GCA

Geotechnical Consultants Australia

Ferndell Street Pty Ltd

Targeted Detailed Site Investigation

Proposed Development at:
46 Ferndell Street
South Granville NSW 2142
Lot 2/-/DP847254

E23131-1-Rev A
20th May 2024

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Report Distribution

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Address: 46 Ferndell Street South Granville NSW 2142

GCA Report No.: E23131-1-Rev A

Date: 20th May 2024

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Version	Prepared By	Reviewed By	Date Issue
FINAL	**Ehsan Zare** *Environmental Consultant*	**Nick Caltabiano** *Project Manager*	28th August 2023
Rev A	**Ehsan Zare** *Environmental Consultant*	**Nick Caltabiano** *Project Manager*	24th May 2024

Report Revision	Details	Report No.	Date	Amended By
0	FINAL Report	E23131-1	28th August 2023	-
1	Revision A Report	E23131-1-Rev A	24th May 2024	EZ
Issued By:			**Joe Nader**	

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Executive Summary

Geotechnical Consultants Australia Pty Ltd (GCA) were appointed by Mr. Mouhammad Issa of Ferndell Street Pty Ltd, on behalf of The Issa Family Superannuation Fund & The Issa Family No. 2 Superannuation Fund (the client) to undertake a Targeted Detailed Site Investigation (TDSI) for an area of 3,135m^2 (area of assessment) in the north-eastern portion of the property located at No. 46 Ferndell Street South Granville NSW 2142 (the site). The site is legally identified as Lot 21/-/DP1173233. The site is currently zoned E4 - General Industrial.

GCA understand that the proposed development for this site includes construction of a childcare centre with outdoor play area and ground level carparking.

The objectives of the TDSI were to provide a detailed assessment of soils within the previously identified areas of potential environmental concern. The scope of works undertaken includes:

- Inspection of the site and area of assessment for evidence of sources of potential contamination;
- Soil sampling and laboratory analysis for contaminants of potential concern (CoPC);
- Evaluate the analytical results from the TDSI sampling events;
- Establish whether data gaps may exist within the investigation; and
- Development of a Conceptual Site Model (CSM) to identify the connections between potential sources of contamination, exposure pathways, and human/ecological receptors.

First investigation of the site and area of assessment was undertaken on 11th August 2023 by GCA environmental division. GCA obtained twelve (12) primary soil samples (250mL laboratory prepared jars) from eight (8) boreholes with a systematic sampling pattern within the area of assessment. The samples consisted of 8 fill samples and four (4) samples from natural underlying soils. Additionally, 500mL bag fill soil sample was collected from each borehole for analysis of Asbestos.

QC/QC sampling was undertaken in the form of one (1) trip spike, one (1) trip blank and one (1) duplicate sample. QA/QC analytical results indicate an acceptable data set.

Second investigation was conducted on 6th May 2024 by GCA environmental division. GCA obtained eight (8) primary soil samples (250mL laboratory prepared jars) from four (4) boreholes with a judgmental sampling pattern within the accessible areas. The samples consisted of four (4) topsoil/fill samples and four (4) samples from natural underlying soils. QC/QC sampling was undertaken in the form of one (1) field duplicate sample.

The site's history indicates the land use was probably agricultural prior to 1947. The site was used for industrial use by 1955. At this time, the area of assessment became a part of the driveway for an industrial building, with a garden area. A substantial transformation occurred in 2015 when the garden area was converted into a carpark, now covered by asphalt and concrete slab groundcover.

Analytical results indicated all soil analytes were below Laboratory Limit of reporting (LOR) and/or NEPM 2013 Health and Ecological Assessment Criteria for Residential (A) developments.

Based on the observations made for the area of assessment and the analytical results obtained, GCA considers the potential for significant soil contamination to be low. However, there are still data gaps for the site, particularly regarding the condition of the soils beneath onsite structures in the western portion of the area of assessment. Therefore, a Data Gap Investigation (DGI) should be carried out after the demolition of onsite buildings. This investigation should include additional sampling within the footprint of the onsite structures in the western portion of the area of assessment.

On this basis, GCA finds that the area of assessment can be made suitable for the proposed development and land use (Residential A), provided the recommendations within **Section 16** are undertaken.

1. Introduction

Geotechnical Consultants Australia Pty Ltd (GCA) were appointed by Mr. Mouhammad Issa of Ferndell Street Pty Ltd, on behalf of The Issa Family Superannuation Fund & The Issa Family No. 2 Superannuation Fund (the client) to undertake a Targeted Detailed Site Investigation (TDSI) for an area of 3,135m^2 (area of assessment) in the north-eastern portion of the property located at No. 46 Ferndell Street South Granville NSW 2142 (the site). The site is legally identified as Lot 21/-/DP1173233. The site is currently zoned E4 - General Industrial.

Two (2) inspection of the site and area of assessment was undertaken on 11th August 2023 and 6th May 2024 by qualified environmental consultants. Reporting and photographs were collected on these days (**Appendix A**) with reference to the relevant regulatory criteria (**Section 2, Scope of Work**). Further information obtained during the inspection is described in **Section 4, Site Conditions** of this report.

This report is written in accordance with the State Environmental Planning Policy (Resilience and Hazard) 2021 and follows the format of NSW EPA, *Guidelines for Consultants Reporting on Contaminated Land: Contaminated Land Guideline,* 2020.

1.1 Proposed Development

GCA understand that the proposed development for this site includes construction of a childcare centre with outdoor play area and ground level carparking.

1.2 Objectives

The objectives of the TDSI were to provide a detailed assessment of soils within the previously identified areas of potential environmental concern.

1.3 Trigger for Assessment

The trigger for assessment is to support a Development Application Cumberland Council.

2. Scope of Work

The TDSI has been prepared in general accordance with the following statutory and regulatory requirements:

Statutory Requirements

- National Environment Protection Council Act 1994;
- Protection of the Environment and Operation Act 1997;
- The Contaminated Land Management Act 1997;
- Work Health and Safety Act, 2011.

Regulatory Requirements

- State Environmental Planning Policy (Resilience and Hazard) 2021;
- NSW EPA, *Contaminated Land Guidelines*, *Sampling Design Part 1 – Application*, 2022;
- NSW EPA, *Contaminated Land Guidelines*, *Sampling Design Part 2 – Interpretation*, 2022;
- NSW EPA, *Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act*, 1997;
- NSW EPA, *Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation, 2014*;
- NSW EPA, *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines,* 2020;
- NSW EPA, *Contaminated Land Management, Guidelines for the NSW Site Auditor Scheme,* 2017 (3rd Edition);
- NSW EPA, *Waste Classification Guidelines Part 1: Classifying Waste,* 2014;

- NEPC, National Environment Protection (Assessment of Site Contamination) Measures (NEPM), 2013;
- HEPA, PFAS National Environmental Management Plan, Version 2.0, 2020;
- The National Remediation Framework, CRC Care, 2019;
- Protection of the Environment Operations (Waste) Regulations, 2005;
- SafeWork NSW, *Managing Asbestos in or On Soil*, 2014; and
- Work Health and Safety Regulation, 2017.

The scope of works required to complete the TDSI includes:

- Inspection of the site and area of assessment for evidence of sources of potential contamination;
- Soil sampling and laboratory analysis for contaminants of potential concern (CoPC);
- Evaluate the analytical results from the TDSI sampling events;
- Establish whether data gaps may exist within the investigation; and
- Development of a Conceptual Site Model (CSM) to identify the connections between potential sources of contamination, exposure pathways, and human/ecological receptors.

3. Site Details

Table 1. Site Details

Address	46 Ferndell Street South Granville NSW 2142
Deposited Plan	2/-/DP847254
Zoning	E4 - General Industrial
Area of Assessment (approx.)	3,135m^2
LGA	Cumberland City Council

Table 2. Surrounding Land Use

Direction from Site	Land Use
North	Industrial property
East	Ferndell Street
South	Industrial property
West	Industrial property

4. Site Condition

A qualified environmental consultant inspected the site and area of assessment. Photographs are provided in **Appendix A**. Observations noted during the site inspections are summarised below.

The site overall:

- The site was used for industrial purposes comprising workshops, a showroom and office areas for a wood and joinery distributor business (Trade Master);
- The main site building was composed of brick;
- The site gradient was relatively flat.

The area of assessment:

- The area of assessment was a carpark area and part of a multi-level brick building located within north-eastern portion of the property at 46 Ferndell Street;
- The building covered the western portion of the area of assessment, preventing access to the underground.
- Western portion of the car park had asphalt groundcover and eastern portion was a concrete slab groundcover;
- No ACM material was observed within the fill;
- No anthropogenic waste observed within the fill;
- No staining observed on the surface and within the fill;
- The soil consisted of a sandy gravelly fill and silty clay natural subsoil underneath hardstands and clayey silt topsoil and silty clay subsoil within the garden areas; and
- No malodorous or visual indications of potential contamination were encountered.

Sensitive human receptors surrounding the site include commercial and residential properties and environmental receptors include Campbell Hill Pioneer Reserve (approx. 318m W), Wategora Reserve (approx. 240m E), Everley Park (approx. 370m SE) and Duck Creek (approx. 500m E-SE).

5. Site History

5.1 History of Site and Area of Assessment

The site's history indicates the land use was probably agricultural prior to 1947. The site was used for industrial use by 1955. At this time, the area of assessment became a part of the driveway for an industrial building, with a garden area. A substantial transformation occurred in 2015 when the garden area was converted into a carpark, now covered by asphalt and concrete slab groundcover.

A summary of historical aerial photos (NSW Historical Imagery 2023) is contained below, and the images referenced can be seen in **Appendix A**.

Table 3. Aerial Images

Year	Description
1943	The area of assessment was vacant and likely used for agricultural purposes. The surrounding area was comprised rural residential and vacant lots.
1947	No significant change.
1955	The site had been developed for industrial purposes. The area of assessment was consisted of a driveway and garden area. The surrounding area was increased in industrial developments.
1965	The area of assessment underwent additional development, with the site taking on the form of a driveway and garden area. The surrounding area was improved further in industrial developments.
1975	No significant change can be observed within the area of assessment. The surrounding area was increased in industrial developments.
1984 to 2014	No significant change.
2015	The garden area within the area of assessment has undergone transformation, now replaced by a concrete slab that serves as a carpark. The surrounding area has experienced moderate alterations.

5.2 Section 10.7 (2) Planning Certificate

A Section 10.7 Planning Certificate describes how a property may be used and the restrictions on development. The Planning Certificate is issued under Section 149 of the Environmental Planning and Assessment Act 1979. GCA did not have access to this certificate at the time of this report.

5.3 NSW EPA Contaminated Land Register

A search within the NSW EPA contaminated land register was undertaken for the site. No results were found for the site or within 500m of the site.

5.4 Protection of the Environment Operations Act (POEO) Public Register

A search on the POEO public register of licensed and delicensed premises (DECC) was undertaken for the site. No results were found for the site or within 500m of the site.

5.5 SafeWork NSW Hazardous Goods

A search was not undertaken with NSW SafeWork for historical dangerous goods stored onsite. However, the site inspection carried out found no evidence to suggest any obvious features associated with any underground tanks (bowsers, breather pipe, inlet valve and piping).

5.6 Product Spill and Loss History

The site inspection carried out found no evidence to suggest any major chemical contamination impact on the site (i.e. unhealthy vegetation, chemical staining).

5.7 Dial Before You Dig

A review of assets and services via Dial-Before-You-Dig request suggests potential impact to the site via underground services and assets or act as a portal to transport potential contamination offsite.

5.8 PFAS Investigation Program

The NSW Government PFAS Investigation Program map indicates the site is not currently listed or located within 1km of a listed site for PFAS contamination investigation and management programs.

6. Environmental Setting

6.1 Geology

Data obtained from Penrith 1:100,000 Geological Series Sheet 9030 on "https://gmaps.geoscience.nsw.gov.au/100K/Penrith/" indicates the site (and area of assessment) is underlain by Bringelly Shale of Wianamatta Group. This formation is characterised by Shale, carbonaceous claystone, claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff.

6.2 Soil Landscape

A review of the regional maps by the NSW Department of Planning, Industry and Environment indicates the site is generally located within the Blacktown landscape. This landscape is normally recognised by gently undulating rises on Wianamatta Group shales. Local relief of this landscape is typically 30m, with slopes of usually less than 5%.

Soils of this landscape is generally consisting shallow to moderately deep (>100cm) hard setting mottled texture contrast soils, Red and Brown Podzolic Soils on crests grading to Yellow Podzolic Soils on lower slopes and in drainage lines.

6.3 Groundwater

The site is located within Bankstown Hydrogeological Landscapes (HGL). This HGL is characterised by low hills and rises on Triassic shale and sandstone within the Sydney Basin at Bankstown and Burwood. It is an area of moderate to high rainfall (>800mm) located to the west of the Sydney CBD.

Water predominantly moves laterally through the shale layers (although vertical movement through fracturing does occur) and vertically through inter-bedded sandstone and sandstone fracturing (primary and secondary porosity). Water is likely to move relatively slowly (high residence time) through this landscape due to the low gradient and is therefore likely to accumulate more salt out of the soils and bedrock. The low gradient also provides greater opportunity for discharges to occur.

Groundwater systems are local with short to intermediate flow lengths and are loosely defined by topographic catchments. Water quality within these systems is brackish to saline. Water table depths are intermediate (2–6m).

A groundwater bore search was conducted on the 21st August 2023. GW114498 was the nearest bore with available information. The bore was located approx. 760m north-east of the site. Standing water level of this bore was not recorded. The bore had the following material.

Table 4. GW114498 Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material
0.00	0.50	0.50	FILL MODERATE YELLOWISH BROWN	Fill
0.50	2.50	2.00	FILL MODERATE YELLOWISH BROWN	Fill
2.50	5.50	3.00	CLAY LEAN PALE BROWN	Clay
5.50	7.50	2.00	CLAY LEAN PALE BROWN VERY SOFT	Clay

It was beyond the scope of works to study the groundwater flow direction. However, based on the regional topography, groundwater is expected to flow east to south-east towards Duck Creek (approx. 500m E-SE).

6.4 Topography

The regional topography surrounding the site has a gentle sloping (<5%) towards east-southeast.

6.5 Site Drainage

The site drainage is likely to be consistent with the local topography. Stormwater is likely collected by natural waterways to the east-southeast of the site and drains into Duck Creek (approx. 500m E-SE).

6.6 Acid Sulphate Soils

To determine whether there is a potential for ASS to be present at the site, information was reviewed utilising the NSW Department of Planning, Industry and Environment eSPADE map viewer. The ASS risk maps show the chance of acid sulphate soil occurrence.

This search indicated that there is "no known occurrence" of ASS underlying the soil at this site.

7. Areas of Environmental Concern

Based on the above information, the potential Areas of Environmental Concern (AEC) and their associated Contaminants of Potential Concern (CoPC) for the site were identified and summarised below.

Table 5. AEC and Associated CoPC

AEC	Potentially Contaminating/ Hazardous Activity	CoPC	Likelihood of Site Impact	Comments
Area of assessment	Importation of fill material from unknown origin. Onsite carparking. Historical agricultural activities.	Metals, TRH, VOCs, BTEX, PAH, pesticides Asbestos	Low	Based on observations, the presence of imported fill material is possible. Additionally, historical land use may have given rise to a contamination event/s.
Onsite structures	Hazardous materials	Asbestos, Lead paint, PCBs, SMF	High	Based on age of the structures, presence of these CoPCs is possible. A HMS is required to confirm the presence or absences of hazardous materials.

Abbreviations: Asbestos Containing Materials (ACM), Hazardous Materials Survey (HMS), Benzene Toluene Ethylbenzene and Xylene (BTEX), Polychlorinated Biphenyls (PCBs), Polycyclic Aromatic Hydrocarbon (PAH), Total Recoverable Hydrocarbons (TRH), Synthetic Mineral Fibres (SMF), Organochlorine Pesticides (OCPs), Organophosphorus Pesticides (OPPs), Metals Including Arsenic (AS), Cadmium (CD), Chromium (CR), Copper (CU), Lead (PB), Nickel (NI), Zinc (ZN) and Mercury (HG).

8. Conceptual Site Model

A Conceptual Site Model (CSM) was developed to provide an indication of potential risks associated with contamination source and contamination migration pathways, receptors and exposure mechanisms. The CSM provides a framework for the review of the reliability and useability of the data collected and to identify data gaps for site characterisation.

Table 6. Conceptual Site Model

Potential Sources	Potential Receptor	Potential Exposure Pathway	Complete Connection	Risk	Justification/Control Measures
Importation of fill material from unknown origin. Onsite Carparking. Historical site use including agricultural.	Site occupants, workers, general public, future site users, ecological receptors.	Dermal contact, inhalation/ ingestion of particulates, vapour intrusion.	Complete (current)	Low	Exposure to potentially contaminated soils is unlikely due to sealed surfaces.
			Complete (future)	Low	If present, impacted soils are likely to be disposed of offsite.
	Natural soils	Migration of contamination from fill layer/ topsoil to underlying natural soils.	Complete (current)	Low	Migration through fill layer to natural soils is possible. However, Presence of natural clays below the site would limit the vertical migration.
			Complete (future)	Low	If present, impacted soils are likely to be disposed of offsite.
	Duck Creek (approx. 500m E-SE)	Migration of impacted groundwater and surface water run-off.	Incomplete (current)	Low	Duck Creek is located Approx. 500m E-SE of the site, it is possible surface waters from the site reach this waterway during heavy rainfall events.
			Incomplete (future)	Low	If present, contaminated soils and groundwater are likely to be remediated.
	Underlying aquifer	Leaching and migration of contaminants	Complete (current)	Low	Due to existing sealed surfaces, leachability of CoPC

		through groundwater infiltration.			is limited. Moreover, the natural clay may limit the leachability.
			Complete (future)	Low	If present, contaminated soil and/or groundwater is likely to be remediated.

9. Assessment Criteria

The following assessment criteria were adopted for the investigation.

9.1 NEPM Health Investigation Level A (HIL-A) – Residential

HILs are scientific, risk-based guidance levels to be used as in the primary stage of assessing soil contamination to evaluate the potential risks to human health from chronic exposure to contaminants. HILs are applicable to a broad range of metals and organic substances, and generally apply to depths up to 3m below the surface for residential use. Tier 1 HILs are divided into sub-criteria. The sub-criteria appropriate to the investigation is HIL A – residential with garden/accessible soils.

Table 7. HIL-A

Assessment Criteria	NEPM 2013 Residential Soil HIL-A, mg/kg
Pesticides	
HCB	10
Heptachlor	6
Chlordane	50
Aldrin & Dieldrin	6
Endrin	10
DDD+DDE+DDT	240
Endosulfan	270
Methoxychlor	300
Mirex	10
Metals	
Arsenic, As	100
Cadmium, Cd	20
Chromium, Cr	100
Copper, Cu	6,000
Lead, Pb	300
Nickel, Ni	400
Zinc, Zn	7,400
Mercury, Hg	40
Polycyclic Aromatic Hydrocarbons	
Carcinogenic PAH (as BaP TEQ)	3
Total PAH (18)	300

9.2 NEPM Health Screening Level A (HSL-A) – Residential

HSLs have been developed for selected petroleum compounds and fractions and are used for the assessment of potential risks to human health from chronic inhalation and direct contact pathways of petroleum vapour emanating off petroleum contaminated soils (Vapour Risk). HSLs are guided by land-use scenarios, specific soil physicochemical properties and generally apply to depths below surface to >4m. Tier 1 HSLs are divided into sub-criteria. The sub-criteria appropriate to the investigation is HSL A – residential with garden/accessible soils.

Table 8. HSL-A for Soil

Assessment Criteria	NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m Depth, Clay, mg/kg	NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, >1-2m Depth, Clay, mg/kg
Monocyclic Aromatic Hydrocarbons		
Benzene	0.7	1
Toluene	480	NL
Ethylbenzene	NL	NL
Xylenes	110	310
Polycyclic Aromatic Hydrocarbons		
Naphthalene	4	NL
Total Recoverable Hydrocarbons		
TRH C6-C10 - BTEX (F1)	50	90
TRH >C10-C16 - N (F2)	280	NL

9.3 NEPM Ecological Investigation Level (EIL) – Urban Residential and Public Open Space

Ecological investigation levels (EILs) have been developed to assess the risk for the presence of metals and organic substance in a terrestrial ecosystem. EILs are guided by land-use scenarios, specific soil physicochemical properties and generally apply to the top 2m of soil.

The NEPM Soil Quality Guidelines (SQG) for EILs are calculated using the Added Contamination Limit (ACL) to determine the amount of contamination that had to be added to the soil to cause toxicity, including ambient background concentration (ABC).

Table 9. Generic EIL

Assessment Criteria	NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg
Metals	
Arsenic, As	100
Lead (Pb)	1100
Pesticides	
DDT	180
Polycyclic Aromatic Hydrocarbons	
Naphthalene	170

9.4 NEPM Ecological Screening Level (ESL) – Urban Residential and Public Open Space

ESLs have been developed for selected petroleum hydrocarbons in soil, based on fresh contamination. These parameters are applicable to coarse and fine-grained soil and apply from the surface of the soil to 2m below ground level (bgl), which corresponds with the root and habitat zone for many species.

Table 10. ESL

Assessment Criteria	NEPM 2013 Soil ESL for Urban, Residential and Public Open Spaces, Fine-Grained Soil, mg/kg
Monocyclic Aromatic Hydrocarbons	
Benzene	65
Toluene	105
Ethylbenzene	125
Xylenes	45
Polycyclic Aromatic Hydrocarbons	
BaPyr (BaP)	0.7
Total Recoverable Hydrocarbons	
TRH C6-C10	180
TRH >C10-C16	120
TRH >C16-C34 (F3)	1,300
TRH >C34-C40 (F4)	5,600

9.5 NEPM Management Limits – Residential, Parkland and Public Open Space

Management Limits for petroleum have been developed for prevention of explosive vapour accumulation, prevention of the formation of observable Light Non-Aqueous Phase Liquids (LNAPL) and protection against effects on buried infrastructure. Residential, parkland and public open space limits have been adopted based on the proposed land use.

Table 11. Management Limits

Assessment Criteria	NEPM 2013 Management Limits for Residential, Parkland and Public Open Space, Fine-Grained Soil, mg/kg
Total Recoverable Hydrocarbons	
TRH C6-C10	800
TRH >C10-C16	1,000
TRH >C16-C34 (F3)	3,500
TRH >C34-C40 (F4)	10,000

9.6 NEPM Health Screening Level A (HSL-A) – Residencial for Asbestos

The assessed soil must not contain Asbestos Containing Materials (ACM) in excess of 0.01%w/w and Asbestos Fines (AF) and Fibrous Asbestos (FA) in excess of 0.001%w/w. Surface soil must be free of visible ACM, Asbestos Fines (AF) and Fibrous Asbestos (FA).

Table 12. HSL-A for Asbestos

Assessment Criteria	Health Screening Level (HSL-A) (%w/w) Residential (A)
Asbestos	
ACM	0.01
FA and AF (friable asbestos)	0.001
All forms of asbestos	No visible asbestos for surface soils

10. Sampling and Analysis Plan

10.1 Sampling Rationale

Table 13. Sampling Rationale

Sampling Criteria	Chosen Approach	Justification
Sampling Pattern	Systematic and judgmental	This pattern was selected due to the area of assessment, access to underlying soil, the AEC and CoPC as well as the potential heterogeneity of any contamination.
Sampling Density	In total, twenty (20) primary soil samples were obtained from twelve (12) boreholes. One (1) sample from fill layer within all boreholes and One (1) sample from natural soils from four (4) boreholes	This sampling density was selected based on the extent of the potential contaminated area to be detected, feasibility, the site and area of assessment history, distribution of current and historical uses, location and condition of structures.
QA/QC Samples	Two (2) Duplicate (BH2.1, BH9.2) One (1) Trip Spike One (1) Trip Blank	QA/QC sampling was undertaken in general accordance with specifications outlined in Australian Standards (AS) 4482.1-2005, Standard Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil and NEPM 2013 Schedule B2; *Guideline on Site Characterisation*.
Sampling Depths	Shallow sample within fill/topsoil layer: 0.0-0.15m bgl Deeper sample from top of natural soil layer: ~0.4-0.5m bgl	These depths were selected in compliment with sampling density and to target depths of potential contaminants. Additionally, soil layer thickness was considered when determining these depths.

10.2 Field Sampling Methodology

Sampling was undertaken using a flight auger during first inspection on 11th August 2023, and using a hand auger during the second inspection on 6th May 2024.

Soil samples were collected from shallow fill/topsoil (0-0.15m bgl) below the surface and top of the natural clay (0.4m - 0.5m bgl) using clean nitrile gloves and placed in laboratory supplies containers. PID readings were recorded for all samples. Surface (0-0.15m bgl) samples were collected in 500mL zip bags for analysis of Asbestos during first inspection.

All fill samples and four of the natural soil layer samples were selected for laboratory analysis. The remaining natural soil layer samples were requested to be kept on hold for further analysis if required.

The auger was decontaminated with detergent and deionised water between sample collection. Samples were stored on ice in an esky and transferred to a NATA accredited laboratory for the analysis of the CoPC under Chain of Custody (COC) documentation.

Borehole logs are provided in **Appendix D**.

Table 14. Sample Details

Borehole	Sample	Depth (m)	Description	Matrix	PID
BH1	BH1.1	0 - 0.15	Fill SAND (SP): very loose, grey, fine grained, dry	Fill	<1.0
	BH1.2	0.3 - 0.5	Natural silty CLAY (CH): very stiff, high plasticity, red brown, inorganic, moist	Natural	<1.0
BH2	BH2.1	0 - 0.1	Fill SAND (SP): very loose, grey, fine grained, dry	Fill	<1.0
	BH2.2	0.20 - 0.30	Natural silty CLAY (CH): very stiff, high plasticity, red brown, inorganic, moist	Natural	<1.0
BH3	BH3.1	0 - 0.1	Fill SAND (SP): very loose, grey, fine grained, dry	Fill	<1.0
	BH3.2	0.20 - 0.30	Natural silty CLAY (CH): very stiff, high plasticity, red brown, inorganic, moist	Natural	<1.0
BH4	BH4.1	0 - 0.1	Fill SAND (SP): very loose, grey, fine grained, dry	Fill	<1.0
	BH4.2	0.15 - 0.25	Natural silty CLAY (CH): very stiff, high plasticity, red brown, inorganic, moist	Natural	<1.0
BH5	BH5.1	0 - 0.1	Fill gravelly SAND (SP): moderately, loose to medium dense, grey orange, fine grained, fine sized gravel, dry.	Fill	<1.0
	BH5.2	0.15 - 0.25	Natural silty CLAY (CH): very stiff, high plasticity, red brown, inorganic, moist.	Natural	<1.0
BH6	BH6.1	0 - 0.1	Fill gravelly SAND (SP): moderately, loose to medium dense, grey orange, fine grained, fine sized gravel, dry.	Fill	<1.0
	BH6.2	0.15 - 0.25	Natural silty CLAY (CH): very stiff, high plasticity, red brown, inorganic, moist.	Natural	<1.0

BH7	BH7.1	0 - 0.1	Fill gravelly SAND (SP): moderately, loose to medium dense, grey orange, fine grained, fine sized gravel, dry.	Fill	<1.0
	BH7.2	0.15 - 0.25	Natural silty CLAY (CH): very stiff, high plasticity, red brown, inorganic, moist.	Natural	<1.0
BH8	BH8.1	0 - 0.1	Fill gravelly SAND (SP): moderately, loose to medium dense, grey orange, fine grained, fine sized gravel, dry.	Fill	<1.0
	BH8.2	0.15 - 0.25	Natural silty CLAY (CH): very stiff, high plasticity, red brown, inorganic, moist.	Natural	<1.0
BH9	BH9.1	0 - 0.15	Topsoil Clayey SILT (ML) : firm, high plasticity, brown to dark brown, trace fine sized gravel, trace fine grained sand, organic, moist.	Topsoil	<1.0
	BH9.2	0.4 - 0.5	Natural Silty CLAY (CH) : firm to stiff, high plasticity, brown to brownish orange, inorganic, moist.	Natural	<1.0
BH10	BH10.1	0 - 0.15	Topsoil Clayey SILT (ML) : firm, high plasticity, brown to dark brown, trace fine sized gravel, trace fine grained sand, organic, moist.	Topsoil	<1.0
	BH10.2	0.4 - 0.5	Natural Silty CLAY (CH) : firm to stiff, high plasticity, brown to brownish orange, inorganic, moist.	Natural	<1.0
BH11	BH11.1	0 - 0.15	Topsoil Clayey SILT (ML) : firm, high plasticity, brown to dark brown, trace fine sized gravel, trace fine grained sand, organic, moist.	Topsoil	<1.0
	BH11.2	0.4 - 0.5	Natural Silty CLAY (CH) : firm to stiff, high plasticity, brown to brownish orange, inorganic, moist.	Natural	<1.0
BH12	BH12.1	0 - 0.15	Topsoil Clayey SILT (ML) : firm, high plasticity, brown to dark brown, trace fine sized gravel, trace fine grained sand, organic, moist.	Topsoil	<1.0
	BH12.2	0.4 - 0.5	Natural Silty CLAY (CH) : firm to stiff, high plasticity, brown to brownish orange, inorganic, moist.	Natural	<1.0

10.3 Laboratory Testing Program

Table 15. Laboratory Testing Program

Matrix	Borehole	Analyses
Fill layer	BH1 to BH8	Metals, TRH, BTEX, PAH, OC, VOCs, Asbestos (NEPM)
Topsoil	BH9 to BH12	Metals, TRH, BTEX, PAH, OCP/OPP, PCBs, Asbestos
Natural layer	BH2, 4, 6, 8, 9, 10, 11 and 12	Metals, TRH, BTEX, PAH
Trip Spike and Trip Blank	-	BTEX
Fill	Duplicate	Metals, VOCs, TRH, BTEX, PAH, OCP,
Natural	D1	Metals, TRH, BTEX, PAH

10.4 Quality Assurance & Quality Control Procedures

Table 16. The QA/QC Procedures

	Measure	Purpose
Field	Collection of intra-laboratory samples	To measure the difference in contamination between a primary and duplicate sample.
	Decontamination procedures	Prevent cross contamination between samples.
	Appropriate preservation and storage measures	Prevent cross contamination and analyte loss for volatile compounds.
	Statement of duplicate frequency	To measure variations in contamination concentration.
	Field instrument calibrations	Ensure valid results from instruments through routine calibration.
Laboratory	Chain-of-custody procedures	A copy of signed chain-of-custody forms acknowledging receipt date, time and temperature and identity of samples included in shipments will ensure validity of results.
	Record of holding times	To ensure samples are analysed within reasonable window of receival to prevent analyte loss for volatile compounds.
	Matrix spikes (MS)	Indicate percentage of recovery of a known concentration for a spike in field sub-sample to measure recovery.
	Laboratory Control Sample (LCS)	Reference used throughout the full method process from extraction to injection to measure recovery of analytes.
	Relative Percentage Differences (RPD)	Calculation of laboratory performance for the analytical method using duplicates.

11. Data Quality Objectives

The Data Quality Objectives (DQO) have been developed in accordance with the NEPM Appendix B of Schedule B2 and provide the type, quantity, and quality of data to support decisions regarding the environmental conditions of the area of assessment.

Table 17. Data Quality Objectives Steps 1 to 7

Step 1: *State the problem*	To identify any contamination in the fill and natural layer. The proposed development includes the construction of a childcare facility. All stages of development may give rise to contamination events. Additionally, the intended future use of the site and area of assessment is considered a sensitive human health risk setting.
Step 2: *Identify the decision*	• Is the sample design appropriate to achieve the aim of the TDSI? • Is contamination capable of migrating off-site? • Are there any unacceptable risks to the future on site or off-site receptors in the soil or groundwater following remediation? • Is the site and area of assessment suitable for its intended land use as a childcare facility?
Step 3: *Identify inputs into the decision*	Identification of issues of potential environmental concern; • Judgemental soil sampling undertaken in targeted areas of the site; • Appropriate QA/QC to enable an evaluation of the reliability of the analytical data; and • Screening sampler analytical results compared with Residential A Assessment Criteria for the intended land use as a seniors housing facility.
Step 4: *Define the boundaries of the study*	The project boundaries are: • Lateral boundary: The defined area of assessment; • Vertical boundary: The soil interface to the maximum depth reached during sampling; and • Temporal boundary: Constrained to a single visit.
Step 5: *Develop the analytical approach*	The integration of the information from steps 1 – 4 support and justify the proposed analytical approach. The aim is to confirm if the area of assessment is suitable for the proposed development. If the SAQP identifies; • Any exceedance of the adopted NEPM Residential (A) Assessment Criteria for soil; • Professional opinion that further assessment is required; • Adopted RPD (30% difference for all analytes) for QC data not met; • if RPDs of matrix spikes, surrogates and laboratory control samples are outside acceptable limits. Further assessment may be required to confirm suitability of the area of assessment for use as childcare facility.
Step 6: *Specify performance or acceptance criteria*	To determine if the soils are within acceptable ranges, the following NEPM criteria is applied: • Acceptable recovery on all surrogate spikes used in laboratory analyses; • Acceptable analytical method to ensure detection limit appropriate for all analytes; • If these conditions are not met, then chemical analysis will require re-testing for all samples with fresh aliquot.
Step 7: *Develop the plan for obtaining data*	Judgemental sampling pattern will provide suitable coverage of the area of assessment to produce reliable data in alignment with the Data Quality

	Indicators (DQIs) to cover precision, accuracy, representativeness, completeness and comparability (PARCC).

12. Analytical Results

12.1 Primary Sample Analytical Results

Analytical results indicated all soil analytes were below Laboratory Limit of reporting (LOR) and/or NEPM 2013 Health and Ecological Assessment Criteria for Residential (A) developments. Analytical results are provided in **Appendix B**.

12.2 QA/QC Sample Analytical Results

QC/QC sampling was undertaken in the form of trip spike, trip blank, one (1) duplicate (intra lab) samples. QA/QC analytical results indicate an acceptable data set.

Table 18. QC Sample Response

Sample	Data Quality Indicator (DQI) Acceptability Limit
Trip Spike	RPD70-130%
Trip Blank	Below LOR
Duplicate	RPD<=30%

13. Data Quality Indicators (DQIs)

Table 19. Field Data Quality Indicators

Completeness	• All critical locations sampled with GPS co-ordinates; • Correct documentation and COC procedures undertaken; • Collection during a single visit. Based on the completion of these considerations, the percentage of usable data can be calculated. All considerations have been met therefore all data generated (laboratory-based) is applicable for characterisation (100%).
Comparability	• Uniform methods for sample collection including collection equipment and decontamination procedures; • Correct volume of soil per sample; • Climatic and physical conditions at the time of sample collection were observed. These considerations provide qualitative confidence that the data reflects the area of assessment conditions. Sample collection was undertaken during a period of moderate rainfall; therefore, distribution of contaminants may be altered by these conditions.
Representativeness	• Appropriate sample collection; • Fill and natural layers sampled for analysis; • Samples were homogenised during collection. These considerations provide qualitative confidence that the data reflects the area of assessment conditions. Sample collection satisfied these considerations.
Precision	• One (1) intra-laboratory sample • Trip spike, • Trip blank Field QA/QC samples provide a quantitative measure of laboratory precision and laboratory QA/QC samples provide a quantitative measure of analytical precision. These data measure variability between samples.
Accuracy	• Correct documentation and COC procedures undertaken including appropriate transportation; • Collection during a single visit; • Decontamination procedures undertaken between each sample collection. These considerations provide a quantitative measure of bias within the dataset (following laboratory analyses). Field work processes to mitigate bias were undertaken, analytical results will provide measure of accuracy of these processes.

Table 20. Laboratory Data Quality Indicators

Completeness	• Correct documentation and COC procedures undertaken; • Analysis of appropriate analytes; • Implementation of appropriate extraction and instrument methods; • Samples were received, extracted and injected within specified holding times; These considerations were undertaken and allows the percentage of usable data was calculated. Along with the field-based *Completeness* (100%), the dataset can be considered complete (100%).
Comparability	• Appropriate extraction methods and analytical methods, including instrument calibration and Practical Quantification Limits (PQL); • Justify and quantify differences in analytical results. These considerations provide qualitative confidence that the data reflects the area of assessment conditions. All considerations were undertaken. RPDs were within acceptable ranges.
Representativeness	• Correct documentation and COC procedures undertaken; • Implementation of appropriate extraction and instrument methods; • Samples received, extracted and injected within specified holding times; • Internal methods ensure detection of laboratory artefacts including contaminated extraction equipment, cross-contamination events; These considerations provide qualitative confidence that the data reflects the area of assessment conditions. All considerations were undertaken.
Precision	• Analysis of: o Intra-laboratory samples o Method blank o Matrix and surrogate spikes Laboratory QA/QC samples provide a quantitative measure of analytical precision. These data measure variability between samples. Recoveries on all surrogates and blanks were within acceptable ranges. RPDs for the intra-laboratory sample were within acceptable ranges.
Accuracy	• Analysis of: o Intra-laboratory samples o Method blank o Matrix and surrogate spikes • Spikes chosen based on appropriateness to avoid coelution with contaminants indigenous to the samples and across varying retention times to map response factor; • Blanks and intra-laboratory sample analyses included with the primary sample run to account for analytical instrument calibration; These considerations provide a quantitative measure of bias within the dataset. Recoveries on all surrogates and blanks were within acceptable ranges. RPDs for the intra-laboratory sample were within acceptable ranges.

14. Data Gaps

- The presence and extent of hazardous materials within onsite structures; and
- Condition of the soils underneath onsite structures within the western portion of the area of assessment.

15. Conclusion

The site's history indicates the land use was probably agricultural prior to 1947. The site was used for industrial use by 1955. At this time, the area of assessment became a part of the driveway for an industrial building, with a garden area. A substantial transformation occurred in 2015 when the garden area was converted into a carpark, now covered by asphalt and concrete slab groundcover.

Analytical results indicated all soil analytes were below Laboratory Limit of reporting (LOR) and/or NEPM 2013 Health and Ecological Assessment Criteria for Residential (A) developments.

Based on the observations made for the area of assessment and the analytical results obtained, GCA considers the potential for significant soil contamination to be low. However, there are still data gaps for the site, particularly regarding the condition of the soils beneath onsite structures in the western portion of the area of assessment. Therefore, a Data Gap Investigation (DGI) should be carried out after the demolition of onsite buildings. This investigation should include additional sampling within the footprint of the onsite structures in the western portion of the area of assessment.

On this basis, GCA finds that the area of assessment can be made suitable for the proposed development and land use (Residential A), provided the recommendations within **Section 16** are undertaken.

16. Recommendations

Based on the information collected and available during this investigation, the following recommendations have been made:

- All structures onsite should have a Hazardous Materials Survey (HMS) conducted by a qualified occupational hygienist and/or environmental consultant for the site prior to any demolition or renovation works in accordance with relevant Australian Standards, SafeWork NSW codes of practice and any other applicable requirements;
- If ACM is confirmed by HMS, the following is required:
    - An Asbestos Removal Management Plan (ARMP); The ARMP should address the removal of surface Asbestos contamination near onsite structures.
    - The removal works will require a Class B licensed removal contractor;
    - Reporting on transport and management of asbestos waste in accordance with EPA Part 7 of the Protection of the Environment Waste Regulation 2017; and
    - A clearance inspection and clearance certificate by a will be required post demolition by a licensed asbestos assessor under clauses 473 & 474 of NSW Work Health and Safety Regulations 2017.
- The demolition of structures and excavation activity on site be undertaken in accordance with relevant Australian Standards, SafeWork NSW codes of practice and any other applicable requirements;
- Data Gap Investigation after demolition of onsite buildings including additional sampling within the footprint of onsite structure within western portion of area of assessment;
- Any soils requiring excavation, onsite reuse and/or removal must be classified in accordance with "Waste Classification Guidelines Part 1: Classifying Waste" NSW EPA (2014); and
- A site specific 'Unexpected Finds Protocol' is to be made available for reference for all occupants and/or site workers in the event unanticipated contamination is discovered.

Limitations

The findings of this report are based on the scope of work outlined in Section 2. GCA performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental consulting profession. No warranties, express or implied are made.

The results of this assessment are based upon the information documented and presented in this report. All conclusions and recommendations regarding the site are the professional opinions of GCA personnel involved with the project, subject to the qualifications made above. While normal assessments of data reliability have been made, GCA assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of GCA, or developments resulting from situations outside the scope of this project.

The results of this assessment are based on the site conditions identified at the time of the site inspection and validation sampling. GCA will not be liable to revise the report to account for any changes in site characteristics, regulatory requirements, assessment criteria or the availability of additional information, subsequent to the issue date of this report.

GCA is not engaged in environmental consulting and reporting for the purpose of advertising sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes.

Geotechnical Consultants Australia Pty Ltd (GCA)

Prepared by:

Ehsan Zare
Environmental Consultant

Reviewed by:

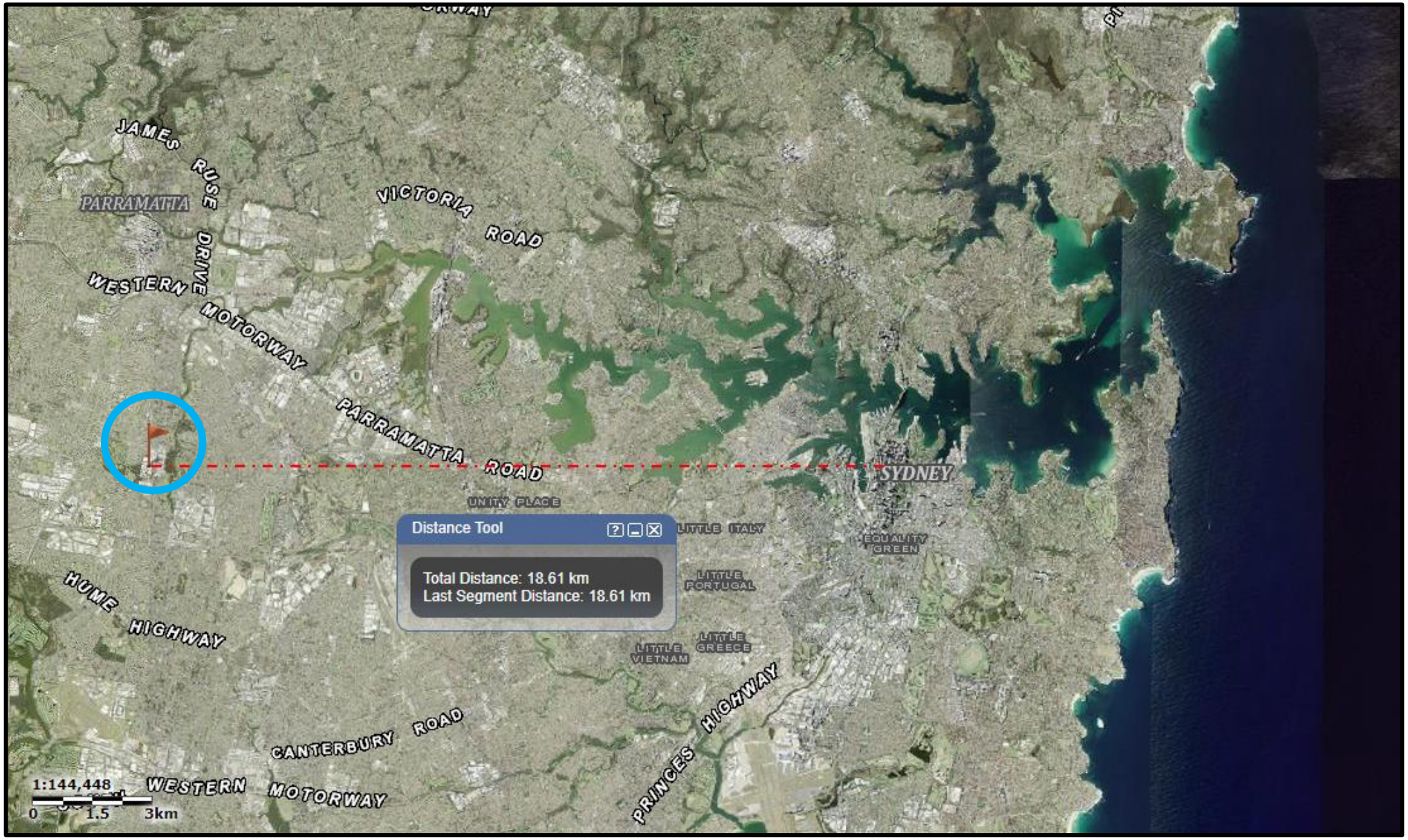
Nick Caltabiano
Project Manager

APPENDIX A

Figures and Site Photographic Log

N

Figure 1. The site is located approximately 18.6km west of Sydney CBD.



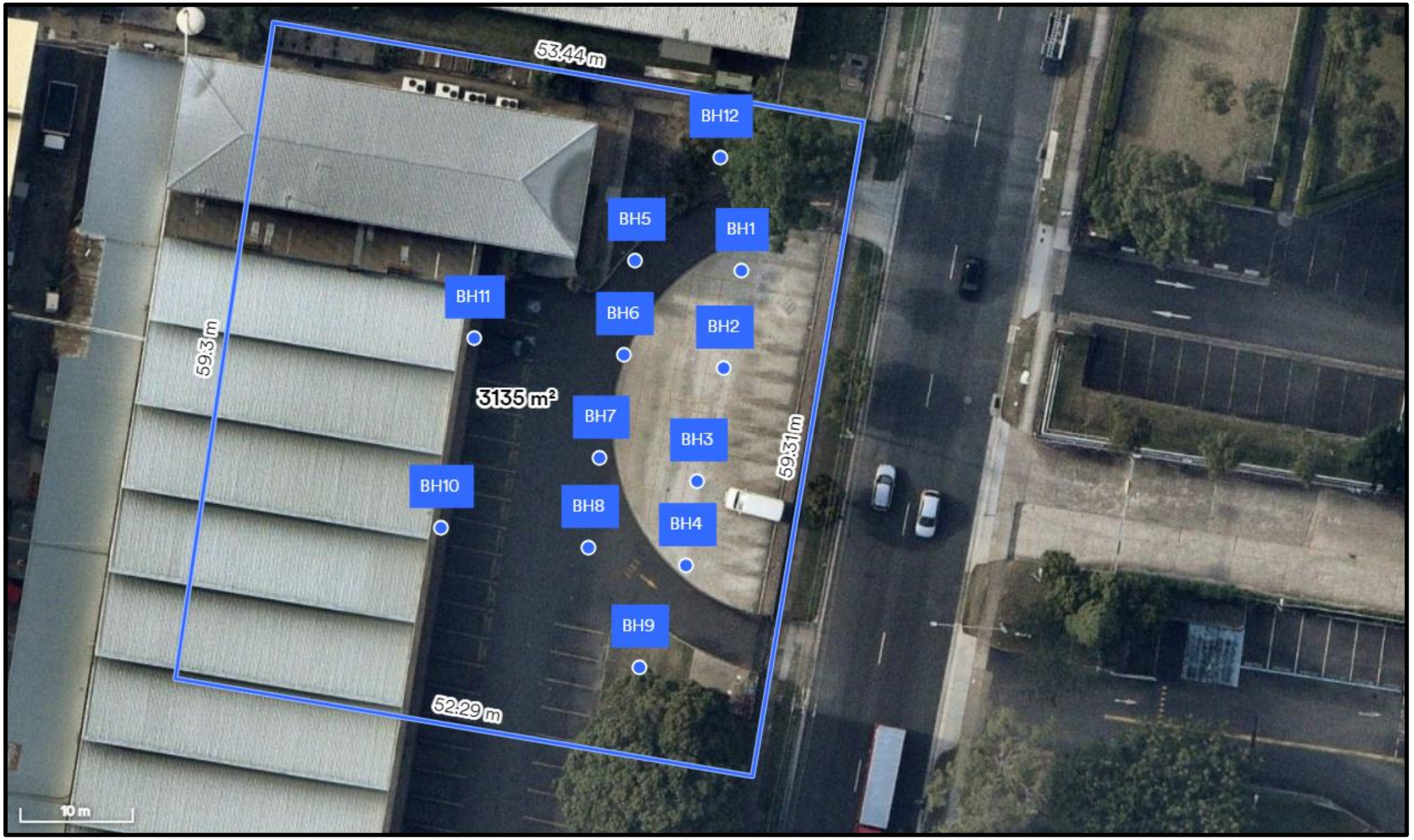
Site location

Source: Six Maps 2023

Figure 1	Locality Map
Project	46-52 Ferndell Street, South Granville NSW 2142

N

Figure 2. Sample locations.



Soil Sample Location

Source: Nearmap 2023

Figure 2	Site Area
Project	46-52 Ferndell Street, South Granville NSW 2142

N

Figure 3. Aerial image of the site and surrounding area 1943. The area of assessment was vacant and likely used for agricultural purposes. The surrounding area was comprised rural residential and vacant lots.

Source: NSW Historical Imagery 2023

Figure 3	Aerial Image 1943
Project	46-52 Ferndell Street, South Granville NSW 2142

N

Figure 4. Aerial image of the site and surrounding area 1955. The site had been developed for industrial purposes. The area of assessment was consisted of a driveway and garden area. The surrounding area was increased in industrial developments.

Source: NSW Historical Imagery 2023

Figure 4	Aerial Image 1955
Project	46-52 Ferndell Street, South Granville NSW 2142

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Figure 5. Aerial image of the site and surrounding area 1965. The area of assessment underwent additional development, with the site taking on the form of a driveway and garden area. The surrounding area was improved further in industrial developments.

Figure 5	Aerial Image 1965
Project	46-52 Ferndell Street, South Granville NSW 2142

Source: NSW Historical Imagery, 2023

N

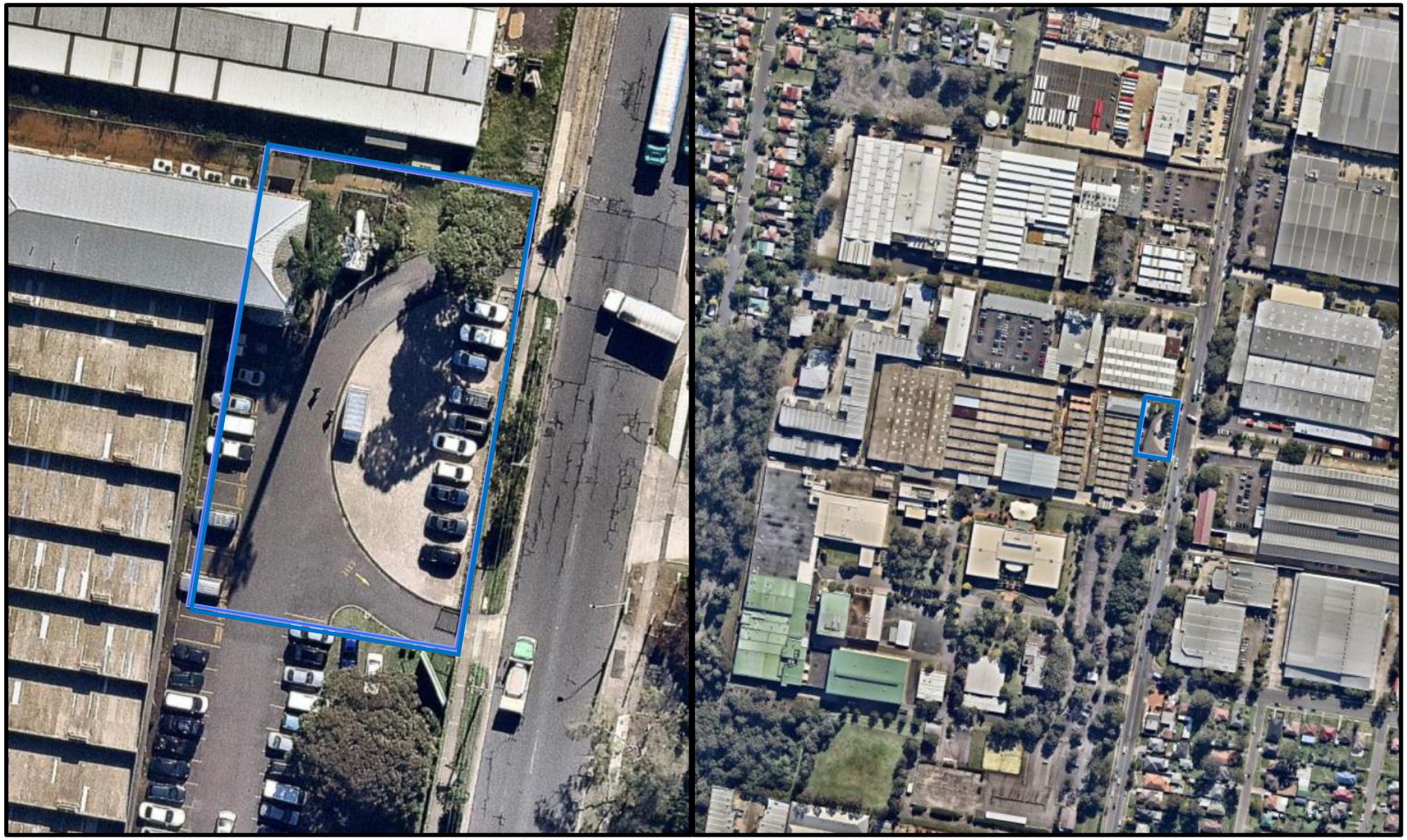
Figure 6. Aerial image of the site and surrounding area in 1975. No significant change can be observed within the area of assessment. The surrounding area was increased in industrial developments.

Figure 6	Aerial Images: 1975
Project	46-52 Ferndell Street, South Granville NSW 2142

Source: NSW Historical Imagery, 2023

N

Figure 7. Aerial image of the site and surrounding area in 2015. The garden area within the area of assessment has undergone transformation, now replaced by a concrete slab that serves as a carpark. The surrounding area has experienced moderate alterations.



Source: Nearmap 2023

Figure 7	Aerial Images: 2015
Project	46-52 Ferndell Street, South Granville NSW 2142

Figure 8. Entrance gate to the site.

Figure 9. Overall view of the area of assessment.

Figure 10. Garden bed and brick building within northern portion of the site.

Figure 11. Car park area.

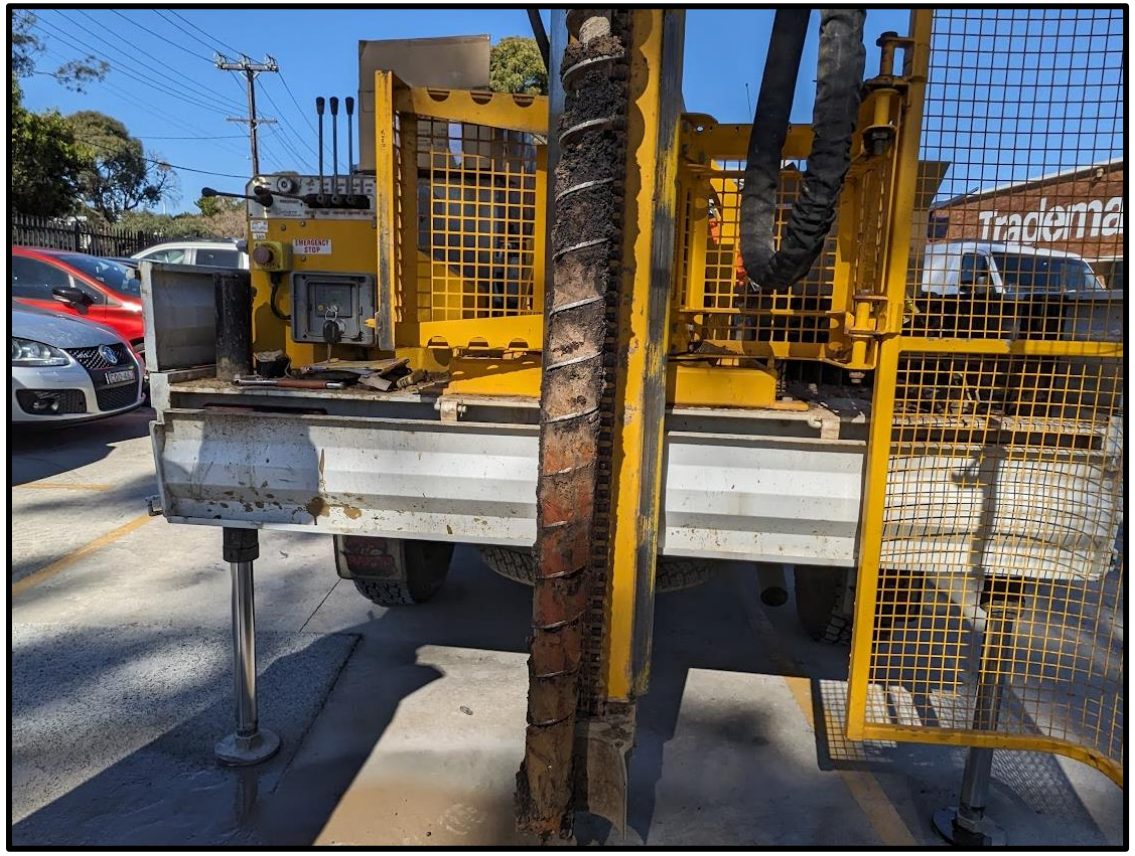


Figure 12. Drilling of BH1.

Figure 13. Drilling of BH8.

Figure 14. Sampling of BH10 using hand auger(6/5/2024).

Figure 15. Silty Clay subsoil in BH10 (6/5/2024).

APPENDIX B

Laboratory Results and Chain of Custody (NATA)

Table 21. Total Recoverable Hydrocarbon (TRH) analytical results. Values are presented as mg/kg. NL = Not Limiting.

Assessment Criteria		TRH C_6-C_{10}	TRH C_6-C_{10} - BTEX (F1)	TRH >C_{10}-C_{16}	TRH >C_{10}-C_{16} - N (F2)	TRH >C_{16}-C_{34} (F3)	TRH >C_{34}-C_{40} (F4)
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg			50		280		
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 1-<2m depth, Clay, mg/kg			90		NL		
CRC Care Residential Soil HSL-A for Direct Contact, mg/kg		4400		3300		4500	6300
NEPM 2013 Soil Generic ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg		180		120		1300	5600
NEPM 2013 Management Limits for Residential, Parkland and Public Open Space, fine-grained soil, mg/kg		800		1000		3500	10 000
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1.1	0-0.15	<25	<25	<25	<25	<90	<120
BH2.1	0-0.15	<25	<25	<25	<25	<90	<120
BH2.2	0.4-0.5	<25	<25	<25	<25	<90	<120
BH3.1	0-0.15	<25	<25	<25	<25	<90	<120
BH4.1	0-0.15	<25	<25	<25	<25	<90	<120
BH4.2	0.4-0.5	<25	<25	<25	<25	<90	<120
BH5.1	0-0.15	<25	<25	<25	<25	<90	<120
BH6.1	0-0.15	<25	<25	<25	<25	<90	<120
BH6.2	0.4-0.5	<25	<25	<25	<25	<90	<120
BH7.1	0-0.15	<25	<25	<25	<25	<90	<120
BH8.1	0-0.15	<25	<25	<25	<25	<90	<120
BH8.2	0.4-0.5	<25	<25	<25	<25	<90	<120
D1 (BH 2.1)	0-0.15	<25	<25	<25	<25	<90	<120
BH9.1	0-0.15	<25	<25	<25	<25	<90	<120
BH9.2	0.4-0.5	<25	<25	<25	<25	<90	<120
BH10.1	0-0.15	<25	<25	<25	<25	<90	<120
BH10.2	0.4-0.5	<25	<25	<25	<25	<90	<120
BH11.1	0-0.15	<25	<25	<25	<25	<90	<120
BH11.2	0.4-0.5	<25	<25	<25	<25	<90	<120
BH12.1	0-0.15	<25	<25	<25	<25	<90	<120
BH12.2	0.4-0.5	<25	<25	<25	<25	<90	<120
D1 (BH9.2)	0.4-0.5	<25	<25	<25	<25	<90	<120

Table 22. Benzene, Toluene, Ethylbenzene and Xylene (BTEX) analytical results. Values are presented as mg/kg. NL = Not Limiting.

Assessment Criteria		Benzene	Toluene	Ethylbenzene	Xylenes
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		0.7	480	NL	110
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 1-<2m depth, Clay, mg/kg		1	NL	NL	310
NEPM 2013 Soil ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg		65	105	125	45
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg
BH1.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH2.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH2.2	0.4-0.5	<0.1	<0.1	<0.1	<0.3
BH3.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH4.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH4.2	0.4-0.5	<0.1	<0.1	<0.1	<0.3
BH5.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH6.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH6.2	0.4-0.5	<0.1	<0.1	<0.1	<0.3
BH7.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH8.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH8.2	0.4-0.5	<0.1	<0.1	<0.1	<0.3
D1	0-0.15	<0.1	<0.1	<0.1	<0.3
Trip Spike	-	[111%]	[108%]	[119%]	[113%]
Trip Blank	-	<0.1	<0.1	<0.1	<0.3
BH9.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH9.2	0.4-0.5	<0.1	<0.1	<0.1	<0.3
BH10.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH10.2	0.4-0.5	<0.1	<0.1	<0.1	<0.3
BH11.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH11.2	0.4-0.5	<0.1	<0.1	<0.1	<0.3
BH12.1	0-0.15	<0.1	<0.1	<0.1	<0.3
BH12.2	0.4-0.5	<0.1	<0.1	<0.1	<0.3
D1 (BH9.2)	0.4-0.5	<0.1	<0.1	<0.1	<0.3

Table 23. Polycyclic Aromatic Hydrocarbon (PAH) and Polychlorinated biphenyl (PCBs) analytical results. N.A. = Not Analysed

Assessment Criteria		Naphthalene	Benzo(a)pyrene	Carcinogenic PAH (as BaP TEQ)	Total PAH (18)	Total PCBs
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay,		5				
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 1-<2m depth, Clay,		NL				
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space,		170				
Soil ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg			0.7			
NEPM 2013 Residential Soil HIL-A, mg/kg			1.00 TEF	3	300	1
Sample	Depth (m)	mg/kg	mg/kg	TEQ (mg/kg)	mg/kg	mg/kg
BH1.1	0-0.15	<0.1	**0.6**	**0.8**	**6.2**	N.A.
BH2.1	0-0.15	<0.1	<0.1	<0.3	<0.8	N.A.
BH2.2	0.4-0.5	<0.1	<0.1	<0.3	<0.8	N.A.
BH3.1	0-0.15	<0.1	<0.1	<0.3	<0.8	N.A.
BH4.1	0-0.15	<0.1	<0.1	<0.3	<0.8	N.A.
BH4.2	0.4-0.5	<0.1	<0.1	<0.3	<0.8	N.A.
BH5.1	0-0.15	<0.1	<0.1	<0.3	<0.8	N.A.
BH6.1	0-0.15	<0.1	<0.1	<0.3	<0.8	N.A.
BH6.2	0.4-0.5	<0.1	<0.1	<0.3	<0.8	N.A.
BH7.1	0-0.15	<0.1	<0.1	<0.3	<0.8	N.A.
BH8.1	0-0.15	<0.1	<0.1	<0.3	<0.8	N.A.
BH8.2	0.4-0.5	<0.1	<0.1	<0.3	<0.8	N.A.
D1	0-0.15	<0.1	<0.1	<0.3	<0.8	N.A.
BH9.1	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
BH9.2	0.4-0.5	<0.1	<0.1	<0.3	<0.8	N.A.
BH10.1	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
BH10.2	0.4-0.5	<0.1	<0.1	<0.3	<0.8	N.A.
BH11.1	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
BH11.2	0.4-0.5	<0.1	<0.1	<0.3	<0.8	N.A.
BH12.1	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
BH12.2	0.4-0.5	<0.1	<0.1	<0.3	<0.8	N.A.
D1 (BH9.2)	0.4-0.5	<0.1	<0.1	<0.3	<0.8	N.A.

Table 24. Heavy Metal analytical results. Values are presented as mg/kg.

Assessment Criteria		Arsenic, As	Cadmium, Cd	Chromium, Cr	Copper, Cu	Lead, Pb	Nickel, Ni	Zinc, Zn	Mercury, Hg
NEPM 2013 Residential Soil HIL-A, mg/kg		100	20	100	6000	300	400	7400	40
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg		100				1100			
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1.1	0-0.15	**3**	<0.3	**16**	**10**	**9**	**14**	**25**	<0.05
BH2.1	0-0.15	**3**	<0.3	**7.2**	**8.2**	**14**	**2.4**	**19**	<0.05
BH2.2	0.4-0.5	**6**	<0.3	**13**	**8.7**	**11**	**2.4**	**19**	<0.05
BH3.1	0-0.15	**5**	<0.3	**9.8**	**8.8**	**12**	**2.9**	**20**	<0.05
BH4.1	0-0.15	**4**	<0.3	**11**	**4.3**	**12**	**5.6**	**11**	<0.05
BH4.2	0.4-0.5	**5**	<0.3	**11**	**6.2**	**10**	**2.1**	**8.3**	<0.05
BH5.1	0-0.15	**4**	<0.3	**17**	**6.0**	**14**	**4.5**	**110**	<0.05
BH6.1	0-0.15	**3**	<0.3	**8.1**	**1.8**	**9**	**2.2**	**4.4**	<0.05
BH6.2	0.4-0.5	**2**	<0.3	**6.8**	**5.5**	**6**	**3.4**	**9.2**	<0.05
BH7.1	0-0.15	**4**	<0.3	**10**	**6.1**	**10**	**2.1**	**9.3**	<0.05
BH8.1	0-0.15	**3**	<0.3	**11**	**5.1**	**7**	**4.2**	**7.9**	<0.05
BH8.2	0.4-0.5	**7**	<0.3	**11**	**12**	**14**	**2.2**	**13**	<0.05
D1	0-0.15	**2**	<0.3	**6.1**	**9.5**	**10**	**3.1**	**16**	<0.05
BH9.1	0-0.15	**4**	<0.3	**10**	**17**	**21**	**5.2**	**37**	<0.05
BH9.2	0.4-0.5	**4**	<0.3	**9.1**	**5.6**	**9**	**1.5**	**6.6**	<0.05
BH10.1	0-0.15	**7**	**0.4**	**19**	**31**	**96**	**11**	**150**	**0.09**
BH10.2	0.4-0.5	**2**	<0.3	**5.4**	**2.9**	**7**	**1.3**	**3.6**	<0.05
BH11.1	0-0.15	**7**	<0.3	**19**	**13**	**41**	**5.1**	**84**	<0.05
BH11.2	0.4-0.5	**5**	<0.3	**13**	**5.3**	**12**	**2.8**	**9.3**	<0.05
BH12.1	0-0.15	**16**	<0.3	**14**	**20**	**57**	**5.8**	**110**	<0.05
BH12.2	0.4-0.5	**9**	<0.3	**9.2**	**15**	**23**	**6.2**	**36**	<0.05
D1 (BH9.2)	0.4-0.5	**3**	<0.3	**6.3**	**3.6**	**7**	**1.2**	**4.7**	<0.05

Table 25. Pesticides analytical results. Values are presented as mg/kg. N.A. = Not Analysed

Assessment Criteria		HCB	Heptachlor	Chlordane	Aldrin & Dieldrin	Endrin	DDT	DDD+DDE +DDT	Endosulfan	Methoxychlor	Mirex
NEPM 2013 Residential Soil HIL-A, mg/kg		10	6	50	6	10		240	270	300	10
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg							180				
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH2.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH2.2	0.4-0.5	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH3.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH4.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH4.2	0.4-0.5	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH5.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH6.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH6.2	0.4-0.5	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH7.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH8.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH8.2	0.4-0.5	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
D1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH9.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH9.2	0.4-0.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH10.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH10.2	0.4-0.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH11.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH11.2	0.4-0.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH12.1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH12.2	0.4-0.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D1 (BH9.2)	0.4-0.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Table 26. Asbestos analytical results. N.A. = Not Analysed

Asbestos		Detection Yes/No	HSL-A ACM 0.01%w/w	HSL-A AF, FA 0.001%w/w
Sample	Depth (m)			
BH1	0-0.15	No	<0.01%w/w	<0.001%w/w
BH2	0-0.15	No	<0.01%w/w	<0.001%w/w
BH3	0-0.15	No	<0.01%w/w	<0.001%w/w
BH4	0-0.15	No	<0.01%w/w	<0.001%w/w
BH5	0-0.15	No	<0.01%w/w	<0.001%w/w
BH6	0-0.15	No	<0.01%w/w	<0.001%w/w
BH7	0-0.15	No	<0.01%w/w	<0.001%w/w
BH8	0-0.15	No	<0.01%w/w	<0.001%w/w
BH9	0-0.15	No	<0.01%w/w	N.A.
BH10	0-0.15	No	<0.01%w/w	N.A.
BH11	0-0.15	No	<0.01%w/w	N.A.
BH12	0-0.15	No	<0.01%w/w	N.A.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**N09825**
Order Number	**N09825**
Samples	15

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SGS Reference	**SE252329 R0**
Date Received	15/8/2023
Date Reported	22/8/2023

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Ravee Sivasubramaniam .

SIGNATORIES

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VOC's in Soil [AN433] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH2.2 SOIL - 14/8/2023 SE252329.003	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	-	<1	<1
Chloromethane	mg/kg	1	<1	<1	-	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1	-	<1	<1
Chloroethane	mg/kg	1	<1	<1	-	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1	-	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10	-	<10	<10
Iodomethane	mg/kg	5	<5	<5	-	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Vinyl acetate*	mg/kg	10	<10	<10	-	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Chloroform (THM)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10	-	<10	<10
Bromodichloromethane (THM)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	-	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Dibromochloromethane (THM)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5	-	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Bromoform (THM)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	-	<1	<1
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1

VOC's in Soil [AN433] Tested: 18/8/2023 (continued)

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH2.2 SOIL - 14/8/2023 SE252329.003	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1
Total VOC*	mg/kg	24	<24	<24	-	<24	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	<3.0	-	<3.0	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	-	<1.8	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	-	<1.8	<1.8

VOC's in Soil [AN433] Tested: 18/8/2023 (continued)

PARAMETER	UOM	LOR	BH4.2 SOIL - 14/8/2023 SE252329.006	BH5.1 SOIL - 14/8/2023 SE252329.007	BH6.1 SOIL - 14/8/2023 SE252329.008	BH6.2 SOIL - 14/8/2023 SE252329.009	BH7.1 SOIL - 14/8/2023 SE252329.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	<1	<1	-	<1
Chloromethane	mg/kg	1	-	<1	<1	-	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Bromomethane	mg/kg	1	-	<1	<1	-	<1
Chloroethane	mg/kg	1	-	<1	<1	-	<1
Trichlorofluoromethane	mg/kg	1	-	<1	<1	-	<1
Acetone (2-propanone)	mg/kg	10	-	<10	<10	-	<10
Iodomethane	mg/kg	5	-	<5	<5	-	<5
1,1-dichloroethene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Acrylonitrile	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	<0.5	<0.5	-	<0.5
Allyl chloride	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Carbon disulfide	mg/kg	0.5	-	<0.5	<0.5	-	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,1-dichloroethane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Vinyl acetate*	mg/kg	10	-	<10	<10	-	<10
cis-1,2-dichloroethene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Bromochloromethane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Chloroform (THM)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
2,2-dichloropropane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,2-dichloroethane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,1,1-trichloroethane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,1-dichloropropene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Carbon tetrachloride	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Dibromomethane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,2-dichloropropane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
2-nitropropane	mg/kg	10	-	<10	<10	-	<10
Bromodichloromethane (THM)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	<1	<1	-	<1
cis-1,3-dichloropropene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,1,2-trichloroethane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,3-dichloropropane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Dibromochloromethane (THM)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
2-hexanone (MBK)	mg/kg	5	-	<5	<5	-	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Chlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Bromoform (THM)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Styrene (Vinyl benzene)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,2,3-trichloropropane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	-	<1	<1	-	<1
Isopropylbenzene (Cumene)	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Bromobenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1

VOC's in Soil [AN433] Tested: 18/8/2023 (continued)

PARAMETER	UOM	LOR	BH4.2 SOIL - 14/8/2023 SE252329.006	BH5.1 SOIL - 14/8/2023 SE252329.007	BH6.1 SOIL - 14/8/2023 SE252329.008	BH6.2 SOIL - 14/8/2023 SE252329.009	BH7.1 SOIL - 14/8/2023 SE252329.010
n-propylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
2-chlorotoluene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
4-chlorotoluene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
tert-butylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
sec-butylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,3-dichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,4-dichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
p-isopropyltoluene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,2-dichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
n-butylbenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Hexachlorobutadiene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	-	<0.1	<0.1	-	<0.1
Total VOC*	mg/kg	24	-	<24	<24	-	<24
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	-	<3.0	<3.0	-	<3.0
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	<1.8	<1.8	-	<1.8
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	-	<1.8	<1.8	-	<1.8

VOC's in Soil [AN433] Tested: 18/8/2023 (continued)

PARAMETER	UOM	LOR	BH8.1 SOIL - 14/8/2023 SE252329.011	BH8.2 SOIL - 14/8/2023 SE252329.012	D1 SOIL - 14/8/2023 SE252329.013	Trip Spike SOIL - 14/8/2023 SE252329.014	Trip Blank SOIL - 14/8/2023 SE252329.015
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	[111%]	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	[108%]	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	[119%]	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	[113%]	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	[118%]	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	-	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	-	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	-	<0.6
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	-	-	-	-
Chloromethane	mg/kg	1	<1	-	-	-	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	-	-	-	-
Bromomethane	mg/kg	1	<1	-	-	-	-
Chloroethane	mg/kg	1	<1	-	-	-	-
Trichlorofluoromethane	mg/kg	1	<1	-	-	-	-
Acetone (2-propanone)	mg/kg	10	<10	-	-	-	-
Iodomethane	mg/kg	5	<5	-	-	-	-
1,1-dichloroethene	mg/kg	0.1	<0.1	-	-	-	-
Acrylonitrile	mg/kg	0.1	<0.1	-	-	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	-	-	-	-
Allyl chloride	mg/kg	0.1	<0.1	-	-	-	-
Carbon disulfide	mg/kg	0.5	<0.5	-	-	-	-
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	-	-	-
1,1-dichloroethane	mg/kg	0.1	<0.1	-	-	-	-
Vinyl acetate*	mg/kg	10	<10	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-	-
Bromochloromethane	mg/kg	0.1	<0.1	-	-	-	-
Chloroform (THM)	mg/kg	0.1	<0.1	-	-	-	-
2,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-	-
1,2-dichloroethane	mg/kg	0.1	<0.1	-	-	-	-
1,1,1-trichloroethane	mg/kg	0.1	<0.1	-	-	-	-
1,1-dichloropropene	mg/kg	0.1	<0.1	-	-	-	-
Carbon tetrachloride	mg/kg	0.1	<0.1	-	-	-	-
Dibromomethane	mg/kg	0.1	<0.1	-	-	-	-
1,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-	-
Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	<0.1	-	-	-	-
2-nitropropane	mg/kg	10	<10	-	-	-	-
Bromodichloromethane (THM)	mg/kg	0.1	<0.1	-	-	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	-	-	-
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-	-
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-	-
1,1,2-trichloroethane	mg/kg	0.1	<0.1	-	-	-	-
1,3-dichloropropane	mg/kg	0.1	<0.1	-	-	-	-
Dibromochloromethane (THM)	mg/kg	0.1	<0.1	-	-	-	-
2-hexanone (MBK)	mg/kg	5	<5	-	-	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	-	-	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-	-
Chlorobenzene	mg/kg	0.1	<0.1	-	-	-	-
Bromoform (THM)	mg/kg	0.1	<0.1	-	-	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-	-	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-	-
1,2,3-trichloropropane	mg/kg	0.1	<0.1	-	-	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	<1	-	-	-	-
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	-	-	-
Bromobenzene	mg/kg	0.1	<0.1	-	-	-	-

VOC's in Soil [AN433] Tested: 18/8/2023 (continued)

PARAMETER	UOM	LOR	BH8.1 SOIL - 14/8/2023 SE252329.011	BH8.2 SOIL - 14/8/2023 SE252329.012	D1 SOIL - 14/8/2023 SE252329.013	Trip Spike SOIL - 14/8/2023 SE252329.014	Trip Blank SOIL - 14/8/2023 SE252329.015
n-propylbenzene	mg/kg	0.1	<0.1	-	-	-	-
2-chlorotoluene	mg/kg	0.1	<0.1	-	-	-	-
4-chlorotoluene	mg/kg	0.1	<0.1	-	-	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	-	-	-	-
tert-butylbenzene	mg/kg	0.1	<0.1	-	-	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	-	-	-	-
sec-butylbenzene	mg/kg	0.1	<0.1	-	-	-	-
1,3-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-
1,4-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-
p-isopropyltoluene	mg/kg	0.1	<0.1	-	-	-	-
1,2-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-
n-butylbenzene	mg/kg	0.1	<0.1	-	-	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	-	-	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	<0.1	-	-	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-	-
Total VOC*	mg/kg	24	<24	-	-	-	-
Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	-	-	-	-
Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-	-	-
Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	-	-	-	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH2.2 SOIL - 14/8/2023 SE252329.003	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH4.2 SOIL - 14/8/2023 SE252329.006	BH5.1 SOIL - 14/8/2023 SE252329.007	BH6.1 SOIL - 14/8/2023 SE252329.008	BH6.2 SOIL - 14/8/2023 SE252329.009	BH7.1 SOIL - 14/8/2023 SE252329.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH8.1 SOIL - 14/8/2023 SE252329.011	BH8.2 SOIL - 14/8/2023 SE252329.012	D1 SOIL - 14/8/2023 SE252329.013
TRH C6-C9	mg/kg	20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH2.2 SOIL - 14/8/2023 SE252329.003	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH4.2 SOIL - 14/8/2023 SE252329.006	BH5.1 SOIL - 14/8/2023 SE252329.007	BH6.1 SOIL - 14/8/2023 SE252329.008	BH6.2 SOIL - 14/8/2023 SE252329.009	BH7.1 SOIL - 14/8/2023 SE252329.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH8.1 SOIL - 14/8/2023 SE252329.011	BH8.2 SOIL - 14/8/2023 SE252329.012	D1 SOIL - 14/8/2023 SE252329.013
TRH C10-C14	mg/kg	20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH2.2 SOIL - 14/8/2023 SE252329.003	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	**0.6**	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	**0.2**	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	**1.1**	**0.1**	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	**1.0**	**0.1**	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	**0.5**	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	**0.5**	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	**0.6**	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	**0.3**	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	**0.6**	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	**0.4**	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	**0.4**	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	**0.8**	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	**0.9**	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	**0.8**	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	**6.2**	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	**6.2**	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH4.2 SOIL - 14/8/2023 SE252329.006	BH5.1 SOIL - 14/8/2023 SE252329.007	BH6.1 SOIL - 14/8/2023 SE252329.008	BH6.2 SOIL - 14/8/2023 SE252329.009	BH7.1 SOIL - 14/8/2023 SE252329.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 18/8/2023 (continued)

PARAMETER	UOM	LOR	BH8.1 SOIL - 14/8/2023 SE252329.011	BH8.2 SOIL - 14/8/2023 SE252329.012	D1 SOIL - 14/8/2023 SE252329.013
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005	BH5.1 SOIL - 14/8/2023 SE252329.007
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 18/8/2023 (continued)

PARAMETER	UOM	LOR	BH6.1 SOIL - 14/8/2023 SE252329.008	BH7.1 SOIL - 14/8/2023 SE252329.010	BH8.1 SOIL - 14/8/2023 SE252329.011
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH2.2 SOIL - 14/8/2023 SE252329.003	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005
Arsenic, As	mg/kg	1	3	3	6	5	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	16	7.2	13	9.8	11
Copper, Cu	mg/kg	0.5	10	8.2	8.7	8.8	4.3
Lead, Pb	mg/kg	1	9	14	11	12	12
Nickel, Ni	mg/kg	0.5	14	2.4	2.4	2.9	5.6
Zinc, Zn	mg/kg	2	25	19	19	20	11

PARAMETER	UOM	LOR	BH4.2 SOIL - 14/8/2023 SE252329.006	BH5.1 SOIL - 14/8/2023 SE252329.007	BH6.1 SOIL - 14/8/2023 SE252329.008	BH6.2 SOIL - 14/8/2023 SE252329.009	BH7.1 SOIL - 14/8/2023 SE252329.010
Arsenic, As	mg/kg	1	5	4	3	2	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	17	8.1	6.8	10
Copper, Cu	mg/kg	0.5	6.2	6.0	1.8	5.5	6.1
Lead, Pb	mg/kg	1	10	14	9	6	10
Nickel, Ni	mg/kg	0.5	2.1	4.5	2.2	3.4	2.1
Zinc, Zn	mg/kg	2	8.3	110	4.4	9.2	9.3

PARAMETER	UOM	LOR	BH8.1 SOIL - 14/8/2023 SE252329.011	BH8.2 SOIL - 14/8/2023 SE252329.012	D1 SOIL - 14/8/2023 SE252329.013
Arsenic, As	mg/kg	1	3	7	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	11	6.1
Copper, Cu	mg/kg	0.5	5.1	12	9.5
Lead, Pb	mg/kg	1	7	14	10
Nickel, Ni	mg/kg	0.5	4.2	2.2	3.1
Zinc, Zn	mg/kg	2	7.9	13	16

Mercury in Soil [AN312] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH2.2 SOIL - 14/8/2023 SE252329.003	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH4.2 SOIL - 14/8/2023 SE252329.006	BH5.1 SOIL - 14/8/2023 SE252329.007	BH6.1 SOIL - 14/8/2023 SE252329.008	BH6.2 SOIL - 14/8/2023 SE252329.009	BH7.1 SOIL - 14/8/2023 SE252329.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH8.1 SOIL - 14/8/2023 SE252329.011	BH8.2 SOIL - 14/8/2023 SE252329.012	D1 SOIL - 14/8/2023 SE252329.013
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH2.2 SOIL - 14/8/2023 SE252329.003	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005
% Moisture	%w/w	1	16.6	14.9	18.0	15.0	15.9

PARAMETER	UOM	LOR	BH4.2 SOIL - 14/8/2023 SE252329.006	BH5.1 SOIL - 14/8/2023 SE252329.007	BH6.1 SOIL - 14/8/2023 SE252329.008	BH6.2 SOIL - 14/8/2023 SE252329.009	BH7.1 SOIL - 14/8/2023 SE252329.010
% Moisture	%w/w	1	16.5	15.4	14.7	16.6	18.4

PARAMETER	UOM	LOR	BH8.1 SOIL - 14/8/2023 SE252329.011	BH8.2 SOIL - 14/8/2023 SE252329.012	D1 SOIL - 14/8/2023 SE252329.013	Trip Blank SOIL - 14/8/2023 SE252329.015
% Moisture	%w/w	1	17.1	17.3	18.3	<1.0

Fibre Identification in soil [AS4964/AN602] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005	BH5.1 SOIL - 14/8/2023 SE252329.007
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH6.1 SOIL - 14/8/2023 SE252329.008	BH7.1 SOIL - 14/8/2023 SE252329.010	BH8.1 SOIL - 14/8/2023 SE252329.011
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005	BH5.1 SOIL - 14/8/2023 SE252329.007
Total Sample Weight*	g	1	**691**	**625**	**721**	**632**	**589**
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	BH6.1 SOIL - 14/8/2023 SE252329.008	BH7.1 SOIL - 14/8/2023 SE252329.010	BH8.1 SOIL - 14/8/2023 SE252329.011
Total Sample Weight*	g	1	**611**	**607**	**656**
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid , mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser . Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting .
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS /ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

AN605	This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.
AN605	Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition. Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.
AN-605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		
***	Indicates that both * and ** apply.				

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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STATEMENT OF QA/QC PERFORMANCE

SE252329 R0

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N09825**
Order Number	**N09825**
Samples	15

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE252329 R0**
Date Received	15 Aug 2023
Date Reported	22 Aug 2023

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Surrogate	VOC's in Soil	2 items
	Volatile Petroleum Hydrocarbons in Soil	2 items
Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
Matrix Spike	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
	TRH (Total Recoverable Hydrocarbons) in Soil	3 items

SAMPLE SUMMARY

Sample counts by matrix	15 Soil	Type of documentation received	COC
Date documentation received	15/8/2023	Samples received in good order	Yes
Samples received without headspace	N/A	Sample temperature upon receipt	8.1°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE252329 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Fibre Identification in soil

Method: ME-(AU)-[ENV]AS4964/AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288448	14 Aug 2023	15 Aug 2023	13 Aug 2024	18 Aug 2023	13 Aug 2024	22 Aug 2023
BH2.1	SE252329.002	LB288448	14 Aug 2023	15 Aug 2023	13 Aug 2024	18 Aug 2023	13 Aug 2024	22 Aug 2023
BH3.1	SE252329.004	LB288448	14 Aug 2023	15 Aug 2023	13 Aug 2024	18 Aug 2023	13 Aug 2024	22 Aug 2023
BH4.1	SE252329.005	LB288448	14 Aug 2023	15 Aug 2023	13 Aug 2024	18 Aug 2023	13 Aug 2024	22 Aug 2023
BH5.1	SE252329.007	LB288448	14 Aug 2023	15 Aug 2023	13 Aug 2024	18 Aug 2023	13 Aug 2024	22 Aug 2023
BH6.1	SE252329.008	LB288448	14 Aug 2023	15 Aug 2023	13 Aug 2024	18 Aug 2023	13 Aug 2024	22 Aug 2023
BH7.1	SE252329.010	LB288448	14 Aug 2023	15 Aug 2023	13 Aug 2024	18 Aug 2023	13 Aug 2024	22 Aug 2023
BH8.1	SE252329.011	LB288448	14 Aug 2023	15 Aug 2023	13 Aug 2024	18 Aug 2023	13 Aug 2024	22 Aug 2023

Gravimetric Determination of Asbestos in Soil

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288448	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH2.1	SE252329.002	LB288448	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH3.1	SE252329.004	LB288448	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH4.1	SE252329.005	LB288448	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH5.1	SE252329.007	LB288448	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH6.1	SE252329.008	LB288448	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH7.1	SE252329.010	LB288448	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH8.1	SE252329.011	LB288448	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH2.1	SE252329.002	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH2.2	SE252329.003	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH3.1	SE252329.004	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH4.1	SE252329.005	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH4.2	SE252329.006	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH5.1	SE252329.007	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH6.1	SE252329.008	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH6.2	SE252329.009	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH7.1	SE252329.010	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH8.1	SE252329.011	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
BH8.2	SE252329.012	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023
D1	SE252329.013	LB288469	14 Aug 2023	15 Aug 2023	11 Sep 2023	18 Aug 2023	11 Sep 2023	22 Aug 2023

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH2.1	SE252329.002	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH2.2	SE252329.003	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH3.1	SE252329.004	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH4.1	SE252329.005	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH4.2	SE252329.006	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH5.1	SE252329.007	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH6.1	SE252329.008	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH6.2	SE252329.009	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH7.1	SE252329.010	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH8.1	SE252329.011	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
BH8.2	SE252329.012	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
D1	SE252329.013	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023
Trip Blank	SE252329.015	LB288467	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	23 Aug 2023	22 Aug 2023

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH2.1	SE252329.002	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH2.2	SE252329.003	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH3.1	SE252329.004	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH4.1	SE252329.005	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH4.2	SE252329.006	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH5.1	SE252329.007	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023

HOLDING TIME SUMMARY

SE252329 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6.1	SE252329.008	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH6.2	SE252329.009	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH7.1	SE252329.010	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH8.1	SE252329.011	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH8.2	SE252329.012	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
D1	SE252329.013	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH2.1	SE252329.002	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH2.2	SE252329.003	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH3.1	SE252329.004	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH4.1	SE252329.005	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH4.2	SE252329.006	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH5.1	SE252329.007	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH6.1	SE252329.008	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH6.2	SE252329.009	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH7.1	SE252329.010	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH8.1	SE252329.011	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH8.2	SE252329.012	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
D1	SE252329.013	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH2.1	SE252329.002	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH2.2	SE252329.003	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH3.1	SE252329.004	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH4.1	SE252329.005	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH4.2	SE252329.006	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH5.1	SE252329.007	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH6.1	SE252329.008	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH6.2	SE252329.009	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH7.1	SE252329.010	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH8.1	SE252329.011	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
BH8.2	SE252329.012	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023
D1	SE252329.013	LB288468	14 Aug 2023	15 Aug 2023	10 Feb 2024	18 Aug 2023	10 Feb 2024	22 Aug 2023

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH2.1	SE252329.002	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH2.2	SE252329.003	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH3.1	SE252329.004	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH4.1	SE252329.005	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH4.2	SE252329.006	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH5.1	SE252329.007	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH6.1	SE252329.008	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH6.2	SE252329.009	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH7.1	SE252329.010	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH8.1	SE252329.011	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
BH8.2	SE252329.012	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023
D1	SE252329.013	LB288453	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	27 Sep 2023	22 Aug 2023

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH2.1	SE252329.002	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH2.2	SE252329.003	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH3.1	SE252329.004	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH4.1	SE252329.005	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023

HOLDING TIME SUMMARY

SE252329 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH4.2	SE252329.006	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH5.1	SE252329.007	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH6.1	SE252329.008	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH6.2	SE252329.009	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH7.1	SE252329.010	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH8.1	SE252329.011	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH8.2	SE252329.012	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
D1	SE252329.013	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
Trip Spike	SE252329.014	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
Trip Blank	SE252329.015	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE252329.001	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH2.1	SE252329.002	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH2.2	SE252329.003	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH3.1	SE252329.004	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH4.1	SE252329.005	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH4.2	SE252329.006	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH5.1	SE252329.007	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH6.1	SE252329.008	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH6.2	SE252329.009	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH7.1	SE252329.010	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH8.1	SE252329.011	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
BH8.2	SE252329.012	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
D1	SE252329.013	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
Trip Spike	SE252329.014	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023
Trip Blank	SE252329.015	LB288466	14 Aug 2023	15 Aug 2023	28 Aug 2023	18 Aug 2023	28 Aug 2023	22 Aug 2023

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH1.1	SE252329.001	%	60 - 130%	120
	BH2.1	SE252329.002	%	60 - 130%	115
	BH3.1	SE252329.004	%	60 - 130%	117
	BH4.1	SE252329.005	%	60 - 130%	120
	BH5.1	SE252329.007	%	60 - 130%	116
	BH6.1	SE252329.008	%	60 - 130%	115
	BH7.1	SE252329.010	%	60 - 130%	115
	BH8.1	SE252329.011	%	60 - 130%	119

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1.1	SE252329.001	%	70 - 130%	96
	BH2.1	SE252329.002	%	70 - 130%	98
	BH2.2	SE252329.003	%	70 - 130%	88
	BH3.1	SE252329.004	%	70 - 130%	96
	BH4.1	SE252329.005	%	70 - 130%	97
	BH4.2	SE252329.006	%	70 - 130%	90
	BH5.1	SE252329.007	%	70 - 130%	100
	BH6.1	SE252329.008	%	70 - 130%	101
	BH6.2	SE252329.009	%	70 - 130%	101
	BH7.1	SE252329.010	%	70 - 130%	98
	BH8.1	SE252329.011	%	70 - 130%	98
	BH8.2	SE252329.012	%	70 - 130%	89
	D1	SE252329.013	%	70 - 130%	99
d14-p-terphenyl (Surrogate)	BH1.1	SE252329.001	%	70 - 130%	101
	BH2.1	SE252329.002	%	70 - 130%	108
	BH2.2	SE252329.003	%	70 - 130%	106
	BH3.1	SE252329.004	%	70 - 130%	108
	BH4.1	SE252329.005	%	70 - 130%	106
	BH4.2	SE252329.006	%	70 - 130%	106
	BH5.1	SE252329.007	%	70 - 130%	107
	BH6.1	SE252329.008	%	70 - 130%	107
	BH6.2	SE252329.009	%	70 - 130%	109
	BH7.1	SE252329.010	%	70 - 130%	111
	BH8.1	SE252329.011	%	70 - 130%	105
	BH8.2	SE252329.012	%	70 - 130%	106
	D1	SE252329.013	%	70 - 130%	105
d5-nitrobenzene (Surrogate)	BH1.1	SE252329.001	%	70 - 130%	99
	BH2.1	SE252329.002	%	70 - 130%	103
	BH2.2	SE252329.003	%	70 - 130%	95
	BH3.1	SE252329.004	%	70 - 130%	99
	BH4.1	SE252329.005	%	70 - 130%	98
	BH4.2	SE252329.006	%	70 - 130%	92
	BH5.1	SE252329.007	%	70 - 130%	98
	BH6.1	SE252329.008	%	70 - 130%	97
	BH6.2	SE252329.009	%	70 - 130%	100
	BH7.1	SE252329.010	%	70 - 130%	97
	BH8.1	SE252329.011	%	70 - 130%	100
	BH8.2	SE252329.012	%	70 - 130%	90
	D1	SE252329.013	%	70 - 130%	101

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1.1	SE252329.001	%	60 - 130%	94
	BH2.1	SE252329.002	%	60 - 130%	82
	BH2.2	SE252329.003	%	60 - 130%	84
	BH3.1	SE252329.004	%	60 - 130%	79
	BH4.1	SE252329.005	%	60 - 130%	102
	BH4.2	SE252329.006	%	60 - 130%	85
	BH5.1	SE252329.007	%	60 - 130%	78
	BH6.1	SE252329.008	%	60 - 130%	76
	BH6.2	SE252329.009	%	60 - 130%	82

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH7.1	SE252329.010	%	60 - 130%	77
	BH8.1	SE252329.011	%	60 - 130%	94
	BH8.2	SE252329.012	%	60 - 130%	63
	D1	SE252329.013	%	60 - 130%	76
	Trip Spike	SE252329.014	%	60 - 130%	97
	Trip Blank	SE252329.015	%	60 - 130%	100
d4-1,2-dichloroethane (Surrogate)	BH1.1	SE252329.001	%	60 - 130%	69
	BH2.1	SE252329.002	%	60 - 130%	74
	BH2.2	SE252329.003	%	60 - 130%	74
	BH3.1	SE252329.004	%	60 - 130%	69
	BH4.1	SE252329.005	%	60 - 130%	104
	BH4.2	SE252329.006	%	60 - 130%	73
	BH5.1	SE252329.007	%	60 - 130%	73
	BH6.1	SE252329.008	%	60 - 130%	70
	BH6.2	SE252329.009	%	60 - 130%	75
	BH7.1	SE252329.010	%	60 - 130%	72
	BH8.1	SE252329.011	%	60 - 130%	66
	BH8.2	SE252329.012	%	60 - 130%	72
	D1	SE252329.013	%	60 - 130%	70
	Trip Spike	SE252329.014	%	60 - 130%	82
	Trip Blank	SE252329.015	%	60 - 130%	76
d8-toluene (Surrogate)	BH1.1	SE252329.001	%	60 - 130%	76
	BH2.1	SE252329.002	%	60 - 130%	65
	BH2.2	SE252329.003	%	60 - 130%	60
	BH3.1	SE252329.004	%	60 - 130%	74
	BH4.1	SE252329.005	%	60 - 130%	105
	BH4.2	SE252329.006	%	60 - 130%	63
	BH5.1	SE252329.007	%	60 - 130%	62
	BH6.1	SE252329.008	%	60 - 130%	59 ①
	BH6.2	SE252329.009	%	60 - 130%	65
	BH7.1	SE252329.010	%	60 - 130%	62
	BH8.1	SE252329.011	%	60 - 130%	78
	BH8.2	SE252329.012	%	60 - 130%	81
	D1	SE252329.013	%	60 - 130%	58 ①
	Trip Spike	SE252329.014	%	60 - 130%	73
	Trip Blank	SE252329.015	%	60 - 130%	87

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1.1	SE252329.001	%	60 - 130%	94
	BH2.1	SE252329.002	%	60 - 130%	82
	BH2.2	SE252329.003	%	60 - 130%	84
	BH3.1	SE252329.004	%	60 - 130%	79
	BH4.1	SE252329.005	%	60 - 130%	102
	BH4.2	SE252329.006	%	60 - 130%	85
	BH5.1	SE252329.007	%	60 - 130%	78
	BH6.1	SE252329.008	%	60 - 130%	76
	BH6.2	SE252329.009	%	60 - 130%	82
	BH7.1	SE252329.010	%	60 - 130%	77
	BH8.1	SE252329.011	%	60 - 130%	94
	BH8.2	SE252329.012	%	60 - 130%	63
	D1	SE252329.013	%	60 - 130%	76
d4-1,2-dichloroethane (Surrogate)	BH1.1	SE252329.001	%	60 - 130%	69
	BH2.1	SE252329.002	%	60 - 130%	74
	BH2.2	SE252329.003	%	60 - 130%	74
	BH3.1	SE252329.004	%	60 - 130%	69
	BH4.1	SE252329.005	%	60 - 130%	104
	BH4.2	SE252329.006	%	60 - 130%	73
	BH5.1	SE252329.007	%	60 - 130%	73
	BH6.1	SE252329.008	%	60 - 130%	70
	BH6.2	SE252329.009	%	60 - 130%	75

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued) — **Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	BH7.1	SE252329.010	%	60 - 130%	72
	BH8.1	SE252329.011	%	60 - 130%	66
	BH8.2	SE252329.012	%	60 - 130%	72
	D1	SE252329.013	%	60 - 130%	70
d8-toluene (Surrogate)	BH1.1	SE252329.001	%	60 - 130%	76
	BH2.1	SE252329.002	%	60 - 130%	65
	BH2.2	SE252329.003	%	60 - 130%	60
	BH3.1	SE252329.004	%	60 - 130%	74
	BH4.1	SE252329.005	%	60 - 130%	105
	BH4.2	SE252329.006	%	60 - 130%	63
	BH5.1	SE252329.007	%	60 - 130%	62
	BH6.1	SE252329.008	%	60 - 130%	59 ①
	BH6.2	SE252329.009	%	60 - 130%	65
	BH7.1	SE252329.010	%	60 - 130%	62
	BH8.1	SE252329.011	%	60 - 130%	78
	BH8.2	SE252329.012	%	60 - 130%	81
	D1	SE252329.013	%	60 - 130%	58 ①

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB288469.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB288453.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	103

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB288453.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	112
		2-fluorobiphenyl (Surrogate)	%	-	109
		d14-p-terphenyl (Surrogate)	%	-	115

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB288468.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB288468.001	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB288453.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB288466.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Iodomethane	mg/kg	5	<5
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		o-xylene	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB288466.001	Monocyclic Aromatic Hydrocarbons	n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate*	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	82
		d8-toluene (Surrogate)	%	-	93
		Bromofluorobenzene (Surrogate)	%	-	105
	Totals	Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8
		Total BTEX*	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform (THM)	mg/kg	0.1	<0.1
		Bromodichloromethane (THM)	mg/kg	0.1	<0.1
		Dibromochloromethane (THM)	mg/kg	0.1	<0.1
		Bromoform (THM)	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB288466.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	82

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR
Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252329.010	LB288469.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252329.010	LB288467.011	% Moisture	%w/w	1	18.4	16.9	36	8
SE252361.026	LB288467.022	% Moisture	%w/w	1	12.6	12.5	38	1

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252329.010	LB288453.014		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.17	30	0
SE252361.027	LB288453.025		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR
Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252361.027	LB288453.025		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.18	0.19	30	3

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252329.010	LB288453.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	9
SE252361.027	LB288453.025		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	0.2	<0.1	136	40
			Pyrene	mg/kg	0.1	0.1	<0.1	138	37
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	98	99 ②

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR
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NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252361.027	LB288453.025	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	3
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252329.010	LB288468.014		Arsenic, As	mg/kg	1	4	4	57	2
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.5	10	9.8	35	6
			Copper, Cu	mg/kg	0.5	6.1	6.2	38	2
			Nickel, Ni	mg/kg	0.5	2.1	2.0	55	5
			Lead, Pb	mg/kg	1	10	9	41	3
			Zinc, Zn	mg/kg	2	9.3	8.3	53	11

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252329.010	LB288453.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252329.010	LB288466.015	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0

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Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

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NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

VOC's in Soil (continued) — **Method: ME-(AU)-[ENV]AN433**

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252329.010	LB288466.015	Halogenated	Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate*	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.2	7.4	50	3
			d8-toluene (Surrogate)	mg/kg	-	6.2	6.2	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.7	8.0	50	4
		Totals	Total Other Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200	0
			Total Chlorinated Hydrocarbons VIC EPA*	mg/kg	1.8	<1.8	<1.8	200	0
			Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Volatile Chlorinated Hydrocarbons*	mg/kg	3	<3.0	<3.0	200	0
			Total VOC*	mg/kg	24	<24	<24	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
		Trihalomethan	Chloroform (THM)	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromodichloromethane (THM)	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromochloromethane (THM)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform (THM)	mg/kg	0.1	<0.1	<0.1	200	0
SE252361.025	LB288466.027	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.3	7.2	50	2
			d8-toluene (Surrogate)	mg/kg	-	7.9	7.7	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	6.0	50	44
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE252361.027	LB288466.036	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR
Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252361.027	LB288466.036	Monocyclic	o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.8	7.2	50	5
			d8-toluene (Surrogate)	mg/kg	-	7.8	8.4	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	7.2	50	15
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE252329.010	LB288466.015		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.2	7.4	50	3
			d8-toluene (Surrogate)	mg/kg	-	6.2	6.2	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.7	8.0	50	4
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE252361.025	LB288466.027		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.3	7.2	50	2
			d8-toluene (Surrogate)	mg/kg	-	7.9	7.7	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	6.0	50	44
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE252361.027	LB288466.036		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.8	7.2	50	5
			d8-toluene (Surrogate)	mg/kg	-	7.8	8.4	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.3	7.2	50	15
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB288469.002	Mercury	mg/kg	0.05	0.21	0.2	80 - 120	105

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB288453.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	89
		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	100
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	97
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	96
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	102
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	93
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.15	40 - 130	111

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB288453.002		Naphthalene	mg/kg	0.1	3.9	4	60 - 140	96
		Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	100
		Acenaphthene	mg/kg	0.1	4.2	4	60 - 140	104
		Phenanthrene	mg/kg	0.1	4.1	4	60 - 140	103
		Anthracene	mg/kg	0.1	4.1	4	60 - 140	103
		Fluoranthene	mg/kg	0.1	4.0	4	60 - 140	99
		Pyrene	mg/kg	0.1	4.3	4	60 - 140	107
		Benzo(a)pyrene	mg/kg	0.1	4.1	4	60 - 140	101
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	99
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	108

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB288468.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	110
	Cadmium, Cd	mg/kg	0.3	4.2	4.81	70 - 130	88
	Chromium, Cr	mg/kg	0.5	44	38.31	80 - 120	114
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	111
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	102
	Lead, Pb	mg/kg	1	94	89.9	80 - 120	105
	Zinc, Zn	mg/kg	2	300	273	80 - 120	111

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB288453.002		TRH C10-C14	mg/kg	20	42	40	60 - 140	106
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	101
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	94
	TRH F Bands	TRH >C10-C16	mg/kg	25	43	40	60 - 140	108
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	94
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	95

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB288466.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	3.3	5	60 - 140	66
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	3.1	5	60 - 140	63
		Trichloroethene (Trichloroethylene,TCE)	mg/kg	0.1	5.3	5	60 - 140	106
	Halogenated	Chlorobenzene	mg/kg	0.1	4.9	5	60 - 140	99
	Monocyclic	Benzene	mg/kg	0.1	4.5	5	60 - 140	90
	Aromatic	Toluene	mg/kg	0.1	5.2	5	60 - 140	104
		Ethylbenzene	mg/kg	0.1	5.4	5	60 - 140	108
		m/p-xylene	mg/kg	0.2	11	10	60 - 140	112
		o-xylene	mg/kg	0.1	5.7	5	60 - 140	114
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.5	10	70 - 130	95
		d8-toluene (Surrogate)	mg/kg	-	8.7	10	70 - 130	87
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	10	70 - 130	103
	Trihalomethan	Chloroform (THM)	mg/kg	0.1	3.6	5	60 - 140	72

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB288466.002		TRH C6-C10	mg/kg	25	99	92.5	60 - 140	107
		TRH C6-C9	mg/kg	20	86	80	60 - 140	108
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.5	10	70 - 130	95
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.3	10	70 - 130	103
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	67	62.5	60 - 140	107

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE252329.001	LB288469.004	Mercury	mg/kg	0.05	0.20	<0.05	0.2	91

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE252329.001	LB288453.004	Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	100
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	110
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	105
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	102
		Endrin	mg/kg	0.2	0.2	<0.2	0.2	110
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	100
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Total OC VIC EPA	mg/kg	1	1	<1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.18	0.18	-	122

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE252329.001	LB288453.004	Naphthalene	mg/kg	0.1	4.6	<0.1	4	114
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.8	<0.1	4	120
		Acenaphthene	mg/kg	0.1	4.9	<0.1	4	122
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	5.8	0.6	4	129
		Anthracene	mg/kg	0.1	5.2	0.2	4	124
		Fluoranthene	mg/kg	0.1	6.6	1.1	4	139
		Pyrene	mg/kg	0.1	6.9	1.0	4	147 ⑨
		Benzo(a)anthracene	mg/kg	0.1	1.0	0.5	-	-
		Chrysene	mg/kg	0.1	1.0	0.5	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	1.1	0.6	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	0.5	0.3	-	-
		Benzo(a)pyrene	mg/kg	0.1	5.8	0.6	4	131
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.7	0.4	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	0.6	0.4	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	6.3	0.8	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	6.3	0.8	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	6.3	0.9	-	-
		Total PAH (18)	mg/kg	0.8	50	6.2	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE252329.001	LB288453.004	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	97
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	97
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	103

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE252329.001	LB288468.004		Arsenic, As	mg/kg	1	53	3	50	101
			Cadmium, Cd	mg/kg	0.3	43	<0.3	50	86
			Chromium, Cr	mg/kg	0.5	56	16	50	80
			Copper, Cu	mg/kg	0.5	63	10	50	106
			Nickel, Ni	mg/kg	0.5	49	14	50	70
			Lead, Pb	mg/kg	1	55	9	50	91
			Zinc, Zn	mg/kg	2	90	25	50	129

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE252329.001	LB288453.004		TRH C10-C14	mg/kg	20	50	<20	40	113
			TRH C15-C28	mg/kg	45	110	<45	40	230 ⑨
			TRH C29-C36	mg/kg	45	91	<45	40	201 ⑨
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	250	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	53	<25	40	122
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	53	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	140	<90	40	280 ⑨
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE252329.001	LB288466.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.8	<0.1	5	97
			Toluene	mg/kg	0.1	5.4	<0.1	5	108
			Ethylbenzene	mg/kg	0.1	5.1	<0.1	5	101
			m/p-xylene	mg/kg	0.2	11	<0.2	10	105
			o-xylene	mg/kg	0.1	5.3	<0.1	5	106
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.7	6.9	10	77
			d8-toluene (Surrogate)	mg/kg	-	8.7	7.6	10	87
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.4	10	87
		Totals	Total BTEX*	mg/kg	0.6	31	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	16	<0.3	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE252329.001	LB288466.005		TRH C6-C10	mg/kg	25	81	<25	92.5	88
			TRH C6-C9	mg/kg	20	72	<20	80	90
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.7	6.9	10	77
			d8-toluene (Surrogate)	mg/kg	-	8.7	7.6	10	87
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	9.4	-	87
		VPH F Bands	Benzene (F0)	mg/kg	0.1	4.8	<0.1	-	-
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	50	<25	62.5	80

MATRIX SPIKE DUPLICATES

SE252329 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

QC Sample	Sample Number	Parameter	Units	LOR

id samples expressed on a dry weight basis.

criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found he
ps://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service .
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N09825**
Order Number	**N09825**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE252329 R0**
Date Received	15 Aug 2023
Date Reported	22 Aug 2023

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
Asbestos analysed by Approved Identifier Ravee Sivasubramaniam .

SIGNATORIES

S. Ravee

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE252329.001	BH1.1	Soil	691g Clay, Sand, Rocks	14 Aug 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE252329.002	BH2.1	Soil	625g Clay, Sand, Rocks	14 Aug 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE252329.004	BH3.1	Soil	722g Clay, Sand, Rocks	14 Aug 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE252329.005	BH4.1	Soil	632g Clay, Sand, Rocks	14 Aug 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE252329.007	BH5.1	Soil	590g Clay, Sand, Rocks	14 Aug 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE252329.008	BH6.1	Soil	611g Clay, Sand, Rocks	14 Aug 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE252329.010	BH7.1	Soil	607g Clay, Rocks	14 Aug 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE252329.011	BH8.1	Soil	656g Clay, Rocks	14 Aug 2023	No Asbestos Found at RL of 0.1g/kg	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 18/8/2023

PARAMETER	UOM	LOR	BH1.1 SOIL - 14/8/2023 SE252329.001	BH2.1 SOIL - 14/8/2023 SE252329.002	BH3.1 SOIL - 14/8/2023 SE252329.004	BH4.1 SOIL - 14/8/2023 SE252329.005	BH5.1 SOIL - 14/8/2023 SE252329.007
Total Sample Weight*	g	1	**691**	**625**	**721**	**632**	**589**
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD	NAD	NAD

PARAMETER	UOM	LOR	BH6.1 SOIL - 14/8/2023 SE252329.008	BH7.1 SOIL - 14/8/2023 SE252329.010	BH8.1 SOIL - 14/8/2023 SE252329.011
Total Sample Weight*	g	1	**611**	**607**	**656**
Bonded ACM in >7mm Sample*	g	0.001	<0.001	<0.001	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	NAD	NAD	NAD

METHOD	METHODOLOGY SUMMARY
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Bonded Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight. Any fibrous asbestos (FA) found in this fraction will be added to the 2-7mm fraction and its mass recorded there.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free/respirable fibres which are only observed by standard trace analysis as per AN602.
AN605	Bonded asbestos containing material (Bonded ACM) comprises asbestos-containing-material which is sound in condition. Fibrous asbestos (FA) comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. Asbestos fines (AF) includes free fibres, small fibre bundles and also small fragments of bonded ACM that passes through a 7mm sieve - which implies that the bonded ACM fragments have a substantial degree of damage which increases the potential for fibre release.
AN-605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 and NEPM 1999 (2013) schedule B1 section 4..

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service.
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services Sydney
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Lab ID Number: *(please quote on correspondence)*

E-MAILED
15/8/23 @ 10:38 am

Company Name:	Neo Consulting Pty Ltd	Project Name/No:	N09825
Address:	186 Riverstone Parade	Purchase Order No:	**QUOTE NUMER: 322722v4**
	Riverstone NSW 2765	Results Required Date:	Next Day/3 days/Standard
		Telephone:	0416680375 Fax:
Contact Name:	Nick Caltabiano	Email Results and invoices to :	nick@neoconsulting, admin@neoconsulting, oskar@neoconsulting, sarah@neoconsulting, eshan@neoconsulting
Quotation No:			

SGS ID	Client Sample ID	Sampling Date/ Time	Matrix (Tick as appropriate) Soil Sample	Water Sample	Other_Cartridge_	NO. OF CONTAINERS	ANALYSIS REQUESTED RESF	CIDN
1	BH1.1	14/08/2023	x			2	X	
2	BH2.1	14/08/2023	x			2	X	
3	BH2.2	14/08/2023	x			1		X
4	BH3.1	14/08/2023	x			2	X	
5	BH4.1	14/08/2023	x			2	X	
6	BH4.2	14/08/2023	x			1		X
7	BH5.1	14/08/2023	x			2	X	
8	BH6.1	14/08/2023	x			2	X	
9	BH6.2	14/08/2023	x			1		X
10	BH7.1	14/08/2023	x			2	X	
11	BH8.1	14/08/2023	x			2	X	
12	BH8.2	14/08/2023	x			1		X

Additional Report Formats

- ☐ NEPM
- ☐ CSV
- ☐ ESDAT
- ☐ DQO
- ☐ GO, Guidelines ---------
- ☐ Others _____

Notes/Guidelines/LOR/ Special instructions

SGS EHS Sydney COC
SE252329

Relinquished By: Ehsan Zare	Date/Time: **14/08/2023**	Received By:	Date/Time: 15.8.23 11:30
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: (Yes) / No	Temperature: 8.1 °C	Sample Security Sealed: *Yes / No*	Hazards: *e.g. may contain Asbestos*
Comments / Subcontracting details:			

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services Sydney
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Lab ID Number: *(please quote on correspondence)*

Company Name:	Neo Consulting Pty Ltd	Project Name/No:	N09825
Address:	186 Riverstone Parade	Purchase Order No:	**QUOTE NUMER: 322722v4**
	Riverstone NSW 2765	Results Required Date:	Next Day/3 days/Standard
		Telephone:	0416680375 Fax:
Contact Name:	Nick Caltabiano	Email Results and invoices to :	nick@neoconsulting, admin@neoconsulting, oskar@neoconsulting, sarah@neoconsulting, eshan@neoconsulting
Quotation No:			

SGS ID	Client Sample ID	Sampling Date/ Time	Matrix (Tick as appropriate) Soil Sample	Water Sample	Other_Cartridge__	NO. OF CONTAINERS	ANALYSIS REQUESTED RESF	BTEX	CIDN									Additional Report Formats / Notes/Guidelines/LOR/ Special instructions
13	D1	14/08/2023	x			1			X									
14	Trip Spike	14/08/2023	x			1		x										
15	Trip Blank	14/08/2023	x			1		x										

Additional Report Formats:
- ☐ NEPM
- ☐ CSV
- ☐ ESDAT
- ☐ DQO
- ☐ GO, Guidelines ---------
- ☐ Others _____

Relinquished By: Ehsan Zare	Date/Time: **14/08/2023**	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: *Yes / No*	Temperature: 8-1 °C	Sample Security Sealed: *Yes / No*	Hazards: *e.g. may contain Asbestos*
Comments / Subcontracting details:			

SAMPLE RECEIPT ADVICE

SE252329

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N09825**
Order Number	**N09825**
Samples	15

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Tue 15/8/2023
Report Due	Tue 22/8/2023
SGS Reference	**SE252329**

SUBMISSION DETAILS

This is to confirm that 15 samples were received on Tuesday 15/8/2023. Results are expected to be ready by COB Tuesday 22/8/2023. Please quote SGS reference SE252329 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	15 Soil	Type of documentation received	COC
Date documentation received	15/8/2023	Samples received in good order	Yes
Samples received without headspace	N/A	Sample temperature upon receipt	8.1°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

BH1.2, BH3.2 and BH7.2 Extra samples received

SAMPLE RECEIPT ADVICE

SE252329

CLIENT DETAILS

Client NEO CONSULTING PTY LTD

Project N09825

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH1.1	1	30	26	7	10	79	7
002	BH2.1	1	30	26	7	10	79	7
003	BH2.2	1	-	26	7	10	11	7
004	BH3.1	1	30	26	7	10	79	7
005	BH4.1	1	30	26	7	10	79	7
006	BH4.2	1	-	26	7	10	11	7
007	BH5.1	1	30	26	7	10	79	7
008	BH6.1	1	30	26	7	10	79	7
009	BH6.2	1	-	26	7	10	11	7
010	BH7.1	1	30	26	7	10	79	7
011	BH8.1	1	30	26	7	10	79	7
012	BH8.2	1	-	26	7	10	11	7
013	D1	1	-	26	7	10	11	7
014	Trip Spike	-	-	-	-	-	11	-
015	Trip Blank	-	-	-	-	-	11	-

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE252329

CLIENT DETAILS

Client NEO CONSULTING PTY LTD

Project N09825

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Moisture Content
001	BH1.1	2	9	1
002	BH2.1	2	9	1
003	BH2.2	-	-	1
004	BH3.1	2	9	1
005	BH4.1	2	9	1
006	BH4.2	-	-	1
007	BH5.1	2	9	1
008	BH6.1	2	9	1
009	BH6.2	-	-	1
010	BH7.1	2	9	1
011	BH8.1	2	9	1
012	BH8.2	-	-	1
013	D1	-	-	1
015	Trip Blank	-	-	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N09263**
Order Number	**N09263**
Samples	9

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE264745 R0**
Date Received	6/5/2024
Date Reported	13/5/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Industries and Environment recommends supplying approximately 50-100g of sample in a separate container.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Chemist

Dong LIANG
Metals/Inorganics Team Leader

Huong CRAWFORD
Production Manager

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

Teresa NGUYEN
Organic Chemist

VOC's in Soil [AN433] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH9.2 SOIL - 3/5/2024 SE264745.002	BH10.1 SOIL - 3/5/2024 SE264745.003	BH10.2 SOIL - 3/5/2024 SE264745.004	BH11.1 SOIL - 3/5/2024 SE264745.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	BH11.2 SOIL - 3/5/2024 SE264745.006	BH12.1 SOIL - 3/5/2024 SE264745.007	BH12.2 SOIL - 3/5/2024 SE264745.008	D1 SOIL - 3/5/2024 SE264745.009
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH9.2 SOIL - 3/5/2024 SE264745.002	BH10.1 SOIL - 3/5/2024 SE264745.003	BH10.2 SOIL - 3/5/2024 SE264745.004	BH11.1 SOIL - 3/5/2024 SE264745.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH11.2 SOIL - 3/5/2024 SE264745.006	BH12.1 SOIL - 3/5/2024 SE264745.007	BH12.2 SOIL - 3/5/2024 SE264745.008	D1 SOIL - 3/5/2024 SE264745.009
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH9.2 SOIL - 3/5/2024 SE264745.002	BH10.1 SOIL - 3/5/2024 SE264745.003	BH10.2 SOIL - 3/5/2024 SE264745.004	BH11.1 SOIL - 3/5/2024 SE264745.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH11.2 SOIL - 3/5/2024 SE264745.006	BH12.1 SOIL - 3/5/2024 SE264745.007	BH12.2 SOIL - 3/5/2024 SE264745.008	D1 SOIL - 3/5/2024 SE264745.009
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	**79**	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH9.2 SOIL - 3/5/2024 SE264745.002	BH10.1 SOIL - 3/5/2024 SE264745.003	BH10.2 SOIL - 3/5/2024 SE264745.004	BH11.1 SOIL - 3/5/2024 SE264745.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	**0.1**	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH11.2 SOIL - 3/5/2024 SE264745.006	BH12.1 SOIL - 3/5/2024 SE264745.007	BH12.2 SOIL - 3/5/2024 SE264745.008	D1 SOIL - 3/5/2024 SE264745.009
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH10.1 SOIL - 3/5/2024 SE264745.003	BH11.1 SOIL - 3/5/2024 SE264745.005	BH12.1 SOIL - 3/5/2024 SE264745.007
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH10.1 SOIL - 3/5/2024 SE264745.003	BH11.1 SOIL - 3/5/2024 SE264745.005	BH12.1 SOIL - 3/5/2024 SE264745.007
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH10.1 SOIL - 3/5/2024 SE264745.003	BH11.1 SOIL - 3/5/2024 SE264745.005	BH12.1 SOIL - 3/5/2024 SE264745.007
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH9.2 SOIL - 3/5/2024 SE264745.002	BH10.1 SOIL - 3/5/2024 SE264745.003	BH10.2 SOIL - 3/5/2024 SE264745.004	BH11.1 SOIL - 3/5/2024 SE264745.005
Arsenic, As	mg/kg	1	4	4	7	2	7
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	0.4	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	10	9.1	19	5.4	19
Copper, Cu	mg/kg	0.5	17	5.6	31	2.9	13
Lead, Pb	mg/kg	1	21	9	96	7	41
Nickel, Ni	mg/kg	0.5	5.2	1.5	11	1.3	5.1
Zinc, Zn	mg/kg	2	37	6.6	150	3.6	84

PARAMETER	UOM	LOR	BH11.2 SOIL - 3/5/2024 SE264745.006	BH12.1 SOIL - 3/5/2024 SE264745.007	BH12.2 SOIL - 3/5/2024 SE264745.008	D1 SOIL - 3/5/2024 SE264745.009
Arsenic, As	mg/kg	1	5	16	9	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	14	9.2	6.3
Copper, Cu	mg/kg	0.5	5.3	20	15	3.6
Lead, Pb	mg/kg	1	12	57	23	7
Nickel, Ni	mg/kg	0.5	2.8	5.8	6.2	1.2
Zinc, Zn	mg/kg	2	9.3	110	36	4.7

Mercury in Soil [AN312] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH9.2 SOIL - 3/5/2024 SE264745.002	BH10.1 SOIL - 3/5/2024 SE264745.003	BH10.2 SOIL - 3/5/2024 SE264745.004	BH11.1 SOIL - 3/5/2024 SE264745.005
Mercury	mg/kg	0.05	<0.05	<0.05	**0.09**	<0.05	<0.05

PARAMETER	UOM	LOR	BH11.2 SOIL - 3/5/2024 SE264745.006	BH12.1 SOIL - 3/5/2024 SE264745.007	BH12.2 SOIL - 3/5/2024 SE264745.008	D1 SOIL - 3/5/2024 SE264745.009
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 6/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH9.2 SOIL - 3/5/2024 SE264745.002	BH10.1 SOIL - 3/5/2024 SE264745.003	BH10.2 SOIL - 3/5/2024 SE264745.004	BH11.1 SOIL - 3/5/2024 SE264745.005
% Moisture	%w/w	1	10.9	11.8	17.8	15.6	16.3

PARAMETER	UOM	LOR	BH11.2 SOIL - 3/5/2024 SE264745.006	BH12.1 SOIL - 3/5/2024 SE264745.007	BH12.2 SOIL - 3/5/2024 SE264745.008	D1 SOIL - 3/5/2024 SE264745.009
% Moisture	%w/w	1	16.6	13.4	16.8	12.0

Fibre Identification in soil [AS4964/AN602] Tested: 10/5/2024

PARAMETER	UOM	LOR	BH9.1 SOIL - 3/5/2024 SE264745.001	BH10.1 SOIL - 3/5/2024 SE264745.003	BH11.1 SOIL - 3/5/2024 SE264745.005	BH12.1 SOIL - 3/5/2024 SE264745.007
Asbestos Detected	No unit	-	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00	13/05/2024 00:00

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid , mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser . Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting .
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS /ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		
***	Indicates that both * and ** apply.				

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE264745 R0

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N09263**
Order Number	**N09263**
Samples	9

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE264745 R0**
Date Received	06 May 2024
Date Reported	13 May 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Duplicate	OP Pesticides in Soil	1 item
	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	5 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	2 items

SAMPLE SUMMARY

Sample counts by matrix	9 Soil	Type of documentation received	COC
Date documentation received	6/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	14.1°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE264745 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Fibre Identification in soil

Method: ME-(AU)-[ENV]AS4964/AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB312011	03 May 2024	06 May 2024	03 May 2025	10 May 2024	03 May 2025	13 May 2024
BH10.1	SE264745.003	LB312011	03 May 2024	06 May 2024	03 May 2025	10 May 2024	03 May 2025	13 May 2024
BH11.1	SE264745.005	LB312011	03 May 2024	06 May 2024	03 May 2025	10 May 2024	03 May 2025	13 May 2024
BH12.1	SE264745.007	LB312011	03 May 2024	06 May 2024	03 May 2025	10 May 2024	03 May 2025	13 May 2024

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311609	03 May 2024	06 May 2024	31 May 2024	06 May 2024	31 May 2024	09 May 2024
BH9.2	SE264745.002	LB311609	03 May 2024	06 May 2024	31 May 2024	06 May 2024	31 May 2024	09 May 2024
BH10.1	SE264745.003	LB311609	03 May 2024	06 May 2024	31 May 2024	06 May 2024	31 May 2024	09 May 2024
BH10.2	SE264745.004	LB311609	03 May 2024	06 May 2024	31 May 2024	06 May 2024	31 May 2024	09 May 2024
BH11.1	SE264745.005	LB311609	03 May 2024	06 May 2024	31 May 2024	06 May 2024	31 May 2024	09 May 2024
BH11.2	SE264745.006	LB311609	03 May 2024	06 May 2024	31 May 2024	06 May 2024	31 May 2024	09 May 2024
BH12.1	SE264745.007	LB311609	03 May 2024	06 May 2024	31 May 2024	06 May 2024	31 May 2024	09 May 2024
BH12.2	SE264745.008	LB311609	03 May 2024	06 May 2024	31 May 2024	06 May 2024	31 May 2024	09 May 2024
D1	SE264745.009	LB311609	03 May 2024	06 May 2024	31 May 2024	06 May 2024	31 May 2024	09 May 2024

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311611	03 May 2024	06 May 2024	17 May 2024	06 May 2024	11 May 2024	08 May 2024
BH9.2	SE264745.002	LB311611	03 May 2024	06 May 2024	17 May 2024	06 May 2024	11 May 2024	08 May 2024
BH10.1	SE264745.003	LB311611	03 May 2024	06 May 2024	17 May 2024	06 May 2024	11 May 2024	08 May 2024
BH10.2	SE264745.004	LB311611	03 May 2024	06 May 2024	17 May 2024	06 May 2024	11 May 2024	08 May 2024
BH11.1	SE264745.005	LB311611	03 May 2024	06 May 2024	17 May 2024	06 May 2024	11 May 2024	08 May 2024
BH11.2	SE264745.006	LB311611	03 May 2024	06 May 2024	17 May 2024	06 May 2024	11 May 2024	08 May 2024
BH12.1	SE264745.007	LB311611	03 May 2024	06 May 2024	17 May 2024	06 May 2024	11 May 2024	08 May 2024
BH12.2	SE264745.008	LB311611	03 May 2024	06 May 2024	17 May 2024	06 May 2024	11 May 2024	08 May 2024
D1	SE264745.009	LB311611	03 May 2024	06 May 2024	17 May 2024	06 May 2024	11 May 2024	08 May 2024

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH9.2	SE264745.002	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH10.1	SE264745.003	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH10.2	SE264745.004	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH11.1	SE264745.005	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH11.2	SE264745.006	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH12.1	SE264745.007	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH12.2	SE264745.008	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
D1	SE264745.009	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH9.2	SE264745.002	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH10.1	SE264745.003	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH10.2	SE264745.004	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH11.1	SE264745.005	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH11.2	SE264745.006	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH12.1	SE264745.007	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH12.2	SE264745.008	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
D1	SE264745.009	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH9.2	SE264745.002	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH10.1	SE264745.003	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH10.2	SE264745.004	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH11.1	SE264745.005	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH11.2	SE264745.006	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH12.1	SE264745.007	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024

HOLDING TIME SUMMARY

SE264745 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12.2	SE264745.008	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
D1	SE264745.009	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH9.2	SE264745.002	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH10.1	SE264745.003	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH10.2	SE264745.004	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH11.1	SE264745.005	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH11.2	SE264745.006	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH12.1	SE264745.007	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	08 May 2024
BH12.2	SE264745.008	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
D1	SE264745.009	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311608	03 May 2024	06 May 2024	30 Oct 2024	06 May 2024	30 Oct 2024	10 May 2024
BH9.2	SE264745.002	LB311608	03 May 2024	06 May 2024	30 Oct 2024	06 May 2024	30 Oct 2024	10 May 2024
BH10.1	SE264745.003	LB311608	03 May 2024	06 May 2024	30 Oct 2024	06 May 2024	30 Oct 2024	10 May 2024
BH10.2	SE264745.004	LB311608	03 May 2024	06 May 2024	30 Oct 2024	06 May 2024	30 Oct 2024	10 May 2024
BH11.1	SE264745.005	LB311608	03 May 2024	06 May 2024	30 Oct 2024	06 May 2024	30 Oct 2024	10 May 2024
BH11.2	SE264745.006	LB311608	03 May 2024	06 May 2024	30 Oct 2024	06 May 2024	30 Oct 2024	10 May 2024
BH12.1	SE264745.007	LB311608	03 May 2024	06 May 2024	30 Oct 2024	06 May 2024	30 Oct 2024	10 May 2024
BH12.2	SE264745.008	LB311608	03 May 2024	06 May 2024	30 Oct 2024	06 May 2024	30 Oct 2024	10 May 2024
D1	SE264745.009	LB311608	03 May 2024	06 May 2024	30 Oct 2024	06 May 2024	30 Oct 2024	10 May 2024

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH9.2	SE264745.002	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH10.1	SE264745.003	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH10.2	SE264745.004	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH11.1	SE264745.005	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH11.2	SE264745.006	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH12.1	SE264745.007	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
BH12.2	SE264745.008	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024
D1	SE264745.009	LB311586	03 May 2024	06 May 2024	17 May 2024	06 May 2024	15 Jun 2024	09 May 2024

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH9.2	SE264745.002	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH10.1	SE264745.003	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH10.2	SE264745.004	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH11.1	SE264745.005	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH11.2	SE264745.006	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH12.1	SE264745.007	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH12.2	SE264745.008	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
D1	SE264745.009	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH9.1	SE264745.001	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH9.2	SE264745.002	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH10.1	SE264745.003	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH10.2	SE264745.004	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH11.1	SE264745.005	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH11.2	SE264745.006	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH12.1	SE264745.007	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
BH12.2	SE264745.008	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024
D1	SE264745.009	LB311593	03 May 2024	06 May 2024	17 May 2024	06 May 2024	17 May 2024	09 May 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	113
	BH10.1	SE264745.003	%	60 - 130%	108
	BH11.1	SE264745.005	%	60 - 130%	105
	BH12.1	SE264745.007	%	60 - 130%	109

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	99
	BH10.1	SE264745.003	%	60 - 130%	96
	BH11.1	SE264745.005	%	60 - 130%	85
	BH12.1	SE264745.007	%	60 - 130%	99
d14-p-terphenyl (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	106
	BH10.1	SE264745.003	%	60 - 130%	106
	BH11.1	SE264745.005	%	60 - 130%	105
	BH12.1	SE264745.007	%	60 - 130%	109

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH9.1	SE264745.001	%	70 - 130%	99
	BH9.2	SE264745.002	%	70 - 130%	98
	BH10.1	SE264745.003	%	70 - 130%	96
	BH10.2	SE264745.004	%	70 - 130%	99
	BH11.1	SE264745.005	%	70 - 130%	85
	BH11.2	SE264745.006	%	70 - 130%	94
	BH12.1	SE264745.007	%	70 - 130%	99
	BH12.2	SE264745.008	%	70 - 130%	96
	D1	SE264745.009	%	70 - 130%	97
d14-p-terphenyl (Surrogate)	BH9.1	SE264745.001	%	70 - 130%	106
	BH9.2	SE264745.002	%	70 - 130%	106
	BH10.1	SE264745.003	%	70 - 130%	106
	BH10.2	SE264745.004	%	70 - 130%	110
	BH11.1	SE264745.005	%	70 - 130%	105
	BH11.2	SE264745.006	%	70 - 130%	102
	BH12.1	SE264745.007	%	70 - 130%	109
	BH12.2	SE264745.008	%	70 - 130%	106
	D1	SE264745.009	%	70 - 130%	106
d5-nitrobenzene (Surrogate)	BH9.1	SE264745.001	%	70 - 130%	96
	BH9.2	SE264745.002	%	70 - 130%	99
	BH10.1	SE264745.003	%	70 - 130%	106
	BH10.2	SE264745.004	%	70 - 130%	96
	BH11.1	SE264745.005	%	70 - 130%	96
	BH11.2	SE264745.006	%	70 - 130%	103
	BH12.1	SE264745.007	%	70 - 130%	95
	BH12.2	SE264745.008	%	70 - 130%	103
	D1	SE264745.009	%	70 - 130%	95

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	110
	BH10.1	SE264745.003	%	60 - 130%	105
	BH11.1	SE264745.005	%	60 - 130%	102
	BH12.1	SE264745.007	%	60 - 130%	106

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	93
	BH9.2	SE264745.002	%	60 - 130%	106
	BH10.1	SE264745.003	%	60 - 130%	98
	BH10.2	SE264745.004	%	60 - 130%	96
	BH11.1	SE264745.005	%	60 - 130%	101
	BH11.2	SE264745.006	%	60 - 130%	91
	BH12.1	SE264745.007	%	60 - 130%	103
	BH12.2	SE264745.008	%	60 - 130%	109

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	D1	SE264745.009	%	60 - 130%	101
d4-1,2-dichloroethane (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	100
	BH9.2	SE264745.002	%	60 - 130%	119
	BH10.1	SE264745.003	%	60 - 130%	112
	BH10.2	SE264745.004	%	60 - 130%	94
	BH11.1	SE264745.005	%	60 - 130%	109
	BH11.2	SE264745.006	%	60 - 130%	97
	BH12.1	SE264745.007	%	60 - 130%	108
	BH12.2	SE264745.008	%	60 - 130%	114
	D1	SE264745.009	%	60 - 130%	114
d8-toluene (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	103
	BH9.2	SE264745.002	%	60 - 130%	110
	BH10.1	SE264745.003	%	60 - 130%	106
	BH10.2	SE264745.004	%	60 - 130%	95
	BH11.1	SE264745.005	%	60 - 130%	112
	BH11.2	SE264745.006	%	60 - 130%	103
	BH12.1	SE264745.007	%	60 - 130%	116
	BH12.2	SE264745.008	%	60 - 130%	115
	D1	SE264745.009	%	60 - 130%	116

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	93
	BH9.2	SE264745.002	%	60 - 130%	106
	BH10.1	SE264745.003	%	60 - 130%	98
	BH10.2	SE264745.004	%	60 - 130%	96
	BH11.1	SE264745.005	%	60 - 130%	101
	BH11.2	SE264745.006	%	60 - 130%	91
	BH12.1	SE264745.007	%	60 - 130%	103
	BH12.2	SE264745.008	%	60 - 130%	109
	D1	SE264745.009	%	60 - 130%	101
d4-1,2-dichloroethane (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	100
	BH9.2	SE264745.002	%	60 - 130%	119
	BH10.1	SE264745.003	%	60 - 130%	112
	BH10.2	SE264745.004	%	60 - 130%	94
	BH11.1	SE264745.005	%	60 - 130%	109
	BH11.2	SE264745.006	%	60 - 130%	97
	BH12.1	SE264745.007	%	60 - 130%	108
	BH12.2	SE264745.008	%	60 - 130%	114
	D1	SE264745.009	%	60 - 130%	114
d8-toluene (Surrogate)	BH9.1	SE264745.001	%	60 - 130%	103
	BH9.2	SE264745.002	%	60 - 130%	110
	BH10.1	SE264745.003	%	60 - 130%	106
	BH10.2	SE264745.004	%	60 - 130%	95
	BH11.1	SE264745.005	%	60 - 130%	112
	BH11.2	SE264745.006	%	60 - 130%	103
	BH12.1	SE264745.007	%	60 - 130%	116
	BH12.2	SE264745.008	%	60 - 130%	115
	D1	SE264745.009	%	60 - 130%	116

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB311609.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB311586.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	93

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB311586.001		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	95
		d14-p-terphenyl (Surrogate)	%	-	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB311586.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB311586.001		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	96
		2-fluorobiphenyl (Surrogate)	%	-	95
		d14-p-terphenyl (Surrogate)	%	-	96

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB311586.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	TCMX (Surrogate)	%	-	90

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number		Parameter	Units	LOR	Result
LB311608.001		Arsenic, As	mg/kg	1	<1
		Cadmium, Cd	mg/kg	0.3	<0.3
		Chromium, Cr	mg/kg	0.5	<0.5
		Copper, Cu	mg/kg	0.5	<0.5
		Nickel, Ni	mg/kg	0.5	<0.5
		Lead, Pb	mg/kg	1	<1
		Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result
LB311586.001		TRH C10-C14	mg/kg	20	<20
		TRH C15-C28	mg/kg	45	<45
		TRH C29-C36	mg/kg	45	<45
		TRH C37-C40	mg/kg	100	<100
		TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB311593.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	94
		d8-toluene (Surrogate)	%	-	104
		Bromofluorobenzene (Surrogate)	%	-	100
	Totals	Total BTEX*	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB311593.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	94

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264718.002	LB311609.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE264745.009	LB311609.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264718.001	LB311611.011	% Moisture	%w/w	1	22.0	21.0	35	5
SE264745.009	LB311611.022	% Moisture	%w/w	1	12.0	12.7	38	6

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264718.002	LB311586.014		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0.0022315818	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15	30	6
SE264745.007	LB311586.027		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264745.007	LB311586.027		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.16	30	3

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264718.002	LB311586.014		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	26
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	33 ⑨
SE264745.007	LB311586.027		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	3

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264718.002	LB311586.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	0.2	<0.1	118	48
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	0.3	0.1	74	103 ②
		Pyrene	mg/kg	0.1	0.3	<0.1	84	94 ②
		Benzo(a)anthracene	mg/kg	0.1	0.1	<0.1	133	37
		Chrysene	mg/kg	0.1	0.2	<0.1	115	57
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.1	<0.1	143	30
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	0.1	<0.1	151	23
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264718.002	LB311586.014		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.2	<0.2	128	9
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	126	0
			Total PAH (18)	mg/kg	0.8	1.5	<0.8	43	172 ②
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	30	31 ⑨
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	26
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	33 ⑨
SE264745.007	LB311586.026		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	197	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	5
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	3

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264718.002	LB311586.014		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	30	11
SE264745.007	LB311586.029		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	30	3

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate		Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264718.002	LB311608.014	Arsenic, As	mg/kg	1	4	5	51	25
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	16	20	33	19
		Copper, Cu	mg/kg	0.5	21	19	33	9
		Nickel, Ni	mg/kg	0.5	14	14	34	3
		Lead, Pb	mg/kg	1	11	26	35	81 ②
		Zinc, Zn	mg/kg	2	33	31	36	8
SE264745.009	LB311608.024	Arsenic, As	mg/kg	1	3	3	64	26
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	6.3	8.1	37	25
		Copper, Cu	mg/kg	0.5	3.6	4.6	42	23
		Nickel, Ni	mg/kg	0.5	1.2	1.4	69	15
		Lead, Pb	mg/kg	1	7	11	41	37
		Zinc, Zn	mg/kg	2	4.7	5.8	68	22

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264718.002	LB311586.013		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE264745.007	LB311586.025		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	175	0
			TRH C29-C36	mg/kg	45	79	110	78	33
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	110	146	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	180	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	178	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264745.009	LB311593.026	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.4	10.8	50	6
			d8-toluene (Surrogate)	mg/kg	-	11.6	10.4	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.1	10.2	50	0
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE264745.009	LB311593.026		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.4	10.8	50	6
			d8-toluene (Surrogate)	mg/kg	-	11.6	10.4	50	11
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.1	10.2	50	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311609.002	Mercury	mg/kg	0.05	0.20	0.2	80 - 120	101

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311586.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	80
		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	80
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	81
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	79
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	88
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	89
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	92

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311586.002		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	94
		Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	60 - 140	97
		Dichlorvos	mg/kg	0.5	1.3	2	60 - 140	65
		Ethion	mg/kg	0.2	1.7	2	60 - 140	83
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	107

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311586.002		Naphthalene	mg/kg	0.1	4.5	4	60 - 140	113
		Acenaphthylene	mg/kg	0.1	4.5	4	60 - 140	112
		Acenaphthene	mg/kg	0.1	4.7	4	60 - 140	117
		Phenanthrene	mg/kg	0.1	4.4	4	60 - 140	111
		Anthracene	mg/kg	0.1	4.8	4	60 - 140	120
		Fluoranthene	mg/kg	0.1	4.5	4	60 - 140	113
		Pyrene	mg/kg	0.1	4.9	4	60 - 140	122
		Benzo(a)pyrene	mg/kg	0.1	4.5	4	60 - 140	112
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	100
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	107

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311586.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	89

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311608.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	107
	Cadmium, Cd	mg/kg	0.3	5.0	4.81	70 - 130	104
	Chromium, Cr	mg/kg	0.5	41	38.31	80 - 120	108
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	108
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	100
	Lead, Pb	mg/kg	1	92	89.9	80 - 120	102
	Zinc, Zn	mg/kg	2	270	273	80 - 120	100

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311586.002		TRH C10-C14	mg/kg	20	47	40	60 - 140	118
		TRH C15-C28	mg/kg	45	47	40	60 - 140	118
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	99
	TRH F Bands	TRH >C10-C16	mg/kg	25	48	40	60 - 140	121
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	110
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	103

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311593.002	Monocyclic	Benzene	mg/kg	0.1	3.8	5	60 - 140	75
	Aromatic	Toluene	mg/kg	0.1	4.0	5	60 - 140	81
		Ethylbenzene	mg/kg	0.1	4.1	5	60 - 140	83
		m/p-xylene	mg/kg	0.2	8.3	10	60 - 140	83
		o-xylene	mg/kg	0.1	4.2	5	60 - 140	84
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.3	10	70 - 130	83
		d8-toluene (Surrogate)	mg/kg	-	8.6	10	70 - 130	86
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	10	70 - 130	82

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB311593.002		TRH C6-C10	mg/kg	25	76	92.5	60 - 140	82
		TRH C6-C9	mg/kg	20	66	80	60 - 140	83
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.3	10	70 - 130	83
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	10	70 - 130	82
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	52	62.5	60 - 140	83

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264743.001	LB311609.004	Mercury	mg/kg	0.05	0.30	0.09	0.2	104

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE264743.002	LB311586.026		Alpha BHC	mg/kg	0.1	<0.1	-	-
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	-
			Beta BHC	mg/kg	0.1	<0.1	-	-
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	<0.1	0.2	80
			Heptachlor	mg/kg	0.1	<0.1	0.2	82
			Aldrin	mg/kg	0.1	<0.1	0.2	78
			Isodrin	mg/kg	0.1	<0.1	-	-
			Heptachlor epoxide	mg/kg	0.1	<0.1	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	-	-
			o,p'-DDE*	mg/kg	0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	<0.2	0.2	73
			Endrin	mg/kg	0.2	<0.2	0.2	90
			Beta Endosulfan	mg/kg	0.2	<0.2	-	-
			o,p'-DDD*	mg/kg	0.1	<0.1	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	-	-
			Endrin aldehyde	mg/kg	0.1	<0.1	-	-
			Endosulfan sulphate	mg/kg	0.1	<0.1	-	-
			o,p'-DDT*	mg/kg	0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	<0.1	0.2	91
			Endrin ketone	mg/kg	0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	<1	-	-
			Total OC VIC EPA	mg/kg	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	-	99

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE264743.002	LB311586.026		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	2	107
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	2	107
			Dichlorvos	mg/kg	0.5	<0.5	2	85
			Dimethoate	mg/kg	0.5	<0.5	-	-
			Ethion	mg/kg	0.2	<0.2	2	101
			Fenitrothion	mg/kg	0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	-	-
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	-	99
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	105

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%
SE264743.002	LB311586.025	Naphthalene	mg/kg	0.1	<0.1	4	112
		2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	<0.1	4	112
		Acenaphthene	mg/kg	0.1	<0.1	4	114
		Fluorene	mg/kg	0.1	<0.1	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE264743.002	LB311586.025		Phenanthrene	mg/kg	0.1	<0.1	4	110
			Anthracene	mg/kg	0.1	<0.1	4	119
			Fluoranthene	mg/kg	0.1	<0.1	4	114
			Pyrene	mg/kg	0.1	<0.1	4	111
			Benzo(a)anthracene	mg/kg	0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	<0.1	4	115
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	-	-
			Total PAH (18)	mg/kg	0.8	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	-	101
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	-	99
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	105

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE264743.002	LB311586.028		Arochlor 1016	mg/kg	0.2	<0.2	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	-	-
			Arochlor 1248	mg/kg	0.2	<0.2	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	-	-
			Arochlor 1260	mg/kg	0.2	<0.2	0.4	97
			Arochlor 1262	mg/kg	0.2	<0.2	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1	-	-
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	-	96

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264743.001	LB311608.004	Arsenic, As	mg/kg	1	58	10	50	97
		Cadmium, Cd	mg/kg	0.3	42	0.4	50	84
		Chromium, Cr	mg/kg	0.5	60	15	50	90
		Copper, Cu	mg/kg	0.5	100	48	50	105
		Nickel, Ni	mg/kg	0.5	55	8.4	50	93
		Lead, Pb	mg/kg	1	120	91	50	66 ④
		Zinc, Zn	mg/kg	2	210	190	50	24 ④

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264743.002	LB311586.024		TRH C10-C14	mg/kg	20	45	<20	40	106
			TRH C15-C28	mg/kg	45	89	45	40	108
			TRH C29-C36	mg/kg	45	160	110	40	113
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	290	160	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	220	<210	-	-
		TRH F	TRH >C10-C16	mg/kg	25	47	<25	40	108
		Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	47	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	170	130	40	113
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264743.001	LB311593.004	Monocyclic	Benzene	mg/kg	0.1	4.1	<0.1	5	81
		Aromatic	Toluene	mg/kg	0.1	4.5	<0.1	5	90
			Ethylbenzene	mg/kg	0.1	4.6	<0.1	5	92
			m/p-xylene	mg/kg	0.2	9.4	<0.2	10	94

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264743.001	LB311593.004	Monocyclic	o-xylene	mg/kg	0.1	4.8	<0.1	5	95
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.7	8.3	10	77
			d8-toluene (Surrogate)	mg/kg	-	8.0	8.6	10	80
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	8.6	10	82
		Totals	Total BTEX*	mg/kg	0.6	27	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	14	<0.3	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE264743.001	LB311593.004		TRH C6-C10	mg/kg	25	83	<25	92.5	89
			TRH C6-C9	mg/kg	20	72	<20	80	89
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.7	8.3	10	77
			d8-toluene (Surrogate)	mg/kg	-	8.0	8.6	10	80
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	8.6	-	82
		VPH F	Benzene (F0)	mg/kg	0.1	4.1	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	56	<25	62.5	88

MATRIX SPIKE DUPLICATES

SE264745 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

id samples expressed on a dry weight basis.

criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found he
ps://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service .
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N09263**
Order Number	**N09263**
Samples	4

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE264745 R0**
Date Received	06 May 2024
Date Reported	13 May 2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Industries and Environment recommends supplying approximately 50-100g of sample in a separate container.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE264745.001	BH9.1	Soil	118g Clay, Sand, Rocks	03 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264745.003	BH10.1	Soil	135g Clay, Sand, Soil, Rocks	03 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE264745.005	BH11.1	Soil	168g Clay, Sand, Rocks	03 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE264745.007	BH12.1	Soil	98g Clay, Sand, Soil, Rocks	03 May 2024	13 May 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01

METHOD SUMMARY

SE264745 R0

METHOD	METHODOLOGY SUMMARY
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos -containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services Sydney
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
E:
L

SGS EHS Sydney COC

SE264745

Company Name:	Neo Consulting Pty Ltd	Project Name/No:	N09263
Address:	186 Riverstone Parade	Purchase Order No:	QUOTE NUMER: 322722v6
	Riverstone NSW 2765	Results Required Date:	standard
		Telephone:	0416680375 / Fax:
Contact Name:	Nick Caltabiano	Email Results and invoices to :	nick@neoconsulting, admin@neoconsulting, oskar@neoconsulting, sarah@neoconsulting, eshan@neoconsulting
Quotation No:			

SGS ID	Client Sample ID	Sampling Date/ Time	Matrix (Tick as appropriate) Soil Sample	Water Sample	Other	NO. OF CONTAINERS	ANALYSIS REQUESTED REST	CIDN	Asbestos ID
	BH9.1	1	X				X		X
	BH9.2	2	X					X	
	BH10.1	3	X				X		X
	BH10.2	4	X					X	
	BH11.1	5	X				X		X
	BH11.2	6	X					X	
	BH12.1	7	X				X		X
	BH12.2	8	X					X	
	D1	9	X					X	

Additional Report Formats
- ☐ NEPM
- ☐ CSV
- ☐ ESDAT
- ☐ DQO
- ☐ GO, Guidelines --------
- ☐ Others _____

Notes/Guidelines/LOR/ Special instructions

Relinquished By:	Date/Time:	Received By: G.F	Date/Time: 6/5/24
Relinquished By:	Date/Time:	Received By:	Date/Time: 3:30
Samples Intact: (Yes) / No	Temperature: 14.1 °C	Sample Security Sealed: (Yes) / No	Hazards: *e.g. may contain Asbestos*
Comments / Subcontracting details:			

SAMPLE RECEIPT ADVICE

SE264745

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N09263**
Order Number	**N09263**
Samples	9

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Mon 6/5/2024
Report Due	Mon 13/5/2024
SGS Reference	**SE264745**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Monday 6/5/2024. Results are expected to be ready by COB Monday 13/5/2024. Please quote SGS reference SE264745 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	9 Soil	Type of documentation received	COC
Date documentation received	6/5/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	14.1°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

A separate portion was not supplied for Asbestos analysis . A sub-sample will be used from the jar provided.

SAMPLE RECEIPT ADVICE

SE264745

CLIENT DETAILS

Client NEO CONSULTING PTY LTD

Project N09263

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH9.1	30	14	26	11	7	10	11	7
002	BH9.2	-	-	26	-	7	10	11	7
003	BH10.1	30	14	26	11	7	10	11	7
004	BH10.2	-	-	26	-	7	10	11	7
005	BH11.1	30	14	26	11	7	10	11	7
006	BH11.2	-	-	26	-	7	10	11	7
007	BH12.1	30	14	26	11	7	10	11	7
008	BH12.2	-	-	26	-	7	10	11	7
009	D1	-	-	26	-	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE264745

CLIENT DETAILS

Client NEO CONSULTING PTY LTD

Project N09263

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content
001	BH9.1	3	1	1
002	BH9.2	-	1	1
003	BH10.1	3	1	1
004	BH10.2	-	1	1
005	BH11.1	3	1	1
006	BH11.2	-	1	1
007	BH12.1	3	1	1
008	BH12.2	-	1	1
009	D1	-	1	1

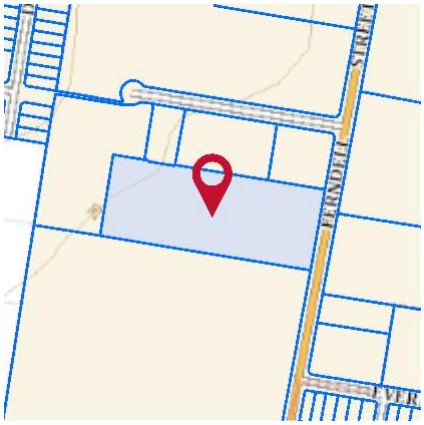
The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

APPENDIX C

Property Report and Relevant Information

Property Report

46 FERNDELL STREET SOUTH GRANVILLE 2142



Property Details

Address:	46 FERNDELL STREET SOUTH GRANVILLE 2142
Lot/Section /Plan No:	2/-/DP847254
Council:	CUMBERLAND COUNCIL

Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

Local Environmental Plans	Cumberland Local Environmental Plan 2021 (pub. 5-11-2021)
Land Zoning	E4 - General Industrial: (pub. 24-2-2023)
Height Of Building	12 m
Floor Space Ratio	1:1
Minimum Lot Size	NA
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA
Acid Sulfate Soils	Class 5
Local Provisions	30 km

Detailed planning information

State Environmental Planning Policies which apply to this property

State Environmental Planning Policies can specify planning controls for certain areas and/or types of development. They can also identify the development assessment system that applies and the type of environmental assessment that is required.

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Excluded (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Subject Land (pub. 2-12-2021)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Sydney Harbour Catchment (pub. 21-10-2022)
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004: Land Application (pub. 25-6-2004)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing) 2021: Land Application (pub. 26-11-2021)
- State Environmental Planning Policy (Industry and Employment) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Planning Systems) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Primary Production) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resilience and Hazards) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resources and Energy) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development: Land Application (pub. 26-7-2002)

Other matters affecting the property

Information held in the Planning Database about other matters affecting the property appears below. The property may also be affected by additional planning controls not outlined in this report. Please speak to your council for more information

1.5 m Buffer around Classified Roads	Classified Road Adjacent
Local Aboriginal Land Council	GANDANGARA
Regional Plan Boundary	Greater Sydney

CUMBERLAND
CITY COUNCIL

PL2023/0017

02 May 2023

Ghazi Al Ali Architect Pty Ltd
Suite 21/47-55 John Street
LEICHHARDT NSW 2040

Dear Sir/ Madam,

Subject:	**Pre-Lodgement Meeting Advice**
Proposal:	Prelodgement Application - DA - Mixed use development under CLEP 2021 with the following uses 1. Warehouse and Distribution Centre including 96 individual units - 2. Two storey Child Care Facility, catering to 128 children
Application No:	PL2023/0017.
Property:	46 Ferndell Street South Granville.
Legal Description:	Lot 2 DP 847254.

Reference is made to the pre-lodgement meeting held on 27 April 2023 concerning the abovementioned property. Please find attached a copy of the meeting minutes.

As discussed during the meeting the proposal needs to address various issues stated in the minutes and thus requires significant amendments. The applicant needs to investigate as to whether the subject site is suitable for the proposed child care centre and its compatibility within the industrial uses. In this regard, the proposal its current form is unlikely to be supported by Council. Alternate design options should be explored to adequately address the matters raised.

Please note, the pre-lodgement meeting advice does not constitute approval and is given in good faith and on a 'without prejudice' basis. Council's requirements may vary from time to time and applicants are expected to comply with all prevailing planning controls. Council's final position on the proposal can only be made once an application has been assessed.

Should you have any enquiries regarding this matter, please contact Nighat Aamir on 8757 9972 during normal business hours, Monday to Friday and quote reference PL2023/0017.

Yours faithfully,

Harley Pearman
Acting Coordinator Major Development Assessment

MINUTES OF PRE-LODGEMENT MEETING

Property:	46-52 Ferndell Street South Granville, Lot 2 DP 847254.
Proposal:	Prelodgement Application - DA - Mixed use development under CLEP 2021 with the following uses 1. Warehouse and Distribution Centre including 96 individual units - 2. Two storey Child Care Facility, catering to 128 children.
Meeting Date:	27 April 2023.
Attendees:	Council Staff - Harley Pearman, Nighat Aamir, Bala Sudarson Applicant - Ghazi Al Ali Architect Pty Ltd.

1. Proposal

The subject site is known as 46-52 Ferndell Street South Granville and is legally described as Lot 2 in DP 847254 with site area of approximately 26,400sqm. Vehicular access is provided via Ferndell Street, located along the eastern boundary. The site is zoned E4 General Industrial within the Cumberland Local Environmental Plan 2021 and is located on the western side of Ferndell Street.

The existing development on the site includes a large warehouse with 4 factory units and hard stand area for car parking associated with Trademasters operations. The existing developments adjoining the site are currently used for a range of industrial purposes.

The proposed development involves construction of a mixed use development comprising of:

- Warehouse and Distribution Centre including 2 storey 96 individual units
- a 2 storey Centre based child care facility catering for 128 children.

Note: Please be advised that this report only provides a commentary on those aspects of the proposal where there is obvious non-compliance or where Council is concerned due to likely amenity impacts. This is based on Council's review of documentation submitted for the pre DA meeting and the discussion that took place during the meeting. This by no means is a complete assessment of your proposal and you are required to review all applicable legislative requirements and address them in your DA package at the time of its lodgement.

It is to be noted that the plans provide limited information and therefore a detailed and proper assessment cannot be undertaken.

2. Planning controls

The DA shall consider and comply with the relevant provisions of the following documents and where a variation is proposed, suitable written justification, documentation and plan details shall be provided:

- State Environmental Planning Policy (Biodiversity and Conservation) 2021;
- State Environmental Planning Policy (Industry and Employment) 2021;
- State Environmental Planning Policy (Planning Systems) 2021;
- State Environmental Planning Policy (Resilience and Hazards) 2021;
- State Environmental Planning Policy (Transport and Infrastructure) 2021;
- State Environmental Planning Policy Amendment (Land Use Zones) (No 5) 2022
- Cumberland Local Environmental Plan 2021; and
- Cumberland Development Control Plan 2021.

a) State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 2: Vegetation in non-rural areas
The development application will need to address the relevant sections of the State Policy.

Chapter 10: Sydney Harbour Catchment
The subject site is contained within the Sydney Harbour Catchment and any development application shall demonstrate compliance with the relevant provisions.

b) State Environmental Planning Policy (Industry and Employment) 2021

Chapter 3: Advertising and Signage
No information is provided in relation to the erection of any business identification sign of the proposed specialised retail premises. Any signage proposed to be erected on the building or site is to be identified, detailed on plans and elevations and supported with an assessment of the relevant requirements of identified in Chapter 3 of the Industrial and Employment SEPP 2021.

c) State Environmental Planning Policy (Planning Systems) 2021

Chapter 2: State and regional development
In accordance with Schedule 6 Clause 5(b) of the State and Regional Development SEPP, any general development presented to Council that exceeds the CIV of $30 million shall be referred to the Sydney Central City Planning Panel as the determination body for the development application.

d) State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 4: Remediation of Land
A preliminary site investigation must be carried out for the site in accordance with the provisions of Resilience and Hazards SEPP 2021. If the preliminary investigation identifies presence of contamination or recommends further testing to determine that; such recommendations must be acted upon and findings submitted with any Development Application. Such investigation must address the historic and current uses of the site.

Refer to the Environmental Health Unit comments below for more details

e) State Environmental Planning Policy (Transport and Infrastructure) 2021

Chapter 2- Infrastructure
In accordance with clauses 2.47 and 2.48 of the SEPP, the application may be required to be referred to the relevant electricity supply authority for comments. In this regard, the application would need to provide clarification with regard to aforementioned clauses and whether the development would trigger the need for such a referral.

The proposed development is also considered as a 'Traffic Generating Development' under the provisions of Part 2.121, Schedule 3 of ISEPP. In this regard, the proposed development would require concurrence/comments from Transport for NSW (TfNSW) under the provisions of SEPP. It is recommended that discussions be held with TfNSW at the early design stages to incorporate any concerns into the proposed development.

Chapter 3: Educational establishments and childcare facilities
The Transport and Infrastructure SEPP 2021 provides non-discretionary development standards for centre-based childcare facilities.

Part 2 - Design quality principles
The design quality principles establish the broad design context guide of all new proposals for childcare facilities. The design quality principles shall be considered as early as during the design phase of a childcare facilities.

Part 3 - Matters of consideration
It is to be noted that the Child Care Centre Planning Guideline recognises that not all sites are suitable for childcare facilities. Factors to be considered in deciding on an appropriate location for a Child Care Centre includes: traffic and parking arrangements, compatibility with surrounding land uses, natural hazards such as flood and land slip. The appropriateness of the site to accommodate the proposed use is to be addressed in the Statement of Environmental Effects submitted with any application. Given the location of the childcare centre within the industrial developments, the site is not considered suitable for the proposed development in relation to safety, parking, access, amenity impacts etc.

The Transport and Infrastructure SEPP 2021 also requires consideration of the applicable provisions of the Child Care Centre Planning Guideline in the assessment of any development application. Any application lodged shall demonstrate compliance with all relevant provisions of the guideline.

Key issues:

Site suitability and Location:
The site suitability and compatibility of the proposed child care centre with the surrounding industrial developments is the predominant issue which must be considered for any forthcoming development application.

Concern is raised to the potential impacts on the health, safety and wellbeing of children, staff and visitors with regard to environmental or amenity issues such as air or noise pollution and parking/ traffic conditions. The visual and acoustic privacy needs of children, staff and parents shall also be protected.

Based on the information provided, the site is not considered suitable for the proposed development.

Indoor and outdoor pay areas:
- Detailed shadow diagram shall be provided to demonstrate adequate natural ventilation and solar access for all indoor and outdoor play areas is available.
- Plans need to show storage, fixed shelving or furniture, nappy change and bottle prep areas etc to determine unencumbered indoor space.
- External storage areas are to be provided and excluded from outdoor play area calculations.
- A landscape buffer with suitable screening plants and a minimum width of 1 metre shall be provided along the side and rear boundaries of the development to help minimise overlooking. The landscape buffer is excluded from outdoor play area calculations.
- Outdoor play areas shall be designed to encourage child activity. They should contain quiet focused areas, sufficient shading, and storage facilities. The extent of these areas and elements shall be clearly shown on the architectural plans and where appropriate, shall be excluded from the calculation of outdoor play area. It should also be noted that storage elements/facilities may be required in these areas which must also be excluded from the calculation of outdoor play area.
- In accordance with clause 114 of the *Education and Care Services National Regulations*, shaded area/s are to be provided in the outdoor play areas. The details would need to be shown on all relevant architectural plans as part of a DA for the proposal.

- A detailed evacuation plan shall be submitted.

f) State Environmental Planning Policy Amendment (Land Use Zones) (No 5) 2022

State Environmental Planning Policy Amendment (Land Use Zones) (No 5) 2022 has commenced on the 26 April 2023.

All matters relating to Business Zones and Industrial Zones are repealed and instead replaced with new Employment zones as follows:

- E1 Local Centre.
- E2 Commercial Centre.
- E3 Productivity Support.
- E4 General Industrial.

g) Cumberland Local Environmental Plan (LEP) 2021

The new employment zones commenced on 26 April 2023. Pursuant to the recent amendments of CLEP 2021, the site is now zoned E4 – General Industrial.

- Permissibility

  The subject site is zoned E4- General Industrial and development for the purpose of 'centre-based childcare facilities' and 'warehouse and distribution centre' is permitted with consent in this land use zone.

- Clause 4.3 Height of buildings

  A maximum height of 12 metres is permitted. Insufficient information has been submitted to demonstrate proposal's compliance with the standard.

- Clause 4.4 Floor Space Ratio (FSR)

  A maximum FSR of 1:1 is permitted. Council notes that insufficient information has been provided to enable a proper assessment of the proposal.

  Any application will need to address Part 5 Miscellaneous Provisions and Part 6 - Additional Local Provisions including, but not limited to, the following:
  - Clause 5.21 Flood planning - The site is not flood affected.
  - Clause 6.2 Earthworks.
  - Clause 6.4 Essential services.
  - Clause 6.7 Stormwater management

h) Cumberland Development Control Plan 2021 (CDCP)

The following parts of the CDCP are applicable and must be addressed as part of any future development application to Council:

- Part D: Industrial Development.
- Part E1: Centre Based Child Care Centres.
- Part G1: Advertising and Signage.
- Part G3: Traffic, Parking, Transport and Access (Vehicles).
- Part G4: Stormwater and Drainage.
- Part G5: Sustainability, Biodiversity and Environmental Management.
- Part G7: Tree Management and Landscaping.
- Part G8: Waste Management.

Setbacks
The front setback shall be appropriately landscaped, be consistent with the prevailing/established setbacks and reflect the existing streetscape and desired future character of the locality. The proposed setback is generally considered satisfactory.

Industrial warehouses
The size and layout of the proposed warehouses shall allow flexibility for various future uses. The current scheme provides 96 small sized individual units which is not considered a desirable option.

Car parking
The proposal will need to comply with the car parking provisions contained within Part G of Cumberland DCP 2021 in relation to parking layout, access pathways, gradients, applicable parking rates at the time of submission of the application etc.

Refer to Traffic Engineering comments discussed under section 3 of this report.

Waste management
Accompanying documentation need to demonstrate the satisfactory removal and treatment/disposal of any waste from the proposed use. A waste management plan shall be submitted with any DA lodged.

Conduct all commercial activity within the building such that the activity shall not occur externally to the building, and this shall be deemed to include loading and unloading and also storage of the materials, unless special areas have been set aside for these activities with the consent to the Council. Internal layout plans shall be submitted to allow proper assessment of the use proposed.

3. Internal Referrals

Development Engineering comments

Stormwater

a) Stormwater runoff from the entire site shall be discharged by gravity system. In this regard, existing proposed stormwater details shall be provided.

b) On-Site Stormwater Detention (OSD) shall be provided as part of the development. The details shall be prepared by a suitably qualified person and must be in accordance with Council's DCP and the Upper Parramatta River Catchment Trust "On-Site Detention Handbook. In this regard:

   i) Stormwater plan shall be prepared by suitably qualified hydraulic engineer.

   ii) OSD shall be located outside the building floor areas.

   iii) OSD calculations, cross section discharge control pit and cross section of the OSD tank shall be submitted.

c) Stormwater runoff from the manoeuvring area including access ways will have to undergo some form of industrial standard primary treatment/separation prior to disposal into existing stormwater systems. In this regard, stormwater treatment device capable of removing litter, oil, grease, and sediment shall be provided prior to discharge to the stormwater system.

d) Overland flow from adjacent properties shall be maintained. Allowances shall be made for surface runoff from adjacent properties, and to retain existing surface flow path systems through the site.

e) Water quality targets set in the Council's DCP shall be achieved. MUSIC model and the output report shall be submitted.

Traffic/Access

a) Traffic impact assessment report shall be submitted. The traffic impact assessment report shall address the impacts of the proposed developments. These should include, but not limited to, queuing, parking, traffic generation, entry and exit.

Childcare

b) In general, childcare development within the industrial complex is not suitable as it compromises the safety. The matter shall be addressed within the design.

c) Entry and exit access driveway for childcare shall be separated by minimum 2.0m.

d) Proposed arrangement is not acceptable. Childcare access and parking shall be separated from the other uses.

e) Turning area shall be provided in the blind aisle.

f) Minimum 32 childcare visitor parking spaces shall be provided.

g) Childcare parking spaces shall be designed for User Class 3A of the Australian standard AS2890.1.

h) Loading area management for proposed childcare shall be provided.

Warehouse

i) Proposed carparking spaces are not adequate. Minimum one parking spaces shall be provided for each tenancy.

j) Office areas associated with each tenancy shall be clearly annotated to determine the parking demand for the ancillary office spaces.

k) Commercial visitor parking spaces shall be provided.

l) Commercial Delivery vehicle access shall be separated from the carpark access.

m) Commercial parking spaces shall be designed for User Class 2 of the Australian standard AS2890.1.

General

n) All the vehicles shall enter and leave the site in a forward direction.

o) Commercial Delivery vehicle access shall be separated from the carpark access.

p) Driveways shall be minimum 2.0m from the side boundaries to provide pedestrian sight distance as per Australian standard AS2890.1 requirements.

q) Commercial parking spaces shall be designed for User Class 2 of the Australian standard AS2890.1.

r) Parking layout shall comply with Australian standard AS2890.1 and AS2890.6. Dimensions (parking space length and width, aisle width, parking space gradients, head height clearance, extensions at dead end aisles, etc.) shall be shown on the plan.

Loading

s) Loading area shall be provided. Loading area design shall comply with Australian standard AS2890.2.

t) Detail swept path analysis for the proposed delivery vehicles shall be provided.

Environmental Health Unit Comments

1. An acoustic assessment be submitted to Council from a suitably qualified acoustic consultant with the proposal. The acoustic assessment must demonstrate that the development will comply with the NSW EPA's Noise Policy for Industry (NPfI) and any relevant noise requirements of Council's DCP. The report should give consideration to all noise impacts on any sensitive receivers in the vicinity of the proposed development that may be caused by the development. This may include all operational noise created by both developments on site, plant and traffic noise. The report must also give recommendations where noise attenuation measures are required.

2. A Plan of Management must be prepared for the development. The report must include, but not be limited to, requirements of the development, operational requirements of the development, programmes and routines, traffic and parking management plan, noise management plan, complaints register (internal and external).

3. A Hazardous Materials Survey Report must be prepared by a suitably qualified person (such as a certified Occupational Hygienist) The report must identify and record the type, location and extent of any hazardous materials on the site and make recommendations as to the safe management and/or removal to ensure the site is safe for demolition, construction and future use/occupation.

4. A Preliminary Site Investigation (Stage 1) report shall be prepared to accompany the development application with respect of the suitability of the site for the proposed site. The report shall be prepared by a suitably qualified consultant in accordance with relevant EPA guidelines.

   Please be advised that depending on the findings of the Preliminary Site Investigation (Stage 1) report, it may be necessary to conduct further contamination investigations and furnish Council with more reports namely a Detailed Site Contamination Investigation (Stage 2) Report and/or Remediation Action Plan and/or Site Audit Statement. If this is required, it is recommended to submit all reports with the application, so the assessment of the DA is not delayed.

5. An Erosion and Sediment Control Plan (also known as a Soil and Water Management Plan) must be submitted. The Plan shall be prepared according to the NSW EPA's Managing Urban Storm water: Construction Activities and shall indicate suitable control devices to be employed prior to the commencement of any works involving the disturbance of earth.

6. Provide a plan demonstrating the internal layout of the proposed kitchen, where the proposed use of the kitchen includes the preparation and the handling of food for sale as defined by the Food Act. The plans must demonstrate that the kitchen will be constructed in a manner that is fit for the intended use (ie a commercial kitchen). The kitchen must comply with the Food Act 2003, Food Regulations 2015, The Food Standards Code and AS 4764-2004 – Design, construction and fit out of food premises.

   - The following information will be required to be submitted with the kitchen plan:

- A floor plan to a suitable scale including but not limited to proposed walls, floors, ceilings, storage areas, fixtures, fittings and equipment.
- Sectional elevation drawings to a suitable scale showing all fixtures, fittings and equipment and finishes to floors, walls and ceilings in all food preparation, all storage areas, waste storage areas and toilets used by food handlers.
- Confirmation that all proposed internal walls are/ will be of solid construction
- Mechanical ventilation details for the kitchen exhaust and dishwasher exhaust (if applicable).

- Australian Standard AS 1668 Part 1 – 1998.
- Australian Standard AS 1668 Part 2 – 2012.

7. Provide details of potential regulated systems under the NSW Public Health Act and NSW Public Health Regulation have been provided. Clarification as to whether any water cooling or warm water systems (including thermostatic mixing vales) will be incorporated into the development shall be provided. Note: warm-water systems include thermostatic mixing valves.

8. A designated waste and recyclable storage room must be provided on the premises in accordance with the following requirements: a) The area must be fully enclosed, suitably sized to contain all waste and recyclable material generated by the premises, adequately ventilated and constructed with a concrete floor and concrete or cement rendered walls; b) The floor must be graded and drain to sewer in accordance with Sydney Water requirements; c) A hot and cold hose cock shall be provided within the room.

Children's Services

1. Ratios: It is noted there is no age breakdown for each of the playrooms. Based on the space provided, each indoor playroom has the space for 16 children. The ratios for each age group are listed below.

   - 0-2 years 1:4 ratio
   - 2-3 years 1:5 ratio
   - 3-5 years 1:10 ratio

   Staffing for this service will be based on the age breakdown which is yet unspecified. These staff must not perform any other duties whilst supervising children, therefore there will need to be a food handler, administration, relief, and extra staff to cover shifts and breaks such as lunch and toilet.

2. Parking: Consideration for best practice within car park design should include:
   - a child safe fence/catchment area to separate car parking area from the building entrance.
   - provide clearly marked accessible parking as close as possible to the entrance to the building in accordance with appropriate Australian Standards.
   - include wheelchair and pram accessible parking.

3. Access and evacuation: Consideration needs to be given to providing a detailed evacuation plan. Given this service will be proposed for quite a large industrial and factory site, the safety of the children as they evacuate needs to be considered here. Also consider the safety of the children should an incident occur in the busy industrial complex.

4. Indoor Play Areas: To comply with Regulation 107 below all indoor playrooms can have no more than 16 children per room.

5. Outdoor Space: It is recommended joining both external spaces together. The design is such that the group will need to be spilt over 2 outdoor spaces, which is not practical for supervision purposes. It appears both of the “external” spaces are simulated outdoor environments. A concurrence from the Department of Education will need to be sought if both external spaces are simulated.

6. Ventilation and Natural Light: It is noted that the children utilising this service will have no access to natural light and ventilation. Current plans do not indicate any openings or how natural light will filter into the building as per Regulation 110.

7. Bathroom Facilities: The Building Code of Australia states that for every toilet in a bathroom, there must be a hand basin. Therefore, each bathroom must have the corresponding amount of handbasins to toilets. Children need to have easy access to the bathroom when utilising both internal and external spaces as per Regulation 109 below.

   F2.3 of the Building Code of Australia, and the number of junior pans required for the children in the Class 9b “early childhood centre” are as follows:

   - 2x junior pans required for 1 to 30 children.
   - Add 1x junior pan for every 15 extra children (e.g., 3x pans required for 45 students).

   Note: Facilities for use by children in the Class 9b “early childhood centre” must be-

   (a) Junior pans; and

   (b) The same number of washbasins must be provided as junior pans, further ensuring these washbasins have rim height not exceeding 600mm; and

   (c) Accessible from both indoor and outdoor play areas.

8. Nappy Change Facilities: For any child under 2, a designated nappy change space needs to be provided as per Regulation 112.

9. Cot Rooms: The service needs to adhere to Regulation 81 and consider the sleep and rest needs of the children utilising the service. Plans do not currently indicate a cot room will be provided.

10. Kitchen & Laundry: There is no Kitchen or Laundry noted on the current plans, food provision and general cleaning storage need to be considered.

11. Other Considerations: It is noted that the proposed service is in an industrial area, consider the safety of the children as well as their visual and acoustic privacy. The Child Care Planning Guideline states services need to “*ensure visual privacy and minimise potential noise and overlooking impacts from neighbours*”

    In this regard, the site is not an ideal location for an education and care service.

Tree Management Officer

1. An Arboricultural Impact Assessment & Tree Protection Plan is to be developed for the site and, if deemed necessary a Project Arborist retained for specific stages during the development. During the development the retained trees are to be protected as AS4970 – 2009 Protection of trees on development.

2. All trees on neighbouring properties are to be retained and protected for the duration of the development unless consent from tree owners can be obtained to remove.

Where there is major encroachments into tree protection zones and structural roots zones, tree sensitive construction designs should be incorporated into the design to ensure the trees remain viable beyond the life of the development.

3. Any proposed landscape plan Should be prepared by a suitably qualified AQF5 Landscape Designer/Architect to a minimum scale of 1:100 or 1:200. The plans should specify proposed species with common and botanical names, pot size, quantity and be clearly marked on the plans with sufficient roots space available relative to the species potential mature size.

6. Development application submission requirements

Important Information
Please refer to Council's Electronic Submission Requirements for Plans, Reports and other documents, the Application Guide for Lodgement and associated DA Checklist (available from Council's website https://www.cumberland.nsw.gov.au/developmentapprovals-and-forms/forms-certificates-and-checklists) when preparing your application.

Please note this advice has been prepared on the basis of the information and concept plans that have been submitted to Council for this meeting. Other issues may arise following a detailed assessment of any application lodged.

Furthermore, any application that is lodged shall be assessed on its merits and shall have regard for, and be designed in accordance with, the relevant planning controls (including any state or local environmental planning instruments) precinct plans, development control plans or policies, and the National Construction Code and relevant standards.

Any information submitted for Pre-Lodgement meetings as well as any correspondence to or from Council, including this letter, may be disclosed under the provisions of the GIPA Act.

The views expressed may vary once detailed plans and information are submitted and formally assessed by Council, or as a result of issues raised by interested parties.

These comments do not bind Council Officers, the elected Council members, or other bodies beyond Council, in any way whatsoever.

Job No 34776446

Phone: 1100
www.byda.com.au

Caller Details

Contact: Nick Caltabiano
Company: Neo Consulting
Address: 186 Riverstone Parade
Riverstone NSW 2765

Caller Id: 3063293
Phone: 0423 834 874
Email: neo.searches.dbyd@gmail.com

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.

User Reference: South Granville
Working on Behalf of: Private
Enquiry Date: 07/08/2023
Start Date: 08/08/2023
End Date: 22/08/2023
Address:
46 Ferndell Street
South Granville NSW 2142

Job Purpose: Excavation
Onsite Activities: Vertical Boring
Location of Workplace: Private
Location in Road:

- Check that the location of the dig site is correct. If not you must submit a new enquiry.
- Should the scope of works change, or plan validity dates expire, you must submit a new enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:
Not supplied

Your Responsibilities and Duty of Care

- The lodgement of an enquiry does not authorise the project to commence. You must obtain all necessary information from any and all likely impacted asset owners prior to excavation.
- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at **www.byda.com.au**
- **For more information on safe excavation practices, visit www.byda.com.au**

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days.
Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.
** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.
# Asset owners highlighted with a hash # require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
228009553	Ausgrid	(02) 4951 0899	NOTIFIED
228009555	Endeavour Energy	(02) 9853 4161	NOTIFIED
228009554	Jemena Gas West	1300 880 906	NOTIFIED
228009552	NBN Co NswAct	1800 687 626	NOTIFIED
228009551	Optus and or Uecomm Nsw	1800 505 777	NOTIFIED
228009556	Sydney Water	13 20 92	NOTIFIED
228009557	Telstra NSW Central	1800 653 935	NOTIFIED
228009558	TPG Telecom (NSW)	1800 786 306	NOTIFIED

Lodge Your Free Enquiry Online – 24 Hours a Day, Seven Days a Week

APPENDIX D

Borehole Logs

NEO Consulting
186 Riverstone Parade, Riverstone NSW 2765, Australia
Phone: 61 455 485 502

Geotechnical Log - Borehole

BH1

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N09825
Easting (m)	: 315,752.85	**Driller Supplier**	: NEO	**Client**	: Geotechnical Consultants Australia
Northing (m)	: 6,250,709.43	**Logged By**	: Ehsan Zare	**Project**	: South Granville
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 46-52 Ferndell Street, South Granville NSW 2142
Total Depth	: 1.5 m BGL	**Date**	: 11/08/2023	**Loc Comment**	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Non-Soil		CCT		Concrete				
	0.2									
	0.25	Fill		GW		Fill GRAVEL (GW) : loose, grey, fine to medium sized, dry.	D	L		
		Fill		SP		Fill SAND (SP) : very loose, grey, fine grained, dry.		VL		
	0.5									
		Natural		CH		Natural Silty CLAY (CH) : very stiff, high plasticity, red brown, inorganic, moist.	M	VSt		
	1									
						BH1 Terminated at 1.5m				
	2									

NEO Consulting

186 Riverstone Parade, Riverstone NSW 2765, Australia

Phone: 61 455 485 502

Geotechnical Log - Borehole

BH2

UTM	**: 56H**	**Drill Rig**	**: D-Max**	**Job Number**	**: N09825**
Easting (m)	**: 315,751.33**	**Driller Supplier**	**: NEO**	**Client**	**: Geotechnical Consultants Australia**
Northing (m)	**: 6,250,701.87**	**Logged By**	**: Ehsan Zare**	**Project**	**: South Granville**
Ground Elevation	**: Not Surveyed**	**Reviewed By**	**:**	**Location**	**: 46-52 Ferndell Street, South Granville NSW 2142**
Total Depth	**: 1.3 m BGL**	**Date**	**: 11/08/2023**	**Loc Comment**	**:**

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Non-Soil		CCT		Concrete				
	0.2									
	0.25	Fill		GW		Fill GRAVEL (GW) : loose, grey, fine to medium sized, dry.	D	L		
		Fill		SP		Fill SAND (SP) : very loose, grey, fine grained, dry.		VL		
	0.5									
		Natural		CH		Natural Silty CLAY (CH) : very stiff, high plasticity, red brown, inorganic, moist.	M	VSt		
	1									
						BH2 Terminated at 1.3m				
	2									

NEO Consulting

186 Riverstone Parade, Riverstone NSW 2765, Australia

Phone: 61 455 485 502

Geotechnical Log - Borehole

BH3

UTM	**: 56H**	**Drill Rig**	**: D-Max**	**Job Number**	**: N09825**
Easting (m)	**: 315,749.97**	**Driller Supplier**	**: NEO**	**Client**	**: Geotechnical Consultants Australia**
Northing (m)	**: 6,250,693.15**	**Logged By**	**: Ehsan Zare**	**Project**	**: South Granville**
Ground Elevation	**: Not Surveyed**	**Reviewed By**	**:**	**Location**	**: 46-52 Ferndell Street, South Granville NSW 2142**
Total Depth	**: 1.3 m BGL**	**Date**	**: 11/08/2023**	**Loc Comment**	**:**

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Non-Soil		CCT		Concrete				
	0.2									
	0.25	Fill		GW		Fill GRAVEL (GW) : loose, grey, fine to medium sized, dry.	D	L		
		Fill		SP		Fill SAND (SP) : very loose, grey, fine grained, dry.		VL		
	0.5									
		Natural		CH		Natural Silty CLAY (CH) : very stiff, high plasticity, red brown, inorganic, moist.	M	VSt		
	1									
						BH3 Terminated at 1.3m				
	2									

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Geotechnical Log - Borehole

BH4

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N09825
Easting (m)	: 315,747.68	**Driller Supplier**	: NEO	**Client**	: Geotechnical Consultants Australia
Northing (m)	: 6,250,683.22	**Logged By**	: Ehsan Zare	**Project**	: South Granville
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 46-52 Ferndell Street, South Granville NSW 2142
Total Depth	: 1.3 m BGL	**Date**	: 11/08/2023	**Loc Comment**	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Non-Soil		CCT		Concrete				
	0.2									
	0.25	Fill		GW		Fill GRAVEL (GW) : loose, grey, fine to medium sized, dry.	D	L		
		Fill		SP		Fill SAND (SP) : very loose, grey, fine grained, dry.		VL		
	0.5									
		Natural		CH		Natural Silty CLAY (CH) : very stiff, high plasticity, red brown, inorganic, moist.	M	VSt		
	1									
						BH4 Terminated at 1.3m				
	2									

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Geotechnical Log - Borehole

BH5

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N09825
Easting (m)	: 315,740.69	**Driller Supplier**	: NEO	**Client**	: Geotechnical Consultants Australia
Northing (m)	: 6,250,710.76	**Logged By**	: Ehsan Zare	**Project**	: South Granville
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 46-52 Ferndell Street, South Granville NSW 2142
Total Depth	: 1.3 m BGL	**Date**	: 11/08/2023	**Loc Comment**	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Non-Soil		BIT		Bitumen				
	0.25									
	0.3	Fill		SP		Fill Gravelly SAND (SP) : loose to medium dense, moderately compacted, greyorange, fine grained, fine sized gravel, dry.	D	L-MD-MC		
		Natural		CH		Natural Silty CLAY (CH) : very stiff, high plasticity, red brown, inorganic, moist.	M	VSt		
	1									
						BH5 Terminated at 1.3m				
	2									

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Geotechnical Log - Borehole

BH6

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N09825
Easting (m)	: 315,739.84	**Driller Supplier**	: NEO	**Client**	: Geotechnical Consultants Australia
Northing (m)	: 6,250,703.33	**Logged By**	: Ehsan Zare	**Project**	: South Granville
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 46-52 Ferndell Street, South Granville NSW 2142
Total Depth	: 1.3 m BGL	**Date**	: 11/08/2023	**Loc Comment**	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Non-Soil		BIT		Bitumen				
	0.25									
	0.3	Fill		SP		Fill Gravelly SAND (SP) : loose to medium dense, moderately compacted, greyorange, fine grained, fine sized gravel, dry.	D	L-MD-MC		
		Natural		CH		Natural Silty CLAY (CH) : very stiff, high plasticity, red brown, inorganic, moist.	M	VSt		
	1									
						BH6 Terminated at 1.3m				
	2									

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Geotechnical Log - Borehole

BH7

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N09825
Easting (m)	: 315,738.77	**Driller Supplier**	: NEO	**Client**	: Geotechnical Consultants Australia
Northing (m)	: 6,250,694.41	**Logged By**	: Ehsan Zare	**Project**	: South Granville
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 46-52 Ferndell Street, South Granville NSW 2142
Total Depth	: 1.3 m BGL	**Date**	: 11/08/2023	**Loc Comment**	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Non-Soil		BIT		Bitumen				
	0.25									
	0.3	Fill		SP		Fill Gravelly SAND (SP) : loose to medium dense, moderately compacted, greyorange, fine grained, fine sized gravel, dry.	D	L-MD-MC		
		Natural		CH		Natural Silty CLAY (CH) : very stiff, high plasticity, red brown, inorganic, moist.	M	VSt		
	1									
						BH7 Terminated at 1.3m				
	2									

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Geotechnical Log - Borehole

BH8

UTM	: 56H	Drill Rig	: D-Max	Job Number	: N09825
Easting (m)	: 315,737.94	Driller Supplier	: NEO	Client	: Geotechnical Consultants Australia
Northing (m)	: 6,250,686.25	Logged By	: Ehsan Zare	Project	: South Granville
Ground Elevation	: Not Surveyed	Reviewed By	:	Location	: 46-52 Ferndell Street, South Granville NSW 2142
Total Depth	: 1.3 m BGL	Date	: 11/08/2023	Loc Comment	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Non-Soil		BIT		Bitumen				
	0.25									
	0.3	Fill		SP		Fill Gravelly SAND (SP) : loose to medium dense, moderately compacted, greyorange, fine grained, fine sized gravel, dry.	D	L-MD-MC		
		Natural		CH		Natural Silty CLAY (CH) : very stiff, high plasticity, red brown, inorganic, moist.	M	VSt		
	1									
						BH8 Terminated at 1.3m				
	2									

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Geotechnical Log - Borehole

BH9

UTM	**: 56H**	**Drill Rig**	**: Hand Auger**	**Job Number**	**: N09825**
Easting (m)	**: 315,745.55**	**Driller Supplier**	**: NEO**	**Client**	**: Geotechnical Consultants Australia**
Northing (m)	**: 6,250,669.25**	**Logged By**	**: CC**	**Project**	**: South Granville**
Ground Elevation	**: Not Surveyed**	**Reviewed By**	**: Ehsan Zare**	**Location**	**: 46-52 Ferndell Street, South Granville NSW 2142**
Total Depth	**: 0.7 m BGL**	**Date**	**: 06/05/2024**	**Loc Comment**	**:**

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Topsoil		ML		Topsoil Clayey SILT (ML) : firm, high plasticity, brown to dark brown, trace fine sized gravel, trace fine grained sand, organic, moist.	M	F		
	0.4	Natural		CH		Natural Silty CLAY (CH) : firm to stiff, high plasticity, brown to brownish orange, inorganic, moist.		F-St		
						BH9 Terminated at 0.7m				
	1									
	2									

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Geotechnical Log - Borehole

BH10

UTM	**: 56H**	**Drill Rig**	**: Hand Auger**	**Job Number**	**: N09825**
Easting (m)	**: 315,726.14**	**Driller Supplier**	**: NEO**	**Client**	**: Geotechnical Consultants Australia**
Northing (m)	**: 6,250,678.39**	**Logged By**	**: CC**	**Project**	**: South Granville**
Ground Elevation	**: Not Surveyed**	**Reviewed By**	**: Ehsan Zare**	**Location**	**: 46-52 Ferndell Street, South Granville NSW 2142**
Total Depth	**: 0.7 m BGL**	**Date**	**: 06/05/2024**	**Loc Comment**	**:**

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Topsoil		ML		Topsoil Clayey SILT (ML) : firm, high plasticity, brown to dark brown, trace fine sized gravel, trace fine grained sand, organic, moist.	M	F		
	0.4	Natural		CH		Natural Silty CLAY (CH) : firm to stiff, high plasticity, brown to brownish orange, inorganic, moist.		F-St		
						BH10 Terminated at 0.7m				
	1									
	2									

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Geotechnical Log - Borehole

BH11

UTM	**: 56H**	**Drill Rig**	**: Hand Auger**	**Job Number**	**: N09825**
Easting (m)	**: 315,728.57**	**Driller Supplier**	**: NEO**	**Client**	**: Geotechnical Consultants Australia**
Northing (m)	**: 6,250,700.06**	**Logged By**	**: CC**	**Project**	**: South Granville**
Ground Elevation	**: Not Surveyed**	**Reviewed By**	**: Ehsan Zare**	**Location**	**: 46-52 Ferndell Street, South Granville NSW 2142**
Total Depth	**: 0.7 m BGL**	**Date**	**: 06/05/2024**	**Loc Comment**	**:**

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Topsoil		ML		Topsoil Clayey SILT (ML) : firm, high plasticity, brown to dark brown, trace fine sized gravel, trace fine grained sand, organic, moist.	M	F		
	0.4	Natural		CH		Natural Silty CLAY (CH) : firm to stiff, high plasticity, brown to brownish orange, inorganic, moist.		F-St		
						BH11 Terminated at 0.7m				
	1									
	2									

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Geotechnical Log - Borehole

BH12

UTM	**: 56H**	**Drill Rig**	**: Hand Auger**	**Job Number**	**: N09825**
Easting (m)	**: 315,753.90**	**Driller Supplier**	**: NEO**	**Client**	**: Geotechnical Consultants Australia**
Northing (m)	**: 6,250,718.71**	**Logged By**	**: CC**	**Project**	**: South Granville**
Ground Elevation	**: Not Surveyed**	**Reviewed By**	**: Ehsan Zare**	**Location**	**: 46-52 Ferndell Street, South Granville NSW 2142**
Total Depth	**: 0.7 m BGL**	**Date**	**: 06/05/2024**	**Loc Comment**	**:**

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Topsoil		ML		Topsoil Clayey SILT (ML) : firm, high plasticity, brown to dark brown, trace fine sized gravel, trace fine grained sand, organic, moist.	M	F		
	0.4	Natural		CH		Natural Silty CLAY (CH) : firm to stiff, high plasticity, brown to brownish orange, inorganic, moist.		F-St		
						BH12 Terminated at 0.7m				
	1									
	2									