PRELIMINARY SITE INVESTIGATION REPORT

PROJECT: 412 Cessnock Road, Gillieston Heights, NSW 2321

CLIENT: BATHLA GROUP

DATE: 16 June 2022

REPORT No.: NE1169

GEOTESTA

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EXECUTIVE SUMMARY

Geotesta was engaged by Bathla Group to conduct a Preliminary Site Investigation (PSI) on the site referred as 412 Cessnock Road, Gillieston Heights, NSW 2321.

The PSI was conducted in general accordance with "Managing Land Contamination Planning Guidelines SEPP 55" and this report compiled, taking into consideration the NSW EPA Consultants reporting on Contaminated Land Guidelines update May 2020. The PSI contains an appraisal of the site's history and a report based on a visual site inspection and assessment. All relevant information about the site was assessed to determine the potential for site contamination. To support the outcomes of the PSI a limited sampling and analysis program was implemented.

This report is based only on the information provided at the time of this report preparation and may not be valid if changes are made to the site conditions and/or soil and groundwater.

The objectives of this PSI are to:

- assess the past uses of the site and the potential environmental impacts that they may have had on the environmental condition of the site
- conduct a soil sampling and analysis program to assess the current environmental condition
- identify potential environmental risks associated with the site
- assess the requirements for additional investigations
- address the requirements of the planning authority

The following scope of works was implemented to achieve the objectives of the PSI.

The PSI was conducted in general accordance with the Australian Standard AS 4482.1 (2005) *Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds*, the Australian Standard AS 4482.2-1999 *Guide to the sampling and investigation of potentially contaminated soil Part 2: Volatile substances*, the National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 No1, and other relevant NSW guidelines and legislation, including the NSW EPA Sampling Guidelines (1995).

The scope of works included the following:

- A site inspection

- historical aerial photographs
- geological and hydrogeological review
- conduct a soil sampling and analysis program
- production of this report on the contamination status of the site.

A Preliminary Site Investigation (PSI) was performed at the property identified as 412 Cessnock Road, Gillieston Heights, NSW 2321. The historical review indicated mainly residential usage with the possibility of agricultural usage since 1984. During site investigation, it was determined the site was being used for residential and storage purposes.

A summary of the laboratory results are presented as the following:

- All the concentrations of heavy metals were found to be within the adopted Site Assessment Criteria (HIL A & EIL).
- Concentrations of OCP/OPP were found to be within the adopted Site Assessment Criteria (SAC).
- Concentrations of total PAH were found to be within the adopted Site Assessment Criteria (SAC).
- All samples analysed, are found to have concentrations of TRH within the adopted Site Criteria (HSL, ESL and ML).
- All samples analysed, were found to have concentrations of BTEX within the adopted Site Criteria (HSL and ESL).
- All the concentrations of Phenols within the samples analysed were found to be within the adopted Site Assessment Criteria (SAC).
- All the concentrations of PCBs within the samples analysed were found to be within the adopted Site Assessment Criteria (SAC).
- No asbestos was detected at the Reporting Limit of 0.001% w/w within the samples analysed.

Based on the assessment undertaken, the following conclusions and recommendations can be made:

- The limited soil sampling and analysis program conducted indicated a **low** risk of soil and groundwater contamination.
- It is the opinion of Geotesta, that the site can be made suitable for the proposed Development Application (DA) in the foreseeable future pending the successful application of a Data Gap Assessment.
- Due to the existence of a data-gap in this investigation, a further assessment post demolition of the existing structures/dwellings is required to address further potential AECs identified previously and to determine if any contamination hotspots exist within the footprint of the existing sheds and dwellings. The Gap Assessment scope must also include the following:

  - Any stockpiles and areas under stockpiled materials that were not assessed at the time of the PSI or are new to site, will require sampling as part of the Data Gap Assessment.

1. INTRODUCTION

Geotesta was engaged by Bathla Group to conduct a Preliminary Site Investigation (PSI) on the site referred as 412 Cessnock Road, Gillieston Heights, NSW 2321.

The PSI was conducted in general accordance with "Managing Land Contamination Planning Guidelines SEPP 55" and this report compiled, taking into consideration the NSW EPA Consultants reporting on Contaminated Land Guidelines update May 2020. The PSI contains an appraisal of the site's history, a report based on a visual site inspection and an assessment of analytes for contamination. All relevant information about the site was assessed to determine the potential for site contamination. To support the outcomes of the PSI, limited sampling and analysis program was implemented.

This report is based only on the information provided at the time of this report preparation and may not be valid if changes are made to the site conditions and/or soil and groundwater.

2. PLANNING GUIDELINES

The land is to be developed for residential usage. The planning authority must consider the possibility that the previous land use has the potential to cause contamination of the site as well as the potential risk to health or the environment from that contamination. The PSI is the first stage to determine if there is a potential for land contamination that has a potential to impact the development application (DA).

The Guidelines recommend that re-zonings, development control plans and development applications (DAs) are backed up by information demonstrating that the land is suitable for the proposed use or can be made suitable, either by remediation or by the way the land is used.

3. OBJECTIVE

The objectives of this PSI are to:

- assess the past uses of the site and the potential environmental impacts that they may have had on the environmental condition of the site
- conduct a soil sampling and analysis program to assess the current environmental condition
- identify potential environmental risks associated with the site
- assess the requirements for additional investigations
- address the requirements of the planning authority

4. SCOPE OF WORKS

The following scope of works was implemented to achieve the objectives of the PSI.

The PSI was conducted in general accordance with the Australian Standard AS 4482.1 (2005) *Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds*, the Australian Standard AS 4482.2-1999 *Guide to the sampling and investigation of potentially contaminated soil Part 2: Volatile substances*, the National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 No1, and other relevant NSW guidelines and legislation, including the NSW EPA Sampling Guidelines (1995).

The scope of works included the following:

- A site inspection
- historical aerial photographs
- geological and hydrogeological review
- conduct a soil sampling and analysis program
- production of this report on the contamination status of the site.

Activities undertaken to achieve the above objectives are reported and discussed in the following sections.

5. SITE DESCRIPTION

5.1 Site Identification

The site of investigation is located at 412 Cessnock Road, Gillieston Heights, NSW 2321, located at approximately 39 km (by road) of Newcastle, NSW. The site location and features are shown in Figure 1. The site has a rectangular shape and is relatively flat, with an area of approximately 39,604 m^2. The site has a slope of approximately 8% downward from east to west.

Table 1: Site Identification

Site Details	Site Observations
Address	412 Cessnock Road, Gillieston Heights, NSW 2321
Lot/Plan Number	Lot. 22 DP1092105 Lot. 21 DP1092105
Local Government Area	Maitland City Council
Site Area	39,604.30 m^2
Zoning	R1: General Residential
Current Land Use	Residential

Figure 1. Site Location Plan

5.2 Proposed Development

It is understood that the site is proposed for a residential subdivision with on-site roadways. The site lies within a General Residential zone (R1). Planning zones that are in the vicinity of the site include:

- Environmental Conservation (C2 & C3)
- Primary Production (RU1)
- Rural Landscape (RU2)
- Infrastructure (SP2)

5.3 Site Details, Geology and Topography

The subject site of the proposed development consists of one (1) single-level residential dwelling and one (1) storage shed located within the site boundary. Site consists of vacant grassed covered ground surfaces with sparsely populated mature trees across the site.

The geological origin of the soil profile was identified from our visual examination of the soil samples, geotechnical experience, and reference to geological maps of the area. The geological map of the area indicates that the site is underlain by the Maitland Group (Pmt): quart-lithic sandstone (sporadic marine fossils), polymictic pebble to cobble-paraconglomerate, siltstone, fossiliferous siltstone, minor claystone, and chert (Maitland 1: 25 000 Quaternary Geology Map). Figure 2 shows the geology map of the site and surrounding area.

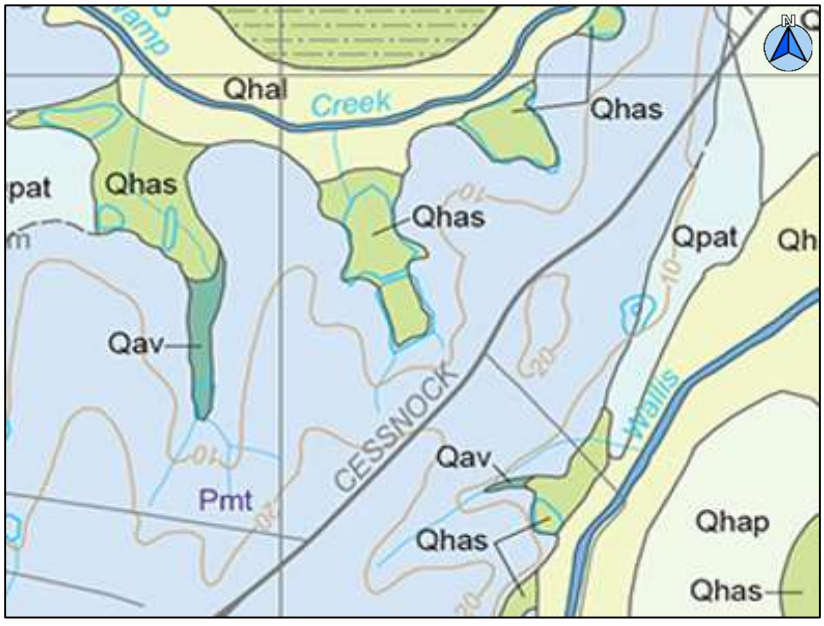

Figure 2. **Geology map of the site and surrounding area**

The site lies at an elevation of approximately 25 metres above sea level (ASL) referenced to Australian Height Datum (AHD) (http://en-au.topographic-map.com).

5.4 Site Regional Meteorology and Hydrogeology

The following climate information from the Commonwealth Bureau of Meteorology website (http://www.bom.gov.au/) can be obtained:

- Mean maximum temperature of 23.8°C from January to December (2021) at Maitland Airport AWS, approximately 13 km away from site.
- Mean minimum temperature of 11.4°C from January to December (2021) at Maitland Airport AWS, approximately 13 km away from site.
- Average annual rainfall of 986.2 mm from January to December (2021) at Maitland Airport AWS, approximately 13 km away from site.

5.5 Groundwater

No groundwater was encountered during the borehole drilling to the maximum depth of 1.3m.

5.6 Acid Sulphate Soils

The Department for Infrastructure, Planning and Natural Resources (DIPNR) Acid Sulphate Soils Risk Mapping (1997) and the NSW Environmental Acid Sulphate Soil Risk Mapping eSPADE application indicates that site is not expected to be underlain by acid sulphate soils.

5.7 Summary of Site History

5.7.1 Historical Background

The aerial photographs indicate that some part of site has been used primarily for residential purposes and storage purposes since 1984 while majority of site's ground surfaces were covered with grass and sparsely populated trees. One (1) residential dwelling was constructed no later than 1984 with a large shed constructed no later than 2007. The eastern section of the site is predominantly overlain with gravel road surfaced fill. Aerial Photograph Review.

An aerial photographic desktop search was conducted on 6th May 2022. The historical aerial photos were viewed with observations presented in Table 3. Historical aerial photographs are presented in Appendix B.

Table 2: Aerial Photograph Review

Year	Site Observations	Surrounding Area
1944	The site is a vacant land covered by grass and scattered trees.	Vacant land covered by grass and scattered trees.
1954	No change from previous photograph	No change from previous photograph
1966	No change from previous photograph	Small residential dwellings located to the east
1974	No change from previous photograph	Small residential dwellings located to the east Market garden structures and dam located to the west
1984	A small residential/structure centrally located on the site Remaining site – grass exposed surfaces and multiple scattered trees	Agricultural use, dwellings and dam located to the east Dam located to the west
2007	A small residential/structure centrally located on the site Shed located in the southern section of the site Remaining site – grass exposed surfaces and multiple scattered trees	Residential development located adjacent north Agricultural use, dwellings and dam located to the east Market garden structures and dam located to the west
2010	No change from previous photograph	No change from previous photograph
2015	No change from previous photograph	Residential development located adjacent north and north-west Earthworks located adjacent west Agricultural use, dwellings and dam located to the east Dam located to the west
2019	No change from previous photograph	Residential development located adjacent north and west Agricultural use, dwellings and dam located to the east Dam located to the west
2021	No change from previous photograph	Residential development located adjacent north and west Earthworks adjacent east Dam located to the west

5.8 Site Walkover

Results of the site walkover inspection carried out on 13th April 2022 is presented below:

- One-storey residential dwelling constructed from brick veneer and appears to be in good condition, was located at the eastern central section of the site.
- One large shed made with Colourbond sheet metal and appears to be in good condition, was located in the southern section of the site. The large shed may serve as potential storage for fuel, chemicals, vehicles, generators, and equipment.
- Site consists of vacant grassed covered ground surfaces with sparsely populated mature trees across the site.
- The site has a slope of approximately 8% downward from east to west, the site appeared to drain to the west of the site.
- Vegetation onsite appeared to be healthy with no signs of 'vegetation die back'.
- No visible signs of contamination and associated odours were encountered during the investigation

Photographic log is provided in Appendix A

5.9 NSW OEH/EPA Records

The site or nearby surrounding areas have no notices under the Contaminated Land Management Act (1997) or the Environmentally Hazardous Chemicals Act (1985).

5.10 Planning Certificate

A Planning Certificate Under Section 10.7 was not ordered for 412 Cessnock Road, Gillieston Heights, NSW 2321.

5.11 Historical Land Titles

No Historical Land Titles search was conducted for 412 Cessnock Road, Gillieston Heights, NSW 2321.

5.12 Salinity Mapping

The eSPADE web app found at https://www.environment.nsw.gov.au/eSpade2WebApp indicated that the site is in an area with no salinity evidence (see Figure 3).

The following observations/inspections were noted onsite:

- ✓ Vegetation growth appeared healthy throughout the site.
- ✓ No water marks or salt crystals observed on the ground surface

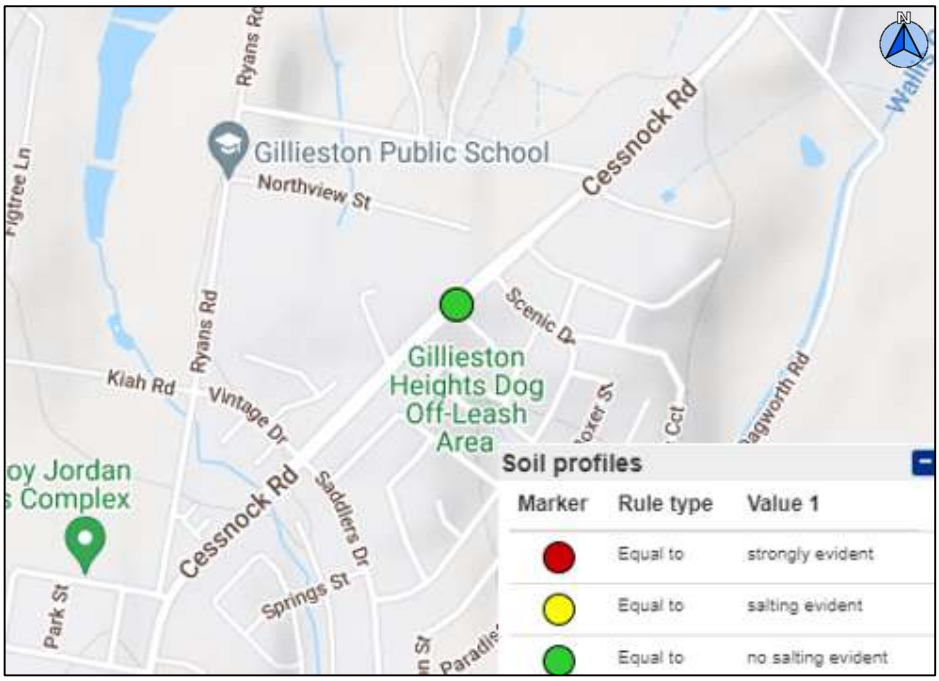

Figure 3. Salinity Potential Map

6. CONCEPTUAL SITE MODEL

6.1 Areas of Environmental Concern

Our assessment of site AECs and COPCs (Table 4) is made based on available aerial photograph interpretation and site walkovers. A map showing the salinity potential site in Figure 3.

Table 3: Areas of Environmental Concern and Contaminants of Primary Concern (COPC)

AEC	Potential for Contamination	COPC	Contamination Likelihood
A – Areas of Dwellings/Sheds	Pesticides and heavy metals may have been used underneath dwellings for pest control. Dwelling construction may include ACM and/or lead based paint system.	HM, OCP/OPP, and Asbestos	Medium
B – Sheds/Storage containers	Heavy metals may have been used underneath sheds. Shed construction may include ACM and/or lead based paints.	HM, TRH, PAH, BTEX OCP/OPP, and Asbestos	Medium
C – Areas of possible light agricultural usage	Heavy metals and pesticides used for light agricultural activities may pose potential risk of contamination	HM, TRH and OCP/OPP	Medium

6.2 Potential Receptors and Sensitive Environments

The residents and visitors/workers on site are identified as immediately sensitive environmental receptors. A summary of the identified potential receptors and sensitive environments is detailed below in Table 6.

Table 4: Potential Receptors and Sensitive Environments

Receptors/Environments	Potential Pathway
Human Receptors: • Future site workers and visitors • Site labourers/workers • Residents of adjacent properties • Trespassers	• Direct skin contact • Ingestion of contaminated soil • Inhalation via airborne dust
Sensitive Environments: • Site fauna and flora	• Migration via stormwater run-off or within groundwater • Migration into underlying soil

6.3 Potential for migration and exposure of contamination

During site investigation, several potential receptors for off-site migration of potential contamination has been raised. Site information and onsite inspection observations indicated a potential for contaminants to present a direct contact and inhalation exposure risk on site. Exposure routes of contaminants could potentially be through direct contact with exposed soils (Heavy Metals, TPH, PAHs, BTEX and OCP/OPP) or airborne dust (Asbestos). These exposure risks will "likely", and potentially at its highest risk during any demolition, earthworks, or construction phases within the site.

There is a potential for these contaminates to be present within underlying soils and can migrate vertically (dispersed up into the atmosphere, or infiltrate down into the groundwater) and migrate horizontally (through stormwater runoff pathways) from the proposed development.

6.4 Assessment of Preliminary Site Investigation and Recommendations

The review of the site history indicated the site has been used for residential and storage purposes since 1984. Aerial photography indicated the northern section of the site appears to remain untouched since 1947 and continues to be grass covered ground surfaces. Most of the site ground surfaces appears to be covered with grass and sparsely populated trees. One (1) single dwelling residential property can be noticed since 2007 having shed and garage. It was highly likely that fuels and chemicals were once stored in the shed observed onsite.

Based on the site history and walkthrough, the site is considered to have the following environmental concerns of:

- Areas of dwellings/sheds may currently (of have previously) stored fuel, oils, pesticides, zinc treated (galvanised) metals and/or lead based paints.
- Contaminants from the contents of the stockpiles, fuel barrels, oil storage tanks and heavy vehicles may have leaked, spilled, or been distributed onto the underlying soil.
- Areas of possible cropping/farming activity may have introduced heavy metals or pesticides to the soil.

To address identified AECs, intrusive soil/water sampling regime is recommended to determine what, if any, remediation is required to render the site fit for residential use. A soil sampling plan is to be developed based on a judgemental or systematic sampling pattern and risk-based assessment.

Assessment shall address each of the identified AECs and assess COPC identified for each AEC (Table 5). Results of the site testing shall be assessed against Site Acceptance Criteria (SAC) with reference to ASC NEPM (1999, amended 2013).

7. SAMPLING AND ANALYSIS QUALITY PLAN (SAQP)

A limited SAQP was developed to ensure that data collected for this PSI was representative and provided a robust basis for site assessment decisions considering the areas of environmental concerns identified in Section 6.

Preparation of the SAQP includes:

- Field Screening and Sampling Program
- Sampling QA/QC
- Sample Handling, Preservation and Storage Procedures
- Analytical Program and Site Investigation Data Assessment

7.1 Field Screening and Sampling Program

7.1.1 Data Quality Plan

Investigations at the site included field works, lab analysis and assessment. The sampling regime for the investigation area of the site was in accordance with the requirements as outlined in the NSW EPA Guidelines for Consultants Reporting on Contaminated Sites and the NSW EPA Sampling Design Guidelines and NEPM 2013.

7.1.2 Visual Inspection

During the sampling works a visual inspection was conducted for visible suspected asbestos containing materials (ACM), signs of contamination and odours. The inspections for asbestos were undertaken in a systematic, back and forth fashion over the site to identify suspected ACM. No suspected ACM was encountered during the course of this investigation.

7.1.3 Soil Sampling Techniques

All techniques used for soil sampling, are based on methods specified by the National Environmental Protection (Assessment of Site Contamination) Measure (NEPM, 2013). Experienced personnel of Geotesta collected all the samples for delivery to NATA accredited laboratory of Eurofins MGT.

Geotesta collected ten (10) individual soil samples from throughout the site for site contamination investigation. Sampling was conducted on 13 April 2022. Samples were collected at approximate depth of 0.2-0.3m bgl. Standard procedures were used for sampling and soil sampling methodology was completed to meet daily quality objectives.

7.1.4 Rationale for Sampling Program and Locations

The justification of the sampling point regime for the assessment was based on the investigator's knowledge, operational requirements, and experience. All the AECs including heavy metals, OCP/OPP, TRH, PAH, BTEX and asbestos concentrations have been targeted.

7.1.5 Sampling Program

Fieldwork for this investigation was carried out on 13th April 2022 and included drilling of four (4) boreholes. Borehole drilling was carried out using vehicle-mounted auger to a maximum depth of 1.3m as part of Geotechnical Site Investigation in conjunction with this detailed site investigation. The sampling locations are shown in Figure 4. Environmental soil samples were collected from the surface and at lower depths up to 0.3m. Standard procedures were used for sampling and soil sampling methodology was completed to meet data quality objectives.

7.1.6 Soil Logging

Boreholes were logged by an experienced environmental/geotechnical engineer in accordance with Standard procedures. The borehole logs are presented in Appendix C.

7.2 Sampling Quality control (QC) / Quality Assurance (QA)

7.2.1 Sampling Procedures

General soil sampling procedures included wearing of plastic disposable gloves when handling sampling equipment and soil and changed between collections of samples. All sampling equipment was clean prior to commencement of sampling. Equipment for soil sampling included a stainless-steel bowl, stainless steel trowel and knife. All equipment was decontaminated between samplings. The following measures have been utilized during the sampling to achieve the sampling quality controls.

7.2.1.1 Sample Containers

Soil samples collected during the investigation were placed immediately into laboratory prepared glass jars with Teflon lid. Standard identification labels were adhered to each individual container and labelled according to depth, date, sampling team and media collected.

7.2.1.2 Sample Tracking and Identification

All samples were identified with a unique sample number and all sampling details were included on the sample label and were reproduced on the field sample log and chain of custody records.

7.2.1.3 Decontamination

All equipment used in the sampling program, which includes a steel shovel was decontaminated prior to use and between samples to prevent cross contamination. Decontamination of equipment involved the following procedures:

- Cleaning equipment in potable water to remove gross contamination
- Cleaning in a solution of Decon-90TM
- Rinsing in clean demineralised water then wiping with clean lint free cloths.

7.2.1.4 Sample Transport

All samples were packed in ice from the time of collection and were transported under chain of custody from the site to NATA registered laboratory identified as Eurofins Environment Testing Australia Pty Ltd in Girraween. Collected samples were placed into an ice chilled cooler-box. During the project, the laboratory reported that all the samples arrived intact, with appropriate preservation medium and were analysed within their relative holding times for the respective analytes.

7.2.2 Analytical QA/QC Procedures

Quality control is achieved by utilising NATA accredited laboratories, using standard methods supported by internal duplicates, the checking of high, abnormal, or otherwise anomalous results against background and other chemical results for the sample concerned.

Quality assurance is achieved by confirming field or anticipated results based upon the comparison of field observations with laboratory results. One (1) duplicate sample stated as BD1 was collected to confirm the suitability of results.

The laboratory undertakes additional duplicate analysis as part of their internal quality assurance program. Chain of Custody documentations were used to ensure that sample tracking and custody can be cross-checked at any point in the transfer of samples from the field to hand-over to the laboratory.

Reinstate sample were collected for this investigation, however, we do not consider the absence of these QA/QC results to have impacted the useability of the data for this investigation, as discussed in section 8.3.

8. SAMPLING PROGRAM

8.1 Field Investigation

Fieldwork for this investigation was carried out on 13th April 2022 and included drilling of ten (10) boreholes. Borehole were drilled using a handheld auger up to the maximum depth of 0.3 m. The sampling locations are shown in Figure 4. Environmental soil samples were collected from the near surface and at lower depths up to 0.3m bgl and held for selected analysis.

During the sampling works a visual inspection was conducted for visible suspected asbestos containing materials (ACM), signs of contamination and odours. No visible ACM, contamination and odours were encountered on the site ground surfaces at the time of the inspection. The inspections for asbestos were undertaken in a systematic, back and forth fashion over the site to identify suspected ACM. No suspected ACM was encountered during the course of this investigation.

Figure 4. Sampling locations.

= Duplicate sample collection point

= Sample collection points

8.2 Analytical Program

Samples were to be analysed to provide information for the characterisation of the most likely contaminated soils. This allowed the assessment of soils samples against the Site Acceptance Criteria (SAC) and ensures the effective removal of all contaminants of concern. All analyses were to be carried out by NATA certified laboratory Eurofins MGT in accordance with Chain of Custody (CoC) instructions supplied by Geotesta. The samples were checked for heavy metals, OCP/OPP, PAH, TRH, BTEX and Asbestos. Summary of the soil laboratory analyses is presented in Table 7. The details of sample's types and depths are provided in Table 8.

Table 5: Summary of soil laboratory program

COC	Number of samples analysed
Suite B7A[1]	10
Suite B15[2]	10
Asbestos	10

Notes:
[1]**Suite B7A**: Arsenic, cadmium, Chromium, copper, lead, Mercury, Nickel, Zinc, PAH, TRH, Phenol and BTEX
[2]**Suite B15**: OCP/OPP, PCB
OCP: Organochlorine Pesticides**; OPP:** Organophosphorus Pesticides**; PCB:** Polychlorinated Biphenyls

Table 6: Samples Depth and Requested Lab Tests

Sample ID (BH)	Depth (m)	Sample Type	Suite B7A	Suite B15	Asbestos
EBH1	0.2-0.3	Sandy SILT	×	×	×
EBH2	0.2-0.3	Sandy SILT	×	×	×
EBH3	0.2-0.3	Sandy SILT	×	×	×
EBH4	0.2-0.3	Sandy SILT	×	×	×
EBH5	0.2-0.3	Sandy SILT	×	×	×
EBH6	0.2-0.3	Sandy SILT	×	×	×
EBH7	0.2-0.3	Sandy SILT	×	×	×
EBH8	0.2-0.3	Sandy SILT	×	×	×
EBH9	0.2-0.3	Silty CLAY	×	×	×
EBH10	0.2-0.3	Silty CLAY	×	×	×

[1]Suite B7A: **Arsenic, cadmium, Chromium, copper, lead, Mercury, Nickel, Zinc, PAH, TRH, Phenol and BTEX**
[2]Suite B15: **OCP/OPP, PCB**
OCP: Organochlorine Pesticides**; OPP:** Organophosphorus Pesticides**; PCB:** Polychlorinated Biphenyls
Total Recoverable Hydrocarbons - 2013 NEPM Fractions, PAH: Polycyclic Aromatic Hydrocarbons, OP: Organochlorine Pesticides
Polychlorinated Biphenyls (PCB), Spectated Phenols, Chromium (hexavalent), Cyanide (total) and Fluoride
Heavy Metals such as arsenic, copper, lead, etc., TRH: Total recoverable hydrocarbons

9. ASSESSMENT CRITERIA

9.1 Heavy metals, PAH, PCB, OCP/OPP, and asbestos

Based on the proposed development, Health Investigation levels (HIL) of Residential A with soil access (ASC NEPM 1999, amended 2013) have been adopted as the Soil Assessment Criteria (SAC) for metals, OCP, OPP and PAH for this investigation.

The bonded asbestos Health Screening Levels (HSLs) in soils (NEPM 2013) were also adopted for the site. In addition to soil samples tested for asbestos, the 'presence/absence' of asbestos in soil material has been adopted as the SAC. Generic Ecological Investigation Levels (EILS) will also be used to assess the site to confirm suitability for the proposed residential land use.

Table 8 presents HILs for heavy metals, PAH, pesticides (OCP/OPP) and HSLs asbestos.

Table 7: Site Assessment Criteria for Soils (mg/kg)

Analytes	HILs-Residential A[1]	HSLs-Residential A[1]
Arsenic	100	--
Cadmium	20	--
Chromium (VI)	100	--
Copper	6000	--
Lead	300	--
Mercury (inorganic)	40	--
Nickel	400	--
Zinc	7400	--
Total PAHs	300	--
Benzo(a)PyreneTEQ	3	--
PCB	1	--
Pesticides: (Aldrin/DielDrin), Chlordane DDT+DDE+DDD Chlorpyrifos	 6 50 240 160	 -- -- --
Asbestos: Bonded ACM[2], Friable Asbestos[3] (FA), Asbestos Fines[4] (AF), Surface Asbestos (0.1m)	 -- -- --	 0.01% 0.001% No Visible

1- Criteria adopted for residential areas of the Site
2- Bonded ACM (bonded Asbestos) - asbestos-containing-material which is in sound condition and where the asbestos is bound in a matrix such as cement or resin (e.g., asbestos fencing and vinyl tiles). Bonded ACM refers to, in this instance, material that cannot pass a 7 mm x 7 mm sieve.
3- Fibrous Asbestos - friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This material is in a degraded condition such that it can be broken or crumbled by hand pressure.
4- Asbestos Fines - AF includes free fibres, small fibre bundles and small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

9.2 Total Recoverable Hydrocarbons (TRH) and Benzene Toluene Ethylbenzene Xylene (BTEX)

The NEPM (2013) provides Health Screening Levels (HSLs), Ecological Screening Levels (ESLs) and Management Limits (MLs) for TRH fractions in soil based on concerns regarding ecological impacts, inhalation of vapours and direct contact with contaminant sources. The Fraction Number (i.e., hydrocarbon compound range) is identified and compared against the prescribed HSL, ESL and Management Limit (ML) values. HSLs, ESLs and MLs take into consideration the followings:

- Carbon number range, indicated by a Fraction Number (F1, F2, F3 or F4)
- Type of soil (sand, silt, or clay)
- Depth to the source of contamination
- Intended land-use (residential)

For this site, the intended land use is residential. The site assessment criteria of HSL, ESL, and ML are summarised in Table 9 and 10 below.

Table 8: NEPM 2013 BTEX and TRH Criteria – HSL, ESL and ML Criteria

Analytes	HSL-A(Clay) 0-1.0m	HSL-A (Clay) 1-<2.0m	HSL-A (Clay) 2-<4.0m
Benzene	0.7	1.0	2.0
Toluene	480	NL	NL
Ethylbenzene	NL	NL	NL
Xylene	110	310	NL
F1: C6-C10	50	90	150
F2:C10-C16	280	NL	NL
F3: C16-C34	N/A	N/A	N/A
F4: C34-C40	N/A	N/A	N/A

NL = Not Limiting (i.e., the soil vapour concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario).
N/A = Not applicable as F3 and F4 are non-volatile and hence are not of concern for vapour intrusion.
*'Fine' refers to the soil texture grading as per NEPM 1999.
1 NEPM 2013 Amendment *Table 1A (3) – Soil HSLs for vapour intrusion* – 0-1.0m
2 NEPM 2013 Amendment *Table 1A (3) – Soil HSLs for vapour intrusion* – 1-<2.0m
3 NEPM 2013 Amendment *Table 1A (3) – Soil HSLs for vapour intrusion* – 2-<4.0m

Table 9: NEPM 2013 BTEX and TRH Criteria, ESL and ML Criteria for 0-1m, 1-<2m and 2-<4m

Analytes	NEPM 2013 Amendment TRH Criteria (mg/kg dry wt.) ESL (Fine*)	NEPM 2013 Amendment TRH Criteria (mg/kg dry wt.) ML (Fine*)
Benzene	65	
Toluene	105	
Ethylbenzene	125	
Xylene	45	
F1: C6-C10	180	800
F2:C10-C16	120	1000
F3: C16-C34	1300	3500
F4: C34-C40	5600	10000

'Fine' refers to the soil texture grading as per NEPM 1999.
1 NEPM 2013 Amendment Table 1B (6) – ESLs for TPH fractions, BTEX and benzo(a)pyrene in soil.
2 NEPM 2013 Amendment Table 1B (7) – Management Limits for TPH fractions F1-F4 in soil.

9.3 Limitations of the Validation Criteria

All criteria have limitations. Not all chemical analytes are covered by each set of guidelines, requiring some criteria to be sourced from elsewhere. This is particularly relevant to the Dutch guidelines, which provide a guideline for assessment for some analytes not covered by the Australian guidelines.

9.4 Statistical Evaluation

Samples results from each identified material were tabulated and grouped individually as distinct profiles to be assessed. To achieve compliance with the site adopted Validation criteria, assessment of the average concentrations for each analyte across the site must meet the following Statistical Parameters:

- The 95% Upper Confidence Limit (UCL) of the arithmetic mean must not exceed each respective HIL. A 95% UCL is equivalent to 0.05 risk meaning, on average, the statistical statement will be correct 95% out of 100 times.
- The individual contaminant concentration must not exceed the HIL by more than 250%
- The standard deviation of individual contaminants should not exceed 50% of the HIL.

Where a sample result is beyond 250% of the HIL, or where the standard deviation of the data set is greater than 50% of the HIL, non-compliant locations are defined as not part of the general population of the Site, but rather as a hotspot or a different population. Hotspots are

defined as localised areas where contaminant concentration is noticeably higher than in surrounding areas.

9.5 Ecological Investigation Levels

Ecological Investigation Levels (EILS) were also used to assess the site to confirm suitability for the proposed residential land use.

The current version of the NEPM (2013) specifies default EILs for arsenic, lead, DDT, and naphthalene.

NEPM (2013) specifies a methodology for the derivation of site-specific EILs for nickel, chromium III, copper, and zinc. The derivation process requires determination of ambient background concentrations (ABC) and added contaminant limits (ACLs) for these chemicals, and the EIL is then calculated as the ABC plus the ACL.

Table 11 presents EILs derived for aged soils in Urban Residential and Public Open Space based on adoption of conservative screening assumptions regarding soil properties.

Table 10: NEPM (2013) EILs for Urban Residential and Public Open Spaces

Analyte	pH	CEC^	Clay Content*	ABC	ACL	EIL
Zinc	6.0	2.4	-	7.1	230	237
Copper	6.0	2.4	-	<5	143	143
Chromium (III)	-	-	6 %	20	320	340
Nickel	-	2.4	-	<5	30	30
Lead	-	-	-	10	1,100	1,210
Arsenic	-	-	-	-	100	100
DDT	-	-	-	-	-	180
Naphthalene	-	-	-	-	-	170

Note(s):

1. ABC = ambient background concentrations, ACL = added contaminant limits, ESL = ecological screening levels, CEC = cation exchange capacity;
2. Used a laboratory derived pH of 7.0-7.5 range taken from both fill and naturals soils on site;
3. ^= samples were not analysed for CEC, as such a site specific CEC value is not available. Where CEC is required to derive site specific EILs, the most conservative CEC value was used for initial screening purposes;
4. *= samples were not analysed for % clay, as such a % clay value is not available. Where % clay is required to derive site specific EILs, the most conservative % clay value was used for initial screening purposes;
5. ABC sourced from the natural soils analysed on the site and the average used for the natural on-site basaltic; and

- = no value required for the derivation of ESLs

10. RESULTS

10.1 Subsurface Conditions

A summary of sub-surface soil conditions encountered in the site is presented below:

Based on the fieldwork results, an approximately 0.2-0.4m thick topsoil/fill layer was observed in boreholes.

The material below the topsoil/fill material was mostly sandy SILT. Bedrock was encountered in all boreholes at depths varying between 0.7m – 1m and comprised of extremely weathered and very low strength materials. Bedrock materials included SHALE/SILTSTONE, encountered in all boreholes.

Groundwater was not encountered in any of the boreholes.

10.2 Laboratory Analytical Results

Selected soil samples were analysed for the COPCs. A summary of analytical results follows. The lab test reports are presented in Appendix D.

10.2.1 Heavy Metals (HM)

A total of ten (10) soil samples were analysed for heavy metals. The results of the lab tests for the heavy metal components are presented in Table 12. The 95% UCL was calculated as a statistical analysis of the heavy metal detections including minimum, maximum, and average along with the adopted SAC, and is shown in Table 13.

Table 11: Heavy Metal Detections in soil samples (mg/kg)

Sample	Sample Depth (m)	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Zinc (Zn)
EBH1	0.2-0.3	**3**	<0.4	**5.3**	<5	**10**	<0.1	<5	**6.1**
EBH2	0.2-0.3	**3.4**	<0.4	**8.0**	<5	**5.7**	<0.1	<5	**8.6**
EBH3	0.2-0.3	**2.6**	<0.4	**5.4**	<5	<5	<0.1	<5	**14**
EBH4	0.2-0.3	**8.3**	<0.4	**13**	<5	**16**	<0.1	<5	**22**
EBH5	0.2-0.3	**3.4**	<0.4	**6.8**	**10**	**14**	<0.1	<5	**18**
EBH6	0.2-0.3	**5.5**	<0.4	**14**	**19**	**78**	<0.1	**12**	**180**
EBH7	0.2-0.3	**7.3**	<0.4	**16**	<5	**8.9**	<0.1	<5	**5.9**
EBH8	0.2-0.3	**3.6**	<0.4	<5	<5	**7.2**	<0.1	<5	**6.6**
EBH9	0.2-0.3	**2.9**	<0.4	**5.2**	<5	<5	<0.1	<5	**5.5**
EBH10	0.2-0.3	**5.2**	<0.4	**5.8**	<5	**6.3**	<0.1	<5	**9.0**

Table 12: Statistical analysis of Heavy Metal Detections in Soil samples (mg/kg)

	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
Samples count[1]	10	10	10	10	10	10	10	10
Minimum	2.6	-	5.2	-	5.7	-	-	5.5
Maximum	**8.3**	-	**16**	**19**	**78**	-	**12**	**180**
Average	5.45		10.6	-	41.85	-	-	92.75
Standard Deviation	1.98	-	4.51	-	8.9	-	-	53.85
95% Confidence	1.42	-	3.22	-	16.12	-	-	38.52
NEPM 2013 HIL	**100**	**20**	**100***	**6000**	**300**	**40**	**400**	**7400**
NEPM 2013 EIL	**100**	**--**	**340***	**143**	**1210**	**--**	**30**	**237**
No. of HIL Exceedance	0	0	0	0	0	0	0	0

* Note: Hexavalent Chromium

** Note: Trivalent Chromium

[1] Note: Duplicate sample is excluded in sample count.

All the concentrations of heavy metals were found to be within the adopted Site Assessment Criteria (HIL A & EIL).

10.2.1 Organochlorine Pesticides / Organophosphorus Pesticides (OCP/OPP)

A total of ten (10) samples were analysed for a range of Organochlorine and Organophosphorus pesticides. Table 14 shows the OCP/OPP detections.

Table 13: OCP/OPP (Pesticides) Detections in soil samples (mg/kg)

	Sample Depth (m)	DDT+DDE+ DDD	Aldrin and Dieldrin	Endrin	Chlordane Total	Chlorpyrifos
EBH1	0.2-0.3	< 0.05	< 0.05	< 0.05	< 0.1	<0.2
EBH2	0.2-0.3	< 0.05	< 0.05	< 0.05	< 0.1	<0.2
EBH3	0.2-0.3	< 0.05	< 0.05	< 0.05	< 0.1	<0.2
EBH4	0.2-0.3	< 0.05	< 0.05	< 0.05	< 0.1	<0.2
EBH5	0.2-0.3	< 0.05	< 0.05	< 0.05	< 0.1	<0.2
EBH6	0.2-0.3	< 0.05	< 0.5	< 0.05	< 0.1	<0.2
EBH7	0.2-0.3	< 0.05	< 0.05	< 0.05	< 0.1	<0.2
EBH8	0.2-0.3	< 0.05	< 0.05	< 0.05	< 0.1	<0.2
EBH9	0.2-0.3	< 0.05	< 0.05	< 0.05	< 0.1	<0.2
EBH10	0.2-0.3	< 0.05	< 0.05	< 0.05	< 0.1	<0.2
NEPM 2013 HIL		**240**	**6**	**10**	**50**	**170**
No. of HIL Exceedance		0	0	0	0	0

Concentrations of OCP/OPP were found to be within the adopted Site Assessment Criteria (SAC).

10.2.2 Polycyclic Aromatic Hydrocarbons (PAH)

A total of ten (10) samples were analysed for a range of PAH. Total PAH detections are shown in Table 15.

Table 14: Total PAH Detections in soil samples (mg/kg)

Sample	Sample Depth (m)	Total PAH	Benzo(a) Pyrene (Upper Bound)
EBH1	0.2-0.3	<0.5	1.2
EBH2	0.2-0.3	<0.5	1.2
EBH3	0.2-0.3	<0.5	1.2
EBH4	0.2-0.3	<0.5	1.2
EBH5	0.2-0.3	<0.5	1.2
EBH6	0.2-0.3	**2**	1.2
EBH7	0.2-0.3	<0.5	1.2
EBH8	0.2-0.3	<0.5	1.2
EBH9	0.2-0.3	<0.5	1.2
EBH10	0.2-0.3	<0.5	1.2
NEPM 2013		**300**	**3**
No of NEPM Exceedance		**0**	**0**

Concentrations of total PAH were found to be within the adopted Site Assessment Criteria (SAC).

10.2.3 Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions

A total of ten (10) samples were analysed for TRH. TRH detections are presented in Table 16.

Table 15: Total TRH Detections in soil samples (mg/kg)

	Sample Depth (m)	F1: C6-C10	F2: C10-C16	F3: C16-C34	F4: C34-C40
EBH1	0.2-0.3	< 20	< 50	< 100	< 100
EBH2	0.2-0.3	< 20	< 50	< 100	< 100
EBH3	0.2-0.3	< 20	< 50	< 100	< 100
EBH4	0.2-0.3	< 20	< 50	< 100	< 100
EBH5	0.2-0.3	< 20	< 50	< 100	< 100
EBH6	0.2-0.3	< 20	< 50	< 100	< 100
EBH7	0.2-0.3	< 20	< 50	< 100	< 100
EBH8	0.2-0.3	< 20	< 50	< 100	< 100
EBH9	0.2-0.3	< 20	< 50	< 100	< 100
EBH10	0.2-0.3	< 20	< 50	< 100	< 100
HSL		**50**	**280**	**NL**	**NL**
ESL		**180**	**120**	**1300**	**5600**
ML		**800**	**1000**	**3500**	**10000**
No of HSL/ESL/ML Exceedance		**0**	**0**	**0**	**0**

All samples analysed, are found to have concentrations of TRH within the adopted Site Criteria (HSL, ESL and ML).

10.2.4 Benzene, Toluene, Ethyl Benzene and Xylene (BTEX) - 2013 NEPM Fractions

A total of ten (10) samples were analysed for BTEX. BTEX detections are presented in Table 18.

Table 16: Total BTEX Detections in soil samples (mg/kg)

	Sample Depth (m)	Benzene	Toluene	Ethylbenzene	Xylene
EBH1	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
EBH2	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
EBH3	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
EBH4	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
EBH5	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
EBH6	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
EBH7	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
EBH8	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
EBH9	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
EBH10	0.2-0.3	< 0.1	< 0.1	< 0.1	< 0.3
HSL		**0.7**	**480**	**NL**	**110**
ESL		**65**	**105**	**125**	**45**
No. of HSL/ESL Exceedance		**0**	**0**	**0**	**0**

All samples analysed, were found to have concentrations of BTEX within the adopted Site Criteria (HSL and ESL).

10.2.1 Phenols

A total of ten (10) samples were analysed for Phenols. Phenol detections are presented in Table 18.

Table 17. Phenol Detections in soil samples (mg/kg)

	Phenols	Pentachlorophenol	Cresols
EBH1	< 0.5	< 1	< 0.5
EBH2	< 0.5	< 1	< 0.5
EBH3	< 0.5	< 1	< 0.5
EBH4	< 0.5	< 1	< 0.5
EBH5	< 0.5	< 1	< 0.5
EBH6	< 0.5	< 1	< 0.5
EBH7	< 0.5	< 1	< 0.5
EBH8	< 0.5	< 1	< 0.5
EBH9	< 0.5	< 1	< 0.5
EBH10	< 0.5	< 1	< 0.5
HSL	**3000**	**100**	**400**
No. of HSL/ESL Exceedance	**0**	**0**	**0**

All the concentrations of Phenols within the samples analysed were found to be within the adopted Site Assessment Criteria (SAC).

10.2.2 Other Organics – Polychlorinated Biphenyls (PCBs)

A total of ten (10) samples were analysed for PCBs. PCB detections are presented in Table 19.

Table 18. PCB Detections in soil samples (mg/kg)

	Total PCBs
EBH1	< 0.1
EBH2	< 0.1
EBH3	< 0.1
EBH4	< 0.1
EBH5	< 0.1
EBH6	< 0.1
EBH7	< 0.1
EBH8	< 0.1
EBH9	< 0.1
EBH10	< 0.1
HSL	**1**
No. of HSL/ESL Exceedance	**0**

All the concentrations of PCBs within the samples analysed were found to be within the adopted Site Assessment Criteria (SAC).

10.2.3 Asbestos

No asbestos was detected at the Reporting Limit of 0.001% w/w within the samples analysed.

10.2.4 Evaluation Analytical Quality Assurance

10.2.5 Trip Spike

The trip spike sample assesses the loss of volatile compounds through field handling and transport procedures. The trip spike is a sand sample spiked with a known concentration of BTEX by the analytical laboratory. The sample is transported to and from the site with the primary samples and is analysed to determine the percentage of BTEX recovered.

Upon analysis, the recovery rates were between 95% and 100% of the known concentration (refer to Table 20). Therefore, the field and transport procedures were considered satisfactory for minimising the potential loss of volatile compounds from the primary samples.

Table 20. Trip Spike Recovery (%)

Sample	Benzene	Toluene	Ethyl-benzene	o-Xylene	m+p Xylene
Trip Spike	95	97	98	100	97
Assessment Criteria	70 – 130	70 – 130	70 – 130	70 – 130	70 – 130

Adapted from Eurofins Certificate of Analysis 880927-S (Appendix D)

10.2.6 Trip Blank

The trip blank sample assesses the potential for the primary sample to be affected by external and environmental factors during transport between the site and laboratory. The trip blank sample consists of blank sand which is transported to and from the site and laboratory with the primary samples.

Upon analysis, no concentrations of BTEX were detected (refer to Table 21). As such, there is a minimal potential for cross-contamination to have occurred during the field and trip handling procedures.

Table 21. Trip Blank Sample Results (mg/kg)

Analyte	Trip Blank (mg/L)
Benzene	<0.1
Toluene	<0.1
Ethylbenzene	<0.1
o-Xylene	<0.1
Total Xylene	<0.3

Adapted from Eurofins Certificate of Analysis 880927-S (Appendix D)

11. DISCUSSION

A PSI was conducted at the property identified as 412 Cessnock Road, Gillieston Heights, NSW 2321. The historical review indicated mainly residential usage with the possibility of agricultural usage since 1984. During site investigation, it was determined the site was being used for residential and storage purposes.

A summary of the laboratory results are presented as the following:

- All the concentrations of heavy metals were found to be within the adopted Site Assessment Criteria (HIL A & EIL).
- Concentrations of OCP/OPP were found to be within the adopted Site Assessment Criteria (SAC).
- Concentrations of total PAH were found to be within the adopted Site Assessment Criteria (SAC).
- All samples analysed, are found to have concentrations of TRH within the adopted Site Criteria (HSL, ESL and ML).
- All samples analysed, were found to have concentrations of BTEX within the adopted Site Criteria (HSL and ESL).
- All the concentrations of Phenols within the samples analysed were found to be within the adopted Site Assessment Criteria (SAC).
- All the concentrations of PCBs within the samples analysed were found to be within the adopted Site Assessment Criteria (SAC).
- No asbestos was detected at the Reporting Limit of 0.001% w/w within the samples analysed.

12. CONCLUSION AND RECOMENDATIONS

A Preliminary Site Investigation of 412 Cessnock Road, Gillieston Heights, NSW 2321was undertaken by Geotesta to investigate the general contamination status of the site.

Based on the assessment undertaken, the following conclusions and recommendations can be made:

- The limited soil sampling and analysis program conducted indicated a **low** risk of soil and groundwater contamination.
- It is the opinion of Geotesta, that the site can be made suitable for the proposed Development Application (DA) in the foreseeable future pending the successful application of a Data Gap Assessment.
- Due to the existence of a data-gap in this investigation, a further assessment post demolition of the existing structures/dwellings is required to address further potential AECs identified previously and to determine if any contamination hotspots exist within the footprint of the existing sheds and dwellings. The Gap Assessment scope must also include the following:

  - Any stockpiles and areas under stockpiled materials that were not assessed at the time of the PSI or are new to site, will require sampling as part of the Data Gap Assessment.

DOCUMENT CONTROL

Date	Version	Report Prepared By:	Report Reviewed and issued by:
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Eurofins, 14 April 2021, Certificate of Analysis 880927-S, prepared for GEOTESTA

Eurofins, 14 April 2021, Certificate of Analysis 880927-AID, prepared for GEOTESTA

Information about this report

The report contains the results of a contamination investigation conducted for a specific purpose and client. The results should not be used by other parties, or for other purposes, as they may contain neither adequate nor appropriate information. In particular, the investigation does not cover contamination issues unless specifically required to do so by the client.

Test Hole Logging

The information on the test hole logs (boreholes, test pits, exposures etc.) is based on a visual and tactile assessment, except at the discrete locations where test information is available (field and/or laboratory results). The test hole logs include both factual data and inferred information.

Groundwater

Unless otherwise indicated, the water levels presented on the test hole logs are the levels of free water or seepage in the test hole recorded at the given time of measuring. The actual groundwater level may differ from this recorded level depending on material permeability (i.e. depending on response time of the measuring instrument). Further, variations of this level could occur with time due to such effects as seasonal, environmental and tidal fluctuations or construction activities. Confirmation of groundwater levels, phreatic surfaces or piezometric pressures can only be made by appropriate instrumentation techniques and monitoring programmes.

Interpretation of Results

The discussion or recommendations contained within this report normally are based on a site evaluation from discrete test hole data. Generalized, idealized or inferred subsurface conditions (including any geotechnical cross-sections) have been assumed or prepared by interpolation and/or extrapolation of these data. As such these conditions are an interpretation and must be considered as a guide only.

Change in Conditions

Local variations or anomalies in the generalized ground conditions do occur in the natural environment, particularly between discrete test hole locations. Additionally, certain design or construction procedures may have been assumed in assessing the soil-structure interaction behaviour of the site. Furthermore, conditions may change at the site from those encountered at the time of the geotechnical investigation through construction activities and constantly changing natural forces.

Any change in design, in construction methods, or in ground conditions as noted during construction, from those assumed or reported should be referred to GEOTESTA for appropriate assessment and comment.

Environmental Verification

Verification of the environmental/contamination assumptions and/or model is an integral part of the design process-investigation, construction verification, and performance monitoring. Variability is a feature of the natural environment and, in many instances, verification of soil or rock quality, or foundation levels, is required. There may be a requirement to extend foundation depths, to modify a foundation system or to conduct monitoring as a result of this natural variability. Allowance for verification by geotechnical personnel accordingly should be recognized and programmed during construction.

Reproduction of Reports

Where it is desired to reproduce, the information contained in our contamination report, or other technical information, for the inclusion in contract documents or engineering specification of the subject development, such reproductions should include at least all of the relevant test hole and test data, together with the appropriate standard description sheets and remarks made in the written report of a factual or descriptive nature. Reports are the subject of copyright and shall not be reproduced either totally or in part without the express permission of Geotesta.

Appendix A

Photographic Log

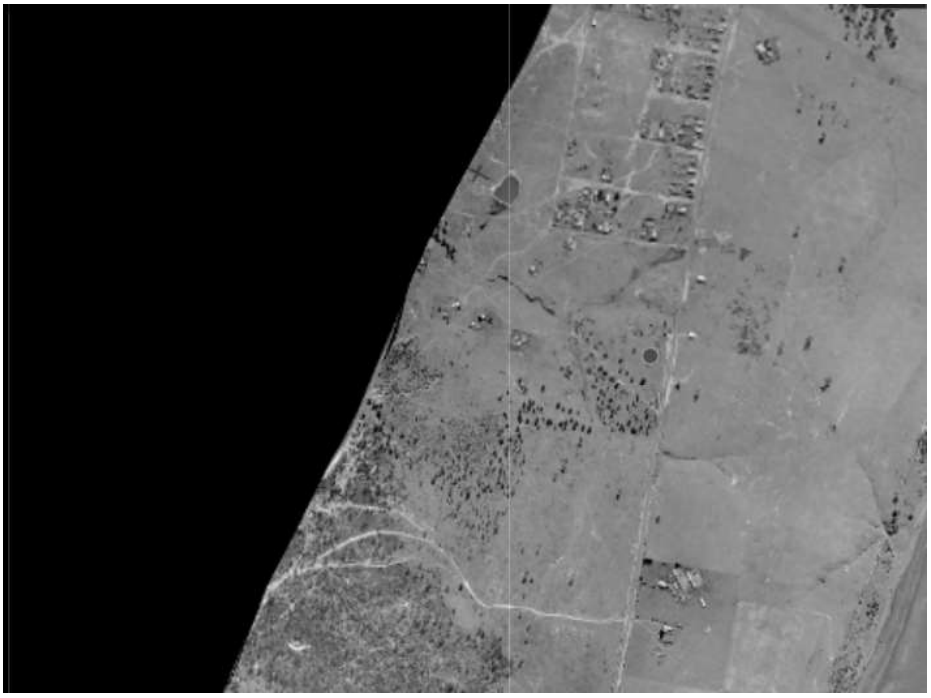
Photograph 1 – view of the site and dwelling from the south-west.

Photograph 2 – view of the site and storage shed from the south.

Appendix B

Aerial Photographs

Aerial Photo 1944



Aerial Photo 1954

Aerial Photo 1966

Aerial Photo 1974

Aerial Photo 1984

Aerial Photo 2007

Aerial Photo 2010

Aerial Photo 2015

Aerial Photo 2019

Aerial Photo 2021

Appendix C

Borehole Logs

EBH1 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained sand, soil and rocks	Moist		

EBH2 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained clayey sand, soil and rocks	Moist		

EBH3 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained clayey sand, soil and rocks	Moist		

EBH4 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained clayey sand, soil and rocks	Moist		

EBH5 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained clayey sand, soil and rocks	Moist		

EBH6 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained clayey sand, soil and rocks	Moist		

EBH7 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained clayey sand, soil and rocks	Moist		

EBH8 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained clayey sand, soil and rocks	Moist		

EBH9 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained clayey sand, soil and rocks	Moist		

EBH10 Log

Depth (m)	Symbol	Material Description	Moisture	Consistency/Density	Field Notes
0.00-0.30		Topsoil; Brown fine-grained clayey sand, soil and rocks	Moist		

Appendix D

Laboratory Documentation

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CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name :	Geotesta	Contact Name:	Victor Kirpichnikov / Dr. Mohammad Bazyar	Purchase Order :	NE1169	COC Number :	
Office Address :	Unit 06, 20-22 Foundry Road,	Project Manager :	Victor Kirpichnikov / Dr. Mohammad Bazyar	PROJECT Number :	NE1169	Eurofins | mgt quote ID :	
Seven Hills 2147		Email for results :	vk@geotesta.com.au, mb@geotesta.co	PROJECT Name :	412-414 Cessnock road Gillieston Heights	Data output format:	
Phone: 452454418							

Special Directions & Comments :

Eurofins | mgt DI water batch number:

	Sample ID	Date	Matrix	B7A & B15	Asbestos ID in soil - NEPM & WA Guidelines - 0.001% w/w	Heavy Metal M8	CEC	pH	% clay	BTEX and Volatile TRH's	Sample comments:
1	EBH1	11/04/2022	Soil	X	X						7mm sieved for
2	EBH2	11/04/2022	Soil	X	X						7mm sieved for
3	EBH3	11/04/2022	Soil	X	X		X	X	X		7mm sieved for
4	EBH4	11/04/2022	Soil	X	X						7mm sieved for
5	EBH5	11/04/2022	Soil	X	X						7mm sieved for
6	EBH6	11/04/2022	Soil	X	X						7mm sieved for
7	EBH7	11/04/2022	Soil	X	X						7mm sieved for
8	EBH8	11/04/2022	Soil	X	X						7mm sieved for
9	EBH9	11/04/2022	Soil	X	X						7mm sieved for
10	EBH10	11/04/2022	Soil	X	X						7mm sieved for
11	BD1	11/04/2022	Soil			X					
12	EIL	11/04/2022	Soil			X					
13	TripSpike and Trip Blank	11/04/2022	QAQC							X	2 x QAQC vials
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous Iron	7 days	ASLP, TCLP	7 days

Containers:

500P	250P	125P	60ml plastic	40mL vial	200ml glass	Jar	Zip lock ba
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X
						X	
						X	
				XX			

Laboratory Staff

Relinquished By: Mahdi Ashtari
Date & Time:: 13/04/22
Signature:

Received By: A. Sinharage
Date & Time: 14/04/22 10:36AM
Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐

Method Of Shipment

☑ Courier
☐ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 14.4°C

Report number: 880927

Geotesta Pty Ltd (NSW)
Unit 6, 20/22 Foundry Road
Seven Hills
NSW 2147

Attention: **Victor Kirpichnikov (GEOTESTA)**

Report **880927-S**
Project name 412-414 CESSNOCK ROAD GILLIESTONE HEIGHTS
Project ID NE1169
Received Date Apr 14, 2022

Client Sample ID			**EBH1**	**EBH2**	**EBH3**	**EBH4**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-Ap0037121**	**S22-Ap0037122**	**S22-Ap0037123**	**S22-Ap0037124**
Date Sampled			**Apr 11, 2022**	**Apr 11, 2022**	**Apr 11, 2022**	**Apr 11, 2022**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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
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
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	%	130	107	148	110
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

Client Sample ID			EBH1	EBH2	EBH3	EBH4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037121	S22-Ap0037122	S22-Ap0037123	S22-Ap0037124
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	92	93	95	83
p-Terphenyl-d14 (surr.)	1	%	118	132	144	124
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-HCH	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-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	137	INT	INT	INT
Tetrachloro-m-xylene (surr.)	1	%	117	129	140	125
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

Client Sample ID			EBH1	EBH2	EBH3	EBH4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037121	S22-Ap0037122	S22-Ap0037123	S22-Ap0037124
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
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
Merphos	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	%	111	123	132	120
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	137	INT	INT	INT
Tetrachloro-m-xylene (surr.)	1	%	117	129	140	125
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID			EBH1	EBH2	EBH3	EBH4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037121	S22-Ap0037122	S22-Ap0037123	S22-Ap0037124
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	95	100	108	100
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Arsenic	2	mg/kg	3.0	3.4	2.6	8.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	5.3	8.0	5.4	13
Copper	5	mg/kg	< 5	< 5	< 5	< 5
Lead	5	mg/kg	10	5.7	< 5	16
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	6.1	8.6	14	22
% Moisture	1	%	18	13	16	19
% Clay	1	%	-	-	6.0	-
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	-	140	-
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	-	6.0	-
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	-	-	2.4	-

Client Sample ID			EBH5	EBH6	EBH7	EBH8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037125	S22-Ap0037126	S22-Ap0037127	S22-Ap0037128
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	64	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	64	< 50	< 50
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

Client Sample ID			EBH5	EBH6	EBH7	EBH8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037125	S22-Ap0037126	S22-Ap0037127	S22-Ap0037128
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
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	%	129	138	107	143
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	1.0	< 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	1.0	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	2.0	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	83	65	113	73
p-Terphenyl-d14 (surr.)	1	%	133	118	128	77
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-HCH	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-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.5	< 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

Client Sample ID			EBH5	EBH6	EBH7	EBH8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037125	S22-Ap0037126	S22-Ap0037127	S22-Ap0037128
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
g-HCH (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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.5	< 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	< 0.1	< 0.5	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	INT	140	105	64
Tetrachloro-m-xylene (surr.)	1	%	130	107	128	83
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
Merphos	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	%	124	112	111	68

Client Sample ID			EBH5	EBH6	EBH7	EBH8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037125	S22-Ap0037126	S22-Ap0037127	S22-Ap0037128
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	INT	140	105	64
Tetrachloro-m-xylene (surr.)	1	%	130	107	128	83
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	101	84	102	67
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Arsenic	2	mg/kg	3.4	5.5	7.3	3.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	6.8	14	16	< 5
Copper	5	mg/kg	10	19	< 5	< 5
Lead	5	mg/kg	14	78	8.9	7.2
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	12	< 5	< 5
Zinc	5	mg/kg	18	180	5.9	6.6
% Moisture	1	%	21	25	21	14

Client Sample ID			EBH9	EBH10	EIL	TRIP SPIKE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037129	S22-Ap0037130	S22-Ap0037131	S22-Ap0037132
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	-	-
TRH C10-C14	20	mg/kg	< 20	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	< 50	-	-
TRH C29-C36	50	mg/kg	< 50	< 50	-	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	-
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	-
TRH C6-C10	20	mg/kg	< 20	< 20	-	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	-
TRH >C10-C16	50	mg/kg	< 50	< 50	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	-
TRH >C16-C34	100	mg/kg	< 100	< 100	-	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	-
4-Bromofluorobenzene (surr.)	1	%	136	87	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	106	105	-	-
p-Terphenyl-d14 (surr.)	1	%	116	118	-	-
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	-	-

Client Sample ID			EBH9	EBH10	EIL	TRIP SPIKE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037129	S22-Ap0037130	S22-Ap0037131	S22-Ap0037132
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	-
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 IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	91	91	-	-
Tetrachloro-m-xylene (surr.)	1	%	119	123	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorfenvinphos	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	-	-

Client Sample ID			EBH9	EBH10	EIL	TRIP SPIKE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037129	S22-Ap0037130	S22-Ap0037131	S22-Ap0037132
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
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	%	99	97	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	91	91	-	-
Tetrachloro-m-xylene (surr.)	1	%	119	123	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-	-
Pentachlorophenol	1	mg/kg	< 1	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	-	-
2-Nitrophenol	1	mg/kg	< 1	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-	-
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	-	-
4-Nitrophenol	5	mg/kg	< 5	< 5	-	-
Dinoseb	20	mg/kg	< 20	< 20	-	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenol-d6 (surr.)	1	%	96	95	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	-	-

Client Sample ID			EBH9	EBH10	EIL	TRIP SPIKE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Ap0037129	S22-Ap0037130	S22-Ap0037131	S22-Ap0037132
Date Sampled			Apr 11, 2022	Apr 11, 2022	Apr 11, 2022	Apr 11, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	2.9	5.2	11	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Chromium	5	mg/kg	5.2	5.8	20	-
Copper	5	mg/kg	< 5	< 5	< 5	-
Lead	5	mg/kg	< 5	6.3	10	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Nickel	5	mg/kg	< 5	< 5	< 5	-
Zinc	5	mg/kg	5.5	9.0	7.1	-
% Moisture	1	%	14	12	20	-
TRH C6-C10	1	%	-	-	-	110
Total Recoverable Hydrocarbons						
Naphthalene	1	%	-	-	-	100
TRH C6-C9	1	%	-	-	-	110
BTEX						
Benzene	1	%	-	-	-	95
Ethylbenzene	1	%	-	-	-	98
m&p-Xylenes	1	%	-	-	-	97
o-Xylene	1	%	-	-	-	100
Toluene	1	%	-	-	-	97
Xylenes - Total	1	%	-	-	-	99
4-Bromofluorobenzene (surr.)	1	%	-	-	-	80

Client Sample ID			TRIP BLANK
Sample Matrix			Soil
Eurofins Sample No.			S22-Ap0037133
Date Sampled			Apr 11, 2022
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	112

Sample History

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

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Apr 20, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B15			
Organochlorine Pesticides	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Apr 20, 2022	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Apr 20, 2022	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
% Moisture	Sydney	Apr 19, 2022	14 Days
- Method: LTM-GEN-7080 Moisture			
% Clay	Brisbane	Apr 27, 2022	14 Days
- Method: LTM-GEN-7040			
pH (1:5 Aqueous extract at 25°C as rec.)	Sydney	Apr 20, 2022	7 Days
- Method: LTM-GEN-7090 pH by ISE			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Melbourne	Apr 26, 2022	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Apr 22, 2022	28 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			

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Company Name: Geotesta Pty Ltd (NSW)
Address: Unit 6, 20/22 Foundry Road
Seven Hills
NSW 2147

Project Name: 412-414 CESSNOCK ROAD GILLIESTONE HEIGHTS
Project ID: NE1169

Order No.: NE1169
Report #: 880927
Phone: 1300852 216
Fax:

Received: Apr 14, 2022 10:36 AM
Due: Apr 26, 2022
Priority: 5 Day
Contact Name: Victor Kirpichnikov (GEOTESTA)

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	pH (1:5 Aqueous extract at 25°C as rec.)	Metals M8	Eurofins Suite B15	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													X			
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794						X										
Mayfield Laboratory - NATA # 1261 Site # 25079																
Perth Laboratory - NATA # 2377 Site # 2370																
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	EBH1	Apr 11, 2022		Soil	S22-Ap0037121		X				X	X		X		
2	EBH2	Apr 11, 2022		Soil	S22-Ap0037122		X				X	X		X		
3	EBH3	Apr 11, 2022		Soil	S22-Ap0037123	X	X		X		X	X	X	X		
4	EBH4	Apr 11, 2022		Soil	S22-Ap0037124		X				X	X		X		
5	EBH5	Apr 11, 2022		Soil	S22-Ap0037125		X				X	X		X		
6	EBH6	Apr 11, 2022		Soil	S22-		X				X	X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254													X			
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794						X										
Mayfield Laboratory - NATA # 1261 Site # 25079																
Perth Laboratory - NATA # 2377 Site # 2370																
External Laboratory																
					Ap0037126											
7	EBH7	Apr 11, 2022		Soil	S22-Ap0037127		X				X	X		X		
8	EBH8	Apr 11, 2022		Soil	S22-Ap0037128		X				X	X		X		
9	EBH9	Apr 11, 2022		Soil	S22-Ap0037129		X				X	X		X		
10	EBH10	Apr 11, 2022		Soil	S22-Ap0037130		X				X	X		X		
11	EIL	Apr 11, 2022		Soil	S22-Ap0037131					X		X				
12	TRIP SPIKE	Apr 11, 2022		Soil	S22-Ap0037132											X

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Melbourne Laboratory - NATA # 1261 Site # 1254													X			
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794						X										
Mayfield Laboratory - NATA # 1261 Site # 25079																
Perth Laboratory - NATA # 2377 Site # 2370																
External Laboratory																
13	TRIP BLANK	Apr 11, 2022		Soil	S22-Ap0037133										X	
14	BD1	Apr 11, 2022		Soil	S22-Ap0037135			X								
Test Counts						1	10	1	1	1	10	11	1	10	1	1

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.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

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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. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
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	
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							
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							
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	
Total PAH*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
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-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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-HCH (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	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	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	
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	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Total Non-Halogenated Phenol*	mg/kg	< 0			20	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	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	96			70-130	Pass	
TRH C10-C14	%	103			70-130	Pass	
Naphthalene	%	84			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
TRH >C10-C16	%	98			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	91			70-130	Pass	
Toluene	%	83			70-130	Pass	
Ethylbenzene	%	87			70-130	Pass	
m&p-Xylenes	%	91			70-130	Pass	
o-Xylene	%	90			70-130	Pass	
Xylenes - Total*	%	91			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	92			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	86			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benz(a)anthracene	%	99			70-130	Pass	
Benzo(a)pyrene	%	93			70-130	Pass	
Benzo(b&j)fluoranthene	%	97			70-130	Pass	
Benzo(g.h.i)perylene	%	84			70-130	Pass	
Benzo(k)fluoranthene	%	89			70-130	Pass	
Chrysene	%	89			70-130	Pass	
Dibenz(a.h)anthracene	%	98			70-130	Pass	
Fluoranthene	%	90			70-130	Pass	
Fluorene	%	92			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	96			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	98			70-130	Pass	
Pyrene	%	89			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	109			70-130	Pass	
4.4'-DDD	%	108			70-130	Pass	
4.4'-DDE	%	99			70-130	Pass	
4.4'-DDT	%	102			70-130	Pass	
a-HCH	%	105			70-130	Pass	
Aldrin	%	97			70-130	Pass	
b-HCH	%	110			70-130	Pass	
d-HCH	%	107			70-130	Pass	
Dieldrin	%	103			70-130	Pass	
Endosulfan I	%	100			70-130	Pass	
Endosulfan II	%	88			70-130	Pass	
Endosulfan sulphate	%	75			70-130	Pass	
Endrin	%	90			70-130	Pass	
Endrin aldehyde	%	113			70-130	Pass	
Endrin ketone	%	93			70-130	Pass	
g-HCH (Lindane)	%	104			70-130	Pass	
Heptachlor	%	110			70-130	Pass	
Heptachlor epoxide	%	110			70-130	Pass	
Hexachlorobenzene	%	109			70-130	Pass	
Methoxychlor	%	124			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	84			70-130	Pass	
Dimethoate	%	90			70-130	Pass	
Ethion	%	116			70-130	Pass	
Fenitrothion	%	124			70-130	Pass	
Methyl parathion	%	119			70-130	Pass	
Mevinphos	%	86			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	97			70-130	Pass	
Aroclor-1260	%	96			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	88			25-140	Pass	
2.4-Dichlorophenol	%	95			25-140	Pass	
2.4.5-Trichlorophenol	%	88			25-140	Pass	
2.4.6-Trichlorophenol	%	100			25-140	Pass	
2.6-Dichlorophenol	%	92			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4-Chloro-3-methylphenol	%	85			25-140	Pass	
Tetrachlorophenols - Total	%	73			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	84			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	93			25-140	Pass	
2-Nitrophenol	%	108			25-140	Pass	
2.4-Dimethylphenol	%	88			25-140	Pass	
2.4-Dinitrophenol	%	86			25-140	Pass	
2-Methylphenol (o-Cresol)	%	88			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	90			25-140	Pass	
4-Nitrophenol	%	90			25-140	Pass	
Dinoseb	%	101			25-140	Pass	
Phenol	%	88			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	92			80-120	Pass	
Cadmium	%	93			80-120	Pass	
Chromium	%	92			80-120	Pass	
Copper	%	93			80-120	Pass	
Lead	%	92			80-120	Pass	
Mercury	%	90			80-120	Pass	
Nickel	%	93			80-120	Pass	
Zinc	%	91			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S22-Ap0042589	NCP	%	88			70-130	Pass	
TRH C10-C14	S22-Ap0037590	NCP	%	126			70-130	Pass	
Naphthalene	S22-Ap0042589	NCP	%	88			70-130	Pass	
TRH C6-C10	S22-Ap0042589	NCP	%	89			70-130	Pass	
TRH >C10-C16	S22-Ap0037590	NCP	%	118			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S22-Ap0042589	NCP	%	98			70-130	Pass	
Toluene	S22-Ap0042589	NCP	%	89			70-130	Pass	
Ethylbenzene	S22-Ap0042589	NCP	%	88			70-130	Pass	
m&p-Xylenes	S22-Ap0042589	NCP	%	89			70-130	Pass	
o-Xylene	S22-Ap0042589	NCP	%	89			70-130	Pass	
Xylenes - Total*	S22-Ap0042589	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S22-Ap0043275	NCP	%	92			70-130	Pass	
Acenaphthylene	S22-Ap0043275	NCP	%	93			70-130	Pass	
Anthracene	S22-Ap0043275	NCP	%	89			70-130	Pass	
Benz(a)anthracene	S22-Ap0043275	NCP	%	95			70-130	Pass	
Benzo(a)pyrene	S22-Ap0043275	NCP	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	S22-Ap0043275	NCP	%	98			70-130	Pass	
Benzo(g.h.i)perylene	S22-Ap0043275	NCP	%	93			70-130	Pass	
Benzo(k)fluoranthene	S22-Ap0043275	NCP	%	90			70-130	Pass	
Chrysene	S22-Ap0043275	NCP	%	86			70-130	Pass	
Dibenz(a.h)anthracene	S22-Ap0043275	NCP	%	94			70-130	Pass	
Fluoranthene	S22-Ap0043275	NCP	%	93			70-130	Pass	
Fluorene	S22-Ap0043275	NCP	%	92			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	S22-Ap0043275	NCP	%	93			70-130	Pass	
Naphthalene	S22-Ap0043275	NCP	%	91			70-130	Pass	
Phenanthrene	S22-Ap0043275	NCP	%	101			70-130	Pass	
Pyrene	S22-Ap0043275	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S22-Ap0043275	NCP	%	106			70-130	Pass	
4.4'-DDD	S22-Ap0043275	NCP	%	104			70-130	Pass	
4.4'-DDE	S22-Ap0043275	NCP	%	100			70-130	Pass	
4.4'-DDT	S22-Ap0043275	NCP	%	105			70-130	Pass	
a-HCH	S22-Ap0043275	NCP	%	100			70-130	Pass	
Aldrin	S22-Ap0043275	NCP	%	96			70-130	Pass	
b-HCH	S22-Ap0043275	NCP	%	109			70-130	Pass	
d-HCH	S22-Ap0043275	NCP	%	105			70-130	Pass	
Dieldrin	S22-Ap0043275	NCP	%	99			70-130	Pass	
Endosulfan I	S22-Ap0043275	NCP	%	101			70-130	Pass	
Endosulfan II	S22-Ap0043275	NCP	%	93			70-130	Pass	
Endosulfan sulphate	S22-Ap0043275	NCP	%	84			70-130	Pass	
Endrin	S22-Ap0043275	NCP	%	100			70-130	Pass	
Endrin aldehyde	S22-Ap0043275	NCP	%	90			70-130	Pass	
Endrin ketone	S22-Ap0043275	NCP	%	93			70-130	Pass	
g-HCH (Lindane)	S22-Ap0043275	NCP	%	99			70-130	Pass	
Heptachlor	S22-Ap0043275	NCP	%	108			70-130	Pass	
Heptachlor epoxide	S22-Ap0043275	NCP	%	105			70-130	Pass	
Hexachlorobenzene	S22-Ap0043275	NCP	%	104			70-130	Pass	
Methoxychlor	S22-Ap0043275	NCP	%	118			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S22-Ap0043275	NCP	%	98			70-130	Pass	
Aroclor-1260	S22-Ap0043275	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S22-Ap0037122	CP	%	91			75-125	Pass	
Cadmium	S22-Ap0037122	CP	%	90			75-125	Pass	
Chromium	S22-Ap0037122	CP	%	91			75-125	Pass	
Copper	S22-Ap0037122	CP	%	92			75-125	Pass	
Lead	S22-Ap0037122	CP	%	93			75-125	Pass	
Mercury	S22-Ap0037122	CP	%	99			75-125	Pass	
Nickel	S22-Ap0037122	CP	%	91			75-125	Pass	
Zinc	S22-Ap0037122	CP	%	90			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S22-Ap0037121	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S22-Ap0037591	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S22-Ap0037591	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S22-Ap0037591	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Naphthalene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S22-Ap0037121	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S22-Ap0037591	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S22-Ap0037591	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S22-Ap0037591	NCP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S22-Ap0037121	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S22-Ap0037121	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Coumaphos	S22-Ap0037121	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S22-Ap0037121	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S22-Ap0037121	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	S22-Ap0037121	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	S22-Ap0037121	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	S22-Ap0037121	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	S22-Ap0037121	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	S22-Ap0037121	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	S22-Ap0037121	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	S22-Ap0037121	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	S22-Ap0037121	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	S22-Ap0037121	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S22-Ap0037121	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S22-Ap0037121	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	S22-Ap0037121	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	S22-Ap0037121	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	S22-Ap0037121	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S22-Ap0037121	CP	mg/kg	3.0	2.4	23	30%	Pass	
Cadmium	S22-Ap0037121	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S22-Ap0037121	CP	mg/kg	5.3	< 5	14	30%	Pass	
Copper	S22-Ap0037121	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	S22-Ap0037121	CP	mg/kg	10	7.5	30	30%	Pass	
Mercury	S22-Ap0037121	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S22-Ap0037121	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S22-Ap0037121	CP	mg/kg	6.1	6.5	6.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S22-Ap0037122	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Naphthalene	S22-Ap0037122	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S22-Ap0037122	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S22-Ap0037122	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S22-Ap0037122	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S22-Ap0037122	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S22-Ap0037122	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S22-Ap0037122	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S22-Ap0037122	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	B22-Ap0044858	NCP	uS/cm	180	180	<1	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S22-Ap0039690	NCP	pH Units	8.2	8.2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S22-Ap0037130	CP	%	12	14	15	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S22-Ap0037131	CP	mg/kg	11	13	12	30%	Pass	
Cadmium	S22-Ap0037131	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S22-Ap0037131	CP	mg/kg	20	24	18	30%	Pass	
Copper	S22-Ap0037131	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	S22-Ap0037131	CP	mg/kg	10	11	12	30%	Pass	
Mercury	S22-Ap0037131	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S22-Ap0037131	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S22-Ap0037131	CP	mg/kg	7.1	7.2	2.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Asim Khan	Analytical Services Manager
Gabriele Cordero	Senior Analyst (NSW)
Roopesh Rangarajan	Senior Analyst (NSW)
Ryan Phillips	Senior Analyst (NSW)
Sayeed Abu	Senior Analyst (NSW)
Mary Makarios	Senior Analyst (NSW)
Scott Beddoes	Senior Analyst (NSW)
Jonathon Angell	Senior Analyst (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.

Certificate of Analysis

Environment Testing

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Geotesta Pty Ltd (NSW)
Unit 6, 20/22 Foundry Road
Seven Hills
NSW 2147

Attention:	Victor Kirpichnikov (GEOTESTA)
Report	880927-AID
Project Name	412-414 CESSNOCK ROAD GILLIESTONE HEIGHTS
Project ID	NE1169
Received Date	Apr 14, 2022
Date Reported	May 03, 2022

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 412-414 CESSNOCK ROAD GILLIESTONE HEIGHTS
Project ID NE1169
Date Sampled Apr 11, 2022
Report 880927-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
EBH1	22-Ap0037121	Apr 11, 2022	Approximate Sample 308g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
EBH2	22-Ap0037122	Apr 11, 2022	Approximate Sample 437g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
EBH3	22-Ap0037123	Apr 11, 2022	Approximate Sample 319g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
EBH4	22-Ap0037124	Apr 11, 2022	Approximate Sample 404g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
EBH5	22-Ap0037125	Apr 11, 2022	Approximate Sample 464g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
EBH6	22-Ap0037126	Apr 11, 2022	Approximate Sample 545g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
EBH7	22-Ap0037127	Apr 11, 2022	Approximate Sample 409g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
EBH8	22-Ap0037128	Apr 11, 2022	Approximate Sample 446g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
EBH9	22-Ap0037129	Apr 11, 2022	Approximate Sample 389g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
EBH10	22-Ap0037130	Apr 11, 2022	Approximate Sample 469g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Sample History

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

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Apr 19, 2022	Indefinite

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NSW 2147

Project Name: 412-414 CESSNOCK ROAD GILLIESTONE HEIGHTS
Project ID: NE1169

Order No.: NE1169
Report #: 880927
Phone: 1300852 216
Fax:

Received: Apr 14, 2022 10:36 AM
Due: Apr 26, 2022
Priority: 5 Day
Contact Name: Victor Kirpichnikov (GEOTESTA)

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	pH (1:5 Aqueous extract at 25°C as rec.)	Metals M8	Eurofins Suite B15	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254													X			
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794						X										
Mayfield Laboratory - NATA # 1261 Site # 25079																
Perth Laboratory - NATA # 2377 Site # 2370																
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	EBH1	Apr 11, 2022		Soil	S22-Ap0037121		X				X	X		X		
2	EBH2	Apr 11, 2022		Soil	S22-Ap0037122		X				X	X		X		
3	EBH3	Apr 11, 2022		Soil	S22-Ap0037123	X	X		X		X	X	X	X		
4	EBH4	Apr 11, 2022		Soil	S22-Ap0037124		X				X	X		X		
5	EBH5	Apr 11, 2022		Soil	S22-Ap0037125		X				X	X		X		
6	EBH6	Apr 11, 2022		Soil	S22-		X				X	X		X		

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Project ID: NE1169

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Eurofins Analytical Services Manager : Asim Khan

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Melbourne Laboratory - NATA # 1261 Site # 1254													X			
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794						X										
Mayfield Laboratory - NATA # 1261 Site # 25079																
Perth Laboratory - NATA # 2377 Site # 2370																
External Laboratory																
					Ap0037126											
7	EBH7	Apr 11, 2022		Soil	S22-Ap0037127		X				X	X		X		
8	EBH8	Apr 11, 2022		Soil	S22-Ap0037128		X				X	X		X		
9	EBH9	Apr 11, 2022		Soil	S22-Ap0037129		X				X	X		X		
10	EBH10	Apr 11, 2022		Soil	S22-Ap0037130		X				X	X		X		
11	EIL	Apr 11, 2022		Soil	S22-Ap0037131					X		X				
12	TRIP SPIKE	Apr 11, 2022		Soil	S22-Ap0037132											X

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Melbourne Laboratory - NATA # 1261 Site # 1254													X			
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794						X										
Mayfield Laboratory - NATA # 1261 Site # 25079																
Perth Laboratory - NATA # 2377 Site # 2370																
External Laboratory																
13	TRIP BLANK	Apr 11, 2022		Soil	S22-Ap0037133										X	
14	BD1	Apr 11, 2022		Soil	S22-Ap0037135			X								
Test Counts						1	10	1	1	1	10	11	1	10	1	1

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 the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**)
F/fld	Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**)
g, kg	Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (**V** = **r** x **t**)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**).
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
HSG248	UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021).
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
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* (updated 2021), including Appendix Four: *Laboratory analysis*
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**).

Comments

22-Ap0037121 to 22-Ap0037125 and 22-Ap0037127 to 22-Ap0037130: Samples received were less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

Sample Integrity

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

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	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.