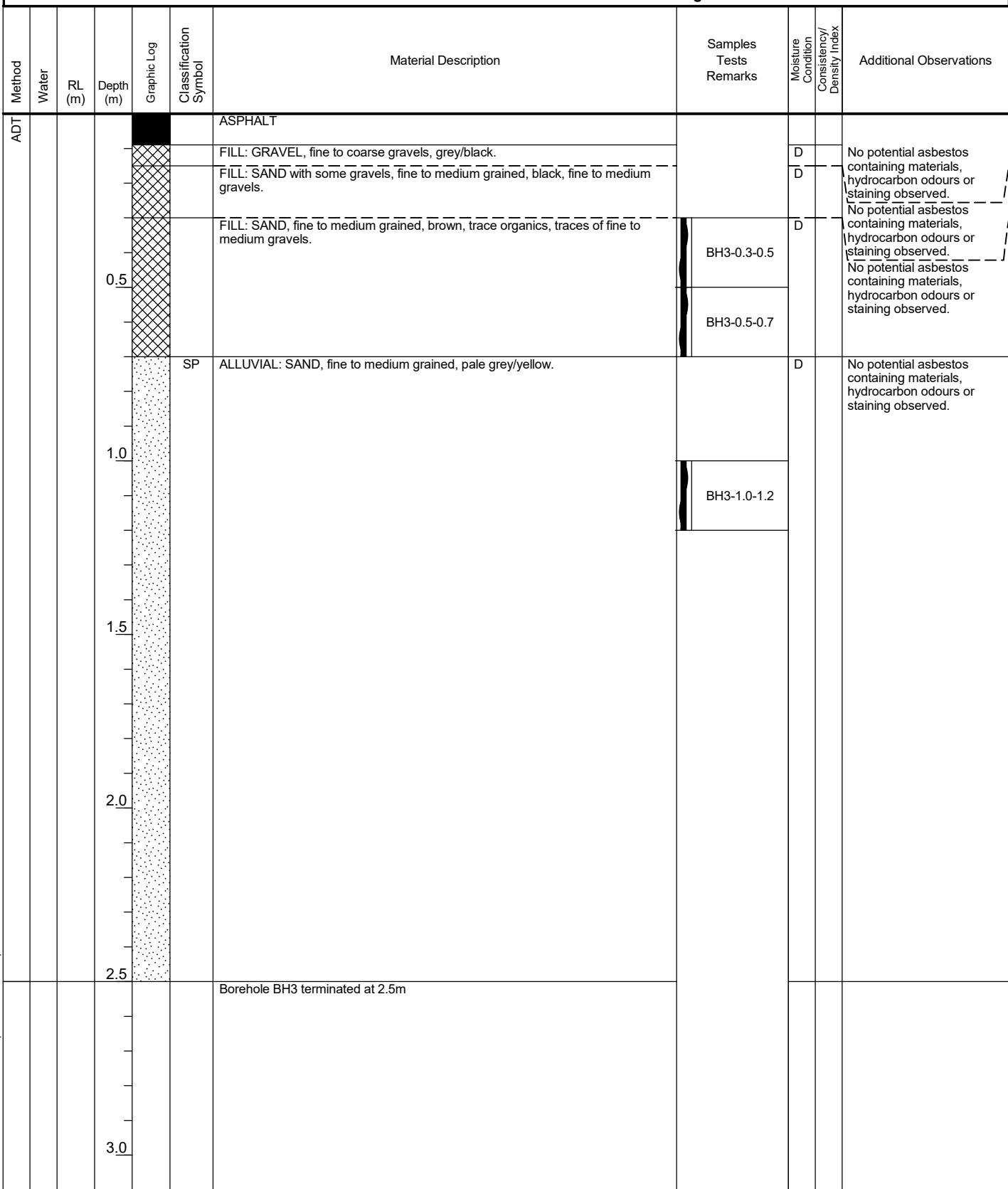
Rig Type: Ute-mounted Drill Rig		Hole Location: Botany Road. Refer to Figure 2.		Driller: TM	Logged: ZT				
RL Surface: m	Contractor: Alliance Geotechnical			Bearing: ---	Checked: MD				
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition Consistency/ Density Index	Additional Observations
ADT						ASPHALT/CONCRETE FILL: Sandy GRAVEL, fine to medium grained, grey, fine to coarse grained sands.		D	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			0.5			FILL: Sandy CLAY, medium plasticity, brown, fine to medium grained sands, traces of fine to medium gravels.	BH2-0.4-0.6	W	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			1.0			FILL: Clayey SAND, fine to medium grained, dark brown, low plasticity, traces of fine to medium gravels.	BH2-0.8-1.0	M	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			2.0		SP	ALLUVIAL: SAND, fine to medium grained, pale yellow/grey	BH2-2.0-2.2	M	No potential asbestos containing materials, hydrocarbon odours or staining observed.
						Borehole BH2 terminated at 2.2m			
			2.5						
			3.0						

Borehole Log

Client: Diona Pty Ltd
Project: Ausgrid - Feeder 265 Replacement Project
Location: Bunnerong Substation to Maroubra Substation, NSW 2035

Started: 12/08/2020
Finished: 12/08/2020
Borehole Size 0.1 mm

Rig Type: Ute-mounted Drill Rig	Hole Location: Wassell Street. Refer to Figure 2.	Driller: TM	Logged: ZT
RL Surface: m	Contractor: Alliance Geotechnical	Bearing: ---	Checked: MD



Borehole Log

Client: Diona Pty Ltd Project: Ausgrid - Feeder 265 Replacement Project Location: Bunnerong Substation to Maroubra Substation, NSW 2035						Started: 12/08/2020	
						Finished: 12/08/2020	
						Borehole Size 0.1 mm	
Rig Type: Ute-mounted Drill Rig		Hole Location: Wassell Street. Refer to Figure 2.			Driller: TM	Logged: ZT	
RL Surface: m		Contractor: Alliance Geotechnical			Bearing: ---	Checked: MD	
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks
ADT						ASPHALT	
						FILL: Sandy GRAVEL, fine to medium grained, grey, fine to coarse grained sand.	D
						FILL: SAND, fine to medium grained, brown	M
		0.5					BH4-0.4-0.6
					SP	ALLUVIAL: SAND, fine to medium grained, pale grey/yellow	M
		1.0					BH-0.7-0.9
		1.5					
		2.0			SP	ALLUVIAL: SAND, fine to medium grained, brown.	M
						Borehole BH4 terminated at 2m	No potential asbestos containing materials, hydrocarbon odours or staining observed.
		2.5					
		3.0					

Borehole Log

Client: Diana Pty Ltd Project: Ausgrid - Feeder 265 Replacement Project Location: Bunnerong Substation to Maroubra Substation, NSW 2035						Started: 12/08/2020	
						Finished: 12/08/2020	
						Borehole Size 0.1 mm	
Rig Type: Ute-mounted Drill Rig		Hole Location: Knowles Avenue. Refer to Figure 2.			Driller: TM	Logged: ZT	
RL Surface: m		Contractor: Alliance Geotechnical			Bearing: ---	Checked: MD	
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks
ADT						ASPHALT	
						FILL: Sandy GRAVEL, fine to medium gravel, grey, fine to coarse grained sands.	D
							No potential asbestos containing materials, hydrocarbon odours or staining observed.
						0.5	
					SP	ALLUVIAL: SAND, fine to medium grained, pale grey/yellow.	D
							No potential asbestos containing materials, hydrocarbon odours or staining observed.
						: : : SANDSTONE SANDSTONE, highly weathered, yellow.	D
							No potential asbestos containing materials, hydrocarbon odours or staining observed.
						1.0	
						Borehole BH5 terminated at 0.85m	
						1.5	
						2.0	
						2.5	
						3.0	

Borehole Log

Client: Diona Pty Ltd
Project: Ausgrid - Feeder 265 Replacement Project
Location: Bunnerong Substation to Maroubra Substation, NSW 2035

Started: 12/08/2020

Finished: 12/08/2020

Borehole Size 0.1 mm

Rig Type: Ute-mounted Drill Rig Hole Location: Menin Road. Refer to Figure 2.					Driller: TM	Logged: ZT				
RL Surface: m			Contractor: Alliance Geotechnical		Bearing: ---	Checked: MD				
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT						ASPHALT				
						FILL: Sandy GRAVEL, fine to medium gravel, grey, fine to coarse grained sands.		M		No potential asbestos containing materials, hydrocarbon odours or staining observed.
					SP	No potential asbestos containing materials, hydrocarbon odours or staining observed.		M		No potential asbestos containing materials, hydrocarbon odours or staining observed.
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
						Borehole BH6 terminated at 1.3m				

Borehole Log

Client: Diona Pty Ltd
Project: Ausgrid - Feeder 265 Replacement Project
Location: Bunnerong Substation to Maroubra Substation, NSW 2035

Started: 12/08/2020

Finished: 12/08/2020

Borehole Size 0.1 mm

Rig Type: Ute-mounted Drill Rig Hole Location: Menin Road. Refer to Figure 2.					Driller: TM	Logged: ZT				
RL Surface: m Contractor: Alliance Geotechnical					Bearing: ---	Checked: MD				
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/Density Index	Additional Observations
ADT						ASPHALT				
						FILL: Sandy GRAVEL, fine to medium gravels, brown, fine to corase grained sands.		M		No potential asbestos containing materials, hydrocarbon odours or staining observed.
					SP	ALLUVIAL: SAND, fine to medium grained, pale grey/yellow.		M		No potential asbestos containing materials, hydrocarbon odours or staining observed.
			0.5				BH7-0.3-0.5			
			1.0		SP	ALLUVIAL: SAND, fine to medium grained, pale grey/brown.		M		No potential asbestos containing materials, hydrocarbon odours or staining observed.
			1.5		SP	ALLUVIAL: SAND, fine to medium grained, brown.		W		No potential asbestos containing materials, hydrocarbon odours or staining observed.
			2.0			Borehole BH7 terminated at 2m				
			2.5							
			3.0							

Borehole Log

Client: Diona Pty Ltd Project: Ausgrid - Feeder 265 Replacement Project Location: Bunnerong Substation to Maroubra Substation, NSW 2035						Started: 12/08/2020	Finished: 12/08/2020
Rig Type: Ute-mounted Drill Rig Hole Location: Beauchamp Road. Refer to Figure 2. RL Surface: m Contractor: Alliance Geotechnical						Driller: TM	Logged: ZT
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks
ADT						TOPSOIL: Silty SAND, fine to coarse grained, brown, low plasticity.	M
						FILL: SAND, fine to medium grained, brown.	M
					SP	ALLUVIAL: SAND, fine to medium grained, pale grey/yellow.	M
					SP	ALLUVIAL: SAND, fine to medium grained, brown.	M
						Borehole BH8 terminated at 2m	

Borehole Log

Client: Diona Pty Ltd
Project: Ausgrid - Feeder 265 Replacement Project
Location: Bunnerong Substation to Maroubra Substation, NSW 2035

Started: 12/08/2020

Finished: 12/08/2020

Borehole Size 0.1 mm

Rig Type: Ute-mounted Drill Rig Hole Location: Robey Street. Refer to Figure 2.					Driller: TM	Logged: ZT			
RL Surface: m		Contractor: Alliance Geotechnical			Bearing: ---	Checked: MD			
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition Consistency/ Density Index	Additional Observations
ADT						ASPHALT FILL: Sandy GRAVEL, fine to coarse gravels, dark grey, fine to coarse grained sands.		M	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			0.5		SP	ALLUVIAL: SAND, fine to medium grained, pale grey/yellow	BH9-0.3-0.5	M	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			1.0		SP	ALLUVIAL: SAND, fine to medium grained, brown.	BH9-1.0-1.2	M	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			1.5		SP	ALLUVIAL: SAND, fine to medium grained, brown.		D	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			2.0			Borehole BH9 terminated at 2m			
			2.5						
			3.0						

Borehole Log

Client: Diona Pty Ltd
Project: Ausgrid - Feeder 265 Replacement Project
Location: Bunnerong Substation to Maroubra Substation, NSW 2035

Started: 12/08/2020

Finished: 12/08/2020

Borehole Size 0.1 mm

Rig Type: Ute-mounted Drill Rig		Hole Location: Robey Street. Refer to Figure 2.		Driller: TM	Logged: ZT					
RL Surface: m		Contractor: Alliance Geotechnical		Bearing: ---	Checked: MD					
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT						ASPHALT				
						FILL: Gravelly SAND, fine to coarse grained, grey/brown, fine to medium grained.		D		No potential asbestos containing materials, hydrocarbon odours or staining observed.
						FILL: Gravelly SAND, fine to coarse grained, dark grey, fine to medium grained.		D		No potential asbestos containing materials, hydrocarbon odours or staining observed.
		0.5			SP	ALLUVIAL: SAND, fine to medium grained, pale yellow.		M		No potential asbestos containing materials, hydrocarbon odours or staining observed.
							BH10-0.6-0.8			
							BH10-1.1-1.3			
		1.0								
		1.5								
		2.0				Borehole BH10 terminated at 2m				
		2.5								
		3.0								

Borehole Log

Client: Diona Pty Ltd
Project: Ausgrid - Feeder 265 Replacement Project
Location: Bunnerong Substation to Maroubra Substation, NSW 2035

Started: 12/08/2020

Finished: 12/08/2020

Borehole Size 0.1 mm

Rig Type: Ute-mounted Drill Rig		Hole Location: Robey Street. Refer to Figure 2.		Driller: TM	Logged: ZT					
RL Surface: m		Contractor: Alliance Geotechnical		Bearing: ---	Checked: MD					
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT						ASPHALT				
			0.5		SP	ALLUVIAL: SAND, fine to medium grained, yellow.		M		No potential asbestos containing materials, hydrocarbon odours or staining observed.
			1.0							
			1.5							
			2.0							
			2.5							
			3.0			Borehole BH11 terminated at 2.3m				

Borehole Log

Client: Diona Pty Ltd
Project: Ausgrid - Feeder 265 Replacement Project
Location: Bunnerong Substation to Maroubra Substation, NSW 2035

Started: 12/08/2020

Finished: 12/08/2020

Borehole Size 0.1 mm

Rig Type: Ute-mounted Drill Rig Hole Location: Robey Street. Refer to Figure 2.					Driller: TM	Logged: ZT			
RL Surface: m			Contractor: Alliance Geotechnical		Bearing: ---	Checked: MD			
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition Consistency/ Density Index	Additional Observations
ADT						ASPHALT FILL: Sandy GRAVEL, fine to medium grained gravel, grey, fine to coarse grained sands.		M	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			0.5		SP	ALLUVIAL: SAND, fine to medium grained, pale grey/yellow.		M	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			1.0		SP	ALLUVIAL: SAND, fine to medium grained, brown.		M	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			1.5		SP	ALLUVIAL: SAND, fine to medium grained, pale yellow.		M	No potential asbestos containing materials, hydrocarbon odours or staining observed.
			2.0						
			2.5						
			3.0			Borehole BH12 terminated at 3m			