NEO CONSULTING

PRELIMINARY SITE INVESTIGATION

N7021-2

Captag Investments Pty Ltd

PROPOSED DEVELOPMENT AT:

15A-15B Moseley Street & 25-31 Donald Street,

Carlingford NSW 2118

23rd June 2025

Report Distribution

Preliminary Site Investigation

Address: 15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118

Report No: N7021-2

Date: 23rd June 2025

Copies	Recipient/Custodian
1 Soft Copy (PDF) – Secured and issued by email	Captag Investments Pty Ltd
1 Original – Saved to NEO Consulting Archives	Secured and Saved by NEO Consulting on Register.

Version	Prepared by	Reviewed by	Date issue
Draft	Ehsan Zare Environmental Consultant	Nick Caltabiano Project Manager	1st June 2023
Rev1	Ehsan Zare Environmental Consultant	Nick Caltabiano Project Manager	22nd November 2023

Report Revision	*Details*	*Report No.*	*Date*	*Amended By*
0	***FINAL Report***	***N7021-2***	***23.06.2025***	*-*

Issued By:

Nick Caltabiano

Table of Contents

Appendices

Executive Summary

NEO Consulting were appointed by Captag Investments Pty Ltd (the client) to undertake a Preliminary Site Investigation (PSI) for the site located at Nos. 15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118 (the site). The site is legally identified as Lots 32, 33, 34, 35/-/DP536982 and 2 & 5/-/DP35555 and has an area of approximately 5,961m^2. The site is currently zoned as R4 - High Density Residential.

The assessment has been initiated to support a development application submitted as a State Significant Development (SSD), under application number SSD-83870463

NEO Consulting understands that the proposed development for this site includes:

1) Demolition of onsite structures
2) Excavation and construction of three (3) basement level carparks; and
3) Construction of a childcare centre and multi-level residential units.

The objective of this PSI was to provide a preliminary assessment of potentially contaminating activities which may have impacted the site. The scope of work undertaken includes:

- A site inspection to identify potential sources of contamination;
- Soil sampling to identify any contaminants (if present);
- Historical investigations relating to the site (if any);
- Local Council records and planning certificates;
- NSW Environment Protection Authority (EPA) environmental contaminated lands register;
- Protection of the Environment Operations (POEO) Act public register;
- Dial-Before-You-Dig enquiry for an evaluation into local underground services and assets;
- Review of local geological and hydrogeological information, including an evaluation of the WaterNSW registered groundwater bore database; and
- Acid Sulphate Soils (ASS) data maps

A site investigation was undertaken on the 23rd May 2023 by qualified environmental consultants. The site, situated in a residential area, comprises five lots. Lot No. 25 Donald Street was found to be free of structures, while the remaining lots featured a single residential dwelling each. A minimal presence of fill layer was observed within the site, likely limited to the footings of the structures and hardstands.

During the site inspection, a soil investigation program was undertaken with a judgemental approach across the site to identify areas of contamination. Eight (8) soil samples were obtained from the topsoil (0-0.15m) across the site. The samples were submitted to a National Association of Testing Authorities, Australia (NATA) accredited laboratory for analysis of Chemicals of Potential Concern (CoPC) that may have impacted the site during historical or present activities.

A review of available historical images of the site has confirmed that the site was devoid of structures prior to at least 1943. Subsequently, starting from at least 1955, the site has been utilised for residential purposes. To the best of our knowledge, the site history does not indicate that the site is likely to be contaminated in a way that poses an unacceptable risk to the health of children to be submitted at DA stage in accordance with the Education and Care Services National Regulations Subclause (d) of regulation 25.

Analytical results indicated all analytes were below Laboratory Limit of Reporting (LOR) and/or NEPM Health and Ecological Assessment Criteria for Residential (B) sites.

Based on the site investigation and analytical results, NEO Consulting considers the potential for significant contamination of onsite soil to be low. Accordingly, no further investigations or reporting such as a Detailed Site Investigation (DSI) or Remedial Action Plan (RAP) are considered necessary at this stage.

NEO Consulting considers the site suitable for the proposed development, including Residential (B) and childcare, in the context of Residential (B) land use, provided that the recommendations outlined in **Section 14** are implemented.

1. Introduction

1.1 Background

NEO Consulting were appointed by Captag Investments Pty Ltd (the client) to undertake a Preliminary Site Investigation (PSI) for the site located at Nos. 15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118 (the site). The site is legally identified as Lots 32, 33, 34, 35/-/DP536982 and 2 & 5/-/DP35555 and has an area of approximately 5,961m^2. The site is currently zoned as R4 - High Density Residential.

A site inspection was undertaken on 23rd May 2023 by qualified environmental consultants. Reporting, photographs and sampling were conducted on this day and with reference to the relevant regulatory criterial (**2. Scope of Work**). Further information of the inspection is described in **4. Site Condition**.

NEO Consulting understands that the proposed development for this site includes:

1) Demolition of onsite structures
2) Excavation and construction of three (3) basement level carparks; and
3) Construction of a childcare centre and multi-level residential units.

1.2 Objectives

This report provides a preliminary assessment of current and/or historical potentially contaminating activities that may have impacted the soils and will determine if the site is suitable for the proposed development.

1.3 Triger for Assessment

The assessment has been initiated to support a development application submitted as a State Significant Development (SSD), under application number SSD-83870463.

1.4 Regulatory Framework

This PSI has been prepared in general accordance with the following regulatory framework:

- State Environmental Planning Policy (Resilience and Hazard) 2021;
- National Environment Protection Measures (NEPM), 2013;
- NSW Environmental Protection Authority, *Guidelines on the Duty to Report Contamination under Contaminated Land Management Act*, 1997;
- NSW Environmental Protection Authority, *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines*, 2020;
- Protection of the Environment and Operation Act 1997; and
- Protection of the Environment Operations (Waste) Regulations, 2005.

2. Scope of Work

To meet the requirements in Section 1.3 of this report, the following scope of works were included:

- A site inspection to identify potential sources of contamination on site;
- Soil sampling to identify any contaminants (if present);
- Historical investigations relating to the site (if any);
- Review of current and historical Certificates of Title;
- Local Council records and planning certificates;
- NSW EPA Contaminated Land Records
- NSW POEO Register;
- Review of local geological and hydrogeological information, including an evaluation of the NSW Groundwater registered groundwater bore database;
- Review of Acid Sulphate Soil data maps;
- Development of a Conceptual Site Model (CSM) to identify the connections between potential sources of contamination and exposure pathways, human and/or ecological receptors; and

- Recommendations for additional investigations (if any), based on the identified data gaps and findings of this report.

3. Site Details

Table 1. Site Details

Address	15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118
Deposited plan	Lots 32, 33, 34, 35/-/DP536982 and 2 & 5/-/DP35555
Zoning	R4 - High Density Residential
Locality map	Figure 1, **Appendix A**
Site Boundary	Figure 2, **Appendix A**
Area	5,961m2
LGA	City of Parramatta

Table 2. Surrounding land-use

Direction from site	Land-use
North	Moseley Street
East	Residential properties
South	Residential properties
West	Donald Street and Residential properties

4. Site Condition

A site inspection was undertaken on 23rd May 2023 by NEO Consulting. During the site inspection, the following observations were noted (photographs in **Appendix A**):

- The site was consisted of five lots;
- The lot at No. 25 Donald Street was free of structures and had a grass groundcover;
- The lots at No. 27 and 29 Donald Street contained weatherboard dwellings;
- The lot at No. 31 Donald Street contained a weatherboard dwelling and three sheds;
- The lots at No. 15A and 15B contained brick residential dwellings and carports.
- All lots had grass areas within front and rear portions and several mature trees;
- A minimal presence of fill layer was observed within the site, likely limited to the footings of the structures and hardstands.
- No evidence of contamination was identified.
- There was a distinct change in elevation across the site area, sloping from northeast to southwest.

The sensitive receptors within a 500m radius include residential and commercial properties, St Paul's Anglican Church (approx. 50m NW) and Harold West Reserve (approx. 20m N).

5. Site History

5.1 History of Site

A review of available historical images of the site has confirmed that the site was devoid of structures prior to at least 1943. Subsequently, starting from at least 1955, the site has been utilized for residential purposes.

A summary of historical aerial imagery is contained below, and the images referenced can be seen in **Appendix A**.

Table 3. Historical aerial images of the site and surrounding area.

Year	Description
1943	The site was free of structures. The surrounding area was comprised rural residential properties and vacant lots.
1955	The site had been subdivided to three (3) residential lots. Each lot was contained a dwelling. The surrounding area was increased in residential developments.
1986	Two (2) additional lots had been subdivided from the northern portion of the site. Both lots was contained a residential dwelling and a carport. The vegetation across the site had been increased significantly. The surrounding area was increased further in residential and urban developments.
2016	The dwelling within the southern lot had been demolished. The surrounding area was largely remained unchanged.
2022	The site and surrounding was remained unchanged. The surrounding area was increased in high-density residential developments.

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. At the time of reporting, the Planning Certificate was not available.

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 and 500m radius of the site.

5.4 Protection of the Environment Operation 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 and 500m radius of the site.

5.5 SafeWork NSW Hazardous Goods

A search was not undertaken with SafeWork NSW for historical dangerous goods stored onsite.

5.6 Product Spill and Loss History

The visual site inspection did not identify evidence of contamination within the site (e.g. chemical staining, unhealthy vegetation).

5.7 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 the Geological Survey of NSW and the Geoscience Australia Stratigraphic Units Database indicate the site is underlain by Wianamatta Group Ashfield shale. This formation is regionally consist of black to dark grey shale and laminate.

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 Glenorie soil landscape. This landscape is normally recognised by undulating to rolling low hills on Wianamatta Group shales. Local relief of this landscape is typically 50-80 m, with slopes of usually less than 5-20%. Soils of this landscape is generally consisting of shallow to moderately deep (<100m) Red Podzolic Soils on crests ; moderately deep (70-150cm) Red and Brown Podzolic Soils on upper slopes; deep (200 cm) Yellow Podzolic Soils (Dy5.11) and Gleyed Podzolic Soils along drainage lines.

6.3 Groundwater

The site is located within Glenhaven Hydrogeological Landscape (HGL). This HGL is characterised by undulating hills on Triassic Ashfield Shale over Hawkesbury Sandstone at Glenhaven, Eastwood, Roselea, Denistone West, Epping and West Ryde. It is an area of moderate to high rainfall (900 – 1200 mm) located in the north of the Sydney Metropolitan region, bordering the Hawkesbury Sandstone units on the Hornsby Plateau. It is found in both Hawkesbury-Nepean and Sydney Metropolitan catchments.

Water infiltrates through the steep hills and flows downslope laterally along clay rich layers within the soil material and also vertically through the underlying shales within the matrix and preferentially along fractures and bedding plains. The lateral movement of subsurface waters may be impeded by a soil texture change (lithic gravels and sands to sandy clay) at the change in slope.

Groundwater systems are local with short flow lengths and are loosely defined by topographic catchments. Water quality within these systems is fresh. Water table depths are intermediate to deep (2–>8 m).

A groundwater bore search was conducted on the 1st June 2022 and several bores were present within a 500m radius of the site. GW112529 was located 280m north-east of the site and had the following material.

Table 4. GW112529 bore logs.

From(m)	To(m)	Thickness(m)	Drillers Description	Geological Material
0.00	0.33	0.33	FILL	Fill
0.33	0.50	0.17	GRAVELLY CLAY STIFF BROWN AND GREY	Clay
0.50	1.10	0.60	CLAY MOTTLED, VERY STIFF	Clay
1.10	2.80	1.70	SILTSTONE VERY HARD, GREY	Siltstone
2.80	5.00	2.20	CLAYSTONE, HARD GREY, IRONSTONE	Claystone

It was beyond the scope of works to study the groundwater flow direction. However, based on the regional topography, groundwater is expected to flow south-west towards Hunts Creek.

6.4 Topography

The regional topography surrounding the site has a gentle sloping (<5-10%) towards south-west.

6.5 Site Drainage

Site drainage is likely to be consistent with the local topography. Stormwater likely flows towards Hunts Creek located 830m south-west of the site. Additionally, large portions of the site consist of accessible soils, which allow for direct infiltration into the sub-soil.

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. Potential Areas and Contaminants of Concern

AEC	Potentially Contaminating / Hazardous Activity	CoPC	Likelihood of Site Impact	Comments
Entire site	Importation of fill material beneath footings of the structures and hardstands	Metals, TRH, BTEX, PAH, OCP, OPP, Asbestos	Low	A minimal presence of fill layer was observed within the site, likely limited to the footings of the structures and hardstands.
	Onsite Carparking	Metals, TRH, BTEX, PAH	Low	Parking areas were sealed using concrete slab
Lot No. 25 Donald Street	Hazardous materials from demolition of previous onsite structures	ACM, Lead (paint and/or dust)	Low	Samples were collected from this area.
Onsite building structures	Hazardous materials	ACM, Lead (paint and/or dust), PCBs, SMF	Moderate	A HMS should be conducted to confirm the presence or absence of these CoPCs.

ABBREVIATIONS: ASBESTOS CONTAINING MATERIALS (ACM), BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE (BTEX), POLYCHLORINATED BIPHENYLS (PCBS), POLYCYCLIC AROMATIC HYDROCARBON (PAH), TOTAL RECOVERABLE HYDROCARBONS (TRH), SYNTHETIC MINERAL FIBRES (SMF), HAZARDOUS MATERIALS SURVEY (HMS).

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 in the existing site characterisation. Here, we consider the connections between the following elements:

- Potential contamination sources and their associated CoPC;
- Potential human receptors that may be impacted by the site contamination are current and future site users including occupants to the dwelling/infrastructures onsite, site workers and the general public within the immediate vicinity of the site;
- Potential environmental receptors to the site including but not limited to: groundwater and surface water bodies, residual soils at and/or nearby the site;
- Potential exposure pathways; and
- Whether source-pathway-receptor connections are complete based on current and future site conditions.

Table 6. Conceptual Site Model

Potential Sources	Potential Receptor	Potential Exposure Pathway	Complete connection	Risk	Justification/ Control Measures
Contaminated soil from importation of uncontrolled fill beneath footings of the structures and hardstands. Onsite Carparking Hazardous materials from demolition of previous onsite structures at lot No. 25 Donald Street Hazardous materials within onsite building structures	Future site occupant, construction workers, general public, surrounding sensitive receptors	Dermal contact, inhalation/ ingestion of particulates.	Complete (current)	Low	Exposure to potentially contaminated soils is possible due to unsealed surfaces. If present, impacted soils are to be disposed of off-site in accordance with an unexpected finds protocol.
			Incomplete (Future)	Low	
	Natural soils	Migration of contamination from fill layer.	Complete (current)	Low	If contamination is present in the fill layer, migration to the natural layer is limited due to low permeable subsoil. If present, impacted soils are to be disposed of off-site.
			Incomplete (Future)	Low	
	Hunts Creek (830 SW).	Migration of impacted groundwater and surface water run-off.	Incomplete (current)	Low	The local topography surrounding the site falls toward Hunts Creek. It is unlikely surface waters from the site reach this due to large

			Incomplete (future)	Low	distance. If present, contaminated soils and groundwater are likely to be remediated.
	Underlying aquifer	Leaching and migration of contaminants through groundwater infiltration.	Complete (current)	Low	Due to existing unsealed surfaces, leachability of contaminants is possible.
			Incomplete (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 B (HIL-B) – 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 site is HIL B – residential with garden/accessible soils.

Table 7. HIL-B

Assessment Criteria	Residential Soil HIL-B, mg/kg
HCB	15
Heptachlor	10
Chlordane	90
Aldrin & Dieldrin	10
Endrin	20
DDD+DDE+DDT	600
Endosulfan	40
Methoxychlor	500
Mirex	20
Arsenic, As	500
Cadmium, Cd	150
Chromium, Cr	500
Copper, Cu	30,000
Lead, Pb	1200
Nickel, Ni	1200
Zinc, Zn	60,000
Mercury, Hg	120
Carcinogenic PAHs (as BaP TEQ)	4
Total PAH (18)	400

9.2 NEPM Health Screening Level B (HSL-B) – 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 site is HSL B – residential with limited accessible soils.

Table 8. HSL-B

Assessment Criteria	Residential Soil HSL-B for Vapour Intrusion, 0-<1m depth, Clay, mg/kg	Residential Soil HSL-B for Vapour Intrusion, 1-<2m depth, Clay, mg/kg
Benzene	0.7	1
Toluene	480	NL
Ethylbenzene	NL	NL
Xylenes	110	310
Naphthalene	5	NL
TRH C_6-C_{10} - BTEX (F1)	50	90
TRH >C_{10}-C_{16} - N (F2)	280	NL

9.4 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. EILs can be applied for arsenic (As), copper (Cu), chromium III (Cr(III)), dichlorodiphenyltrichloroethane (DDT), naphthalene, nickel (Ni), lead (Pb) and zinc (Zn). 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	Urban Residential and Public Open Space, mg/kg
Arsenic, As	100
Lead, Pb	1100
DDT	640
Naphthalene	370

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

ESLs have been developed for selected petroleum hydrocarbons (BTEX, benzo(a)pyrene, TRH F1 and F2) 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, which corresponds with the root and habitat zone for many species.

Table 10. ESL

Assessment Criteria	Residential and Public Open Spaces, Fine-Grained Soil, mg/kg
Benzene	65
Toluene	105
Ethylbenzene	125
Xylenes	45
BaPyr (BaP)	0.7
TRH C_6-C_{10}	180
TRH >C_{10}-C_{16}	120
TRH >C_{16}-C_{34} (F3)	1,300
TRH >C_{34}-C_{40} (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	Residential, Parkland and Public Open Space, Fine-Grained Soil, mg/kg
TRH C_6-C_{10}	800
TRH >C_{10}-C_{16}	1000
TRH >C_{16}-C_{34} (F3)	3,500
TRH >C_{34}-C_{40} (F4)	10,000

9.7 NEPM Health Screening Level B (HSL-B) – Residential for Asbestos

The assessed soil must not contain Asbestos Containing Materials (ACM) in the excess of 0.04%w/w and Asbestos Fines (AF) and Fibrous Asbestos (FA) in excess of 0.001%w/w. Moreover, surface soil within the site must be free of visible ACM, Asbestos Fines (AF) and Fibrous Asbestos (FA).

Table 12. HSL-B for asbestos

Assessment Criteria	Health Screening Level (%w/w) Residential (B)
ACM	0.04%
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	Judgemental sampling pattern within accessible areas	This pattern was selected due to the area of the site, access to underlying soil, the AEC and CoPC as well as the potential heterogeneity of any contamination.
Sampling Density	Eight (8) soil samples	This sampling density was selected based on the extent of the potential contaminated area to be detected, feasibility, the site history, distribution of current and historical uses on site, location and condition of structures
QA/QC Samples	Trip Blank Trip Spike	QA/QC sampling was undertaken in general accordance with specifications outlined in Australian Standards (AS) 4482.1-2005.
Sampling Depths	0-0.15m	These depths were selected in compliment with sampling density and to target depths of potential contaminants.

10.2 Field Sampling Methodology

Test pits were excavated with a shovel to a depth of 0.5m below ground level (bgl). The samples were collected using clean nitril gloves and placed into laboratory 250m sample jars. Additional 500ml sample was collected and placed in clean zip bags for Asbestos analysis. The samples were screened in the field using a handheld Photoionisation Detector (PID). The shovel was decontaminated with detergent and deionised water between test pits. Samples were stored on ice in an esky while on-site and in transit to a NATA accredited laboratory for the analysis of the CoPC under Chain of Custody (COC) documentation.

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

Table 14. Sample details

Sample	Depth (m)	Sample Description	Matrix	PID (ppm)
TP1	0-0.15	Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	Topsoil	<1.0
TP2	0-0.15	Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	Topsoil	<1.0
TP3	0-0.15	Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	Topsoil	<1.0
TP4	0-0.15	Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	Topsoil	<1.0
TP5	0-0.15	Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	Topsoil	<1.0
TP6	0-0.15	Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	Topsoil	<1.0
TP7	0-0.15	Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	Topsoil	<1.0
TP8	0-0.15	Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	Topsoil	<1.0

11. Analytical Results

11.1 Soil Analytical Results

Analytical results indicated all analytes were below Laboratory Limit of Reporting (LOR) and/or NEPM Health and Ecological Assessment Criteria for Residential (B) sites.

Soil analytical results are provided in the laboratory reports in **Appendix C**.

12. Data Gaps

- Presence of CoPCs within onsite structures.
- The conditions of soil beneath hardstands & areas beneath buildings considering the proposed demolition; This area will be excavated for construction of a basement level carpark. Therefore, the excavated soil will be classified in accordance with "Waste Classification Guidelines Part 1: Classifying Waste" NSW EPA (2014)".

13. Conclusion

The site, situated in a residential area, comprises five lots. Lot No. 25 Donald Street was found to be free of structures, while the remaining lots featured a single residential dwelling each. A minimal presence of fill layer was observed within the site, likely limited to the footings of the structures and hardstands.

A review of available historical images of the site has confirmed that the site was devoid of structures prior to at least 1943. Subsequently, starting from at least 1955, the site has been utilised for residential purposes. To the best of our knowledge, the site history does not indicate that the site is likely to be contaminated in a way that poses an unacceptable risk to the health of children to be submitted at DA stage in accordance with the Education and Care Services National Regulations Subclause (d) of regulation 25.

Based on the site investigation and analytical results, NEO Consulting considers the potential for significant contamination of onsite soil to be low. Accordingly, no further investigations or reporting such as a Detailed Site Investigation (DSI) or Remedial Action Plan (RAP) are considered necessary at this stage.

NEO Consulting considers the site suitable for the proposed development, including Residential (B) and childcare, in the context of Residential (B) land use, provided that the recommendations outlined in **Section 14** are implemented.

14. Recommendations

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

- All structures on-site 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 the HMS, then the following will be required:
    - An Asbestos Removal Management Plan (ARMP);
    - 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
    - An Asbestos Clearance Inspection and Clearance Certificate is required post demolition to be undertaken by a Licensed Asbestos Assessor as per 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;
- Any soils requiring excavation, onsite reuse and/or removal must be classified:
    - As the site will require significant excavation for the basement carpark, the Topsoil/FILL on site within the proposed building excavation footprint should be characterised in accordance with Waste Classification Guidelines Part 1: Classifying waste; and
    - The underlying Virgin Excavated Natural Materials (VENM) to be excavated should be characterised in accordance with: Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 The excavated natural material order 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, including Asbestos.

References

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 Framework

- State Environmental Planning Policy (Resilience and Hazard) 2021;
- 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, 2011.

Limitations

The findings of this report are based on the Scope of Work outlined in Section 2. NEO Consulting 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 NEO Consulting personnel involved with the project, subject to the qualifications made above. While normal assessments of data reliability have been made, NEO Consulting assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of NEO Consulting, 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. NEO Consulting 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.

NEO Consulting 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.

NEO CONSULTING

Prepared by:

Ehsan Zare

Environmental Consultant

Reviewed by:

Nick Caltabiano

Project Manager

NEO CONSULTING

APPENDIX A

Figures and Photographic Log

N

Figure 1. The site is located approximately 17.8km north-west of Sydney CBD.

Site location

Source: Six Maps 2022

Figure 1	Locality Map
Project	15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118

N

Figure 2. The approximate area of the site is,961m^2. Eight (8) soil samples were obtained from this site.

⊗ Soil Sample Location

Source: Nearmap 2022

Figure 2	Site Area
Project	15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118

N

Figure 3: Aerial image of the site and surrounding area 1943. The site was free of structures. The surrounding area was comprised rural residential properties and vacant lots.

Source: NSW Historical Imager 2023

Figure 3	Aerial and Street Image 1943
Project	15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118

N

Figure 4: Aerial image of the site and surrounding area 1955. The site had been subdivided to three (3) residential lots. Each lot was contained a dwelling. The surrounding area was increased in residential developments.

Figure 4	Aerial Image 1955
Project	15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118

Source: NSW Historical Imager 2023

N

Figure 5: Aerial image of the site and surrounding area 1986. Two (2) additional lots had been subdivided from the northern portion of the site. Both lots was contained a residential dwelling and a carport. The vegetation across the site had been increased significantly. The surrounding area was increased further in residential and urban developments.

Source: NSW Historical Imager 2023

Figure 5	Aerial Image 1986
Project	15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118

N

Figure 6: Aerial image of the site and surrounding area 2016. The dwelling within the southern lot had been demolished. The surrounding area was largely remained unchanged.

Source: nearmap 2023

Figure 6	Aerial Image 2016
Project	15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118

N

Figure 7: Aerial image of the site and surrounding area 2023. The site and surrounding was remained unchanged. The surrounding area was increased in high-density residential developments.

Source: nearmap 2023

Figure 7	Aerial Image 2023
Project	15A-15B Moseley Street & 25-31 Donald Street, Carlingford NSW 2118

Figure 8. Overall view of the vacant lot at No. 25 Donald Street.

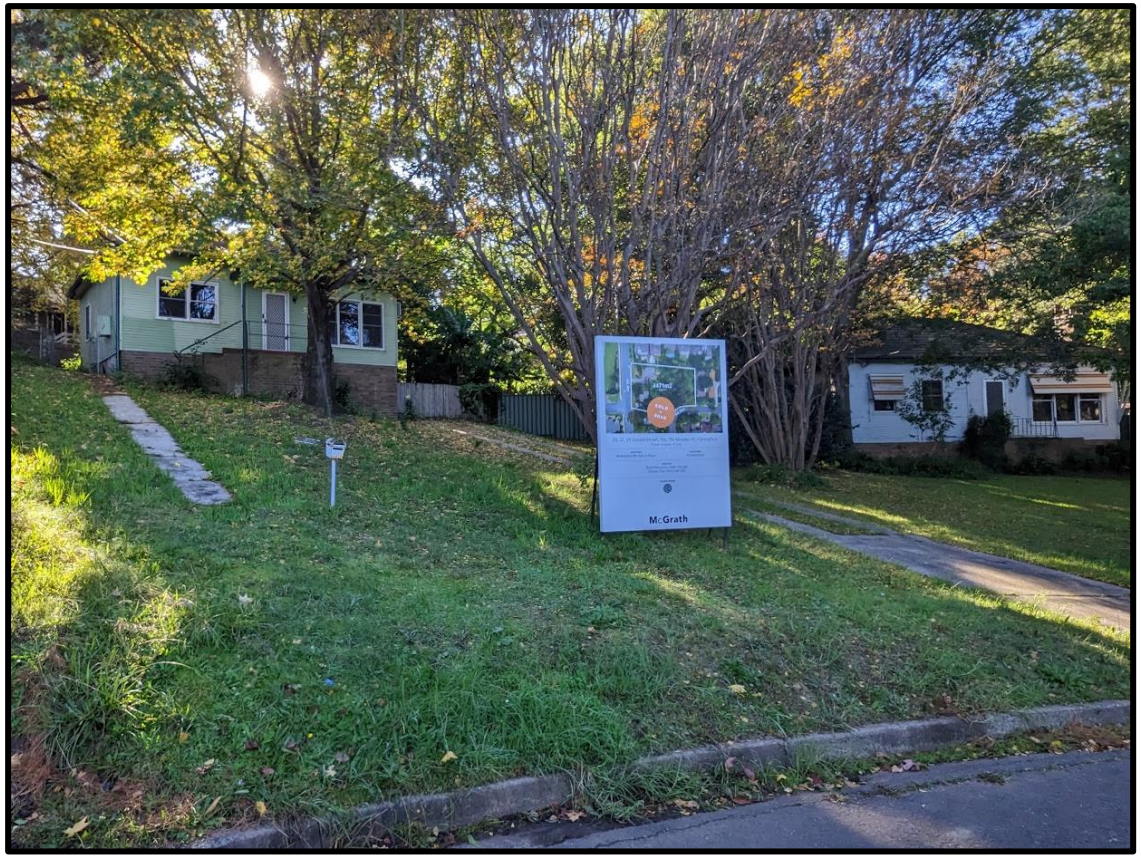


Figure 9. Weatherboard dwellings within properties at No. 27(right) and 29(left) Donald Street.

Figure 10. Lawn area within front portions of the properties at No. 27(right) and 29(left) Donald Street.

Figure 11. Lawn area within rear portion of the property at No. 27 Donald Street.

Figure 12. Rear view of the dwelling within the property at No. 27 Donald Street.

Figure 13. Rear view of the dwelling within the property at No. 29 Donald Street.

Figure 14. Rear view of the dwelling within the property at No. 31 Donald Street.

Figure 15. Rear view of the property at No. 31 Donald Street including fibrocement sheds.

Figure 16. Brick dwelling within the property at No. 15A Moseley Street.

Figure 17. Overall view of the property at No. 15B Moseley Street.

Figure 18. Carports between the properties at No. 15A and 15B Moseley Street.

Figure 19. Front lawn area within the property at No. 15B Moseley Street.

Figure 20. Rear view of the brick dwelling within the property at No. 15B Moseley Street.

Figure 21. Mixed brick and weatherboard dwelling within the property at No. 15A Moseley Street.

Figure 22. TP1 excavation and sampling.

Figure 23. TP4 excavation and sampling.

NEO CONSULTING

APPENDIX B

QA/QC Discussion

Data Quality Objectives (DQOs)

The DQOs 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 this site.

Table 15. Summary of DQOs and the location of the detailed section in the report.

Step 1: State the problem	The soil contamination status must be thoroughly assessed and confirmed to determine the site's suitability for the proposed childcare and residential (B) development. NEO Consulting designed the PSI to identify current and/or historical potentially contaminating activities that may have impacted the soils of the site, in order to determine suitability of the site for the proposed future use.
Step 2: Identify the decision	NEO Consulting considered the site history, the proposed future use of this site, and the NEPM Health and Ecological Screening and Investigation Levels when identifying the decisions required for the site to be considered suitable for its continued land use. The decisions required to meet these decisions are as follows: • Was the sampling, analysis and quality plan designed appropriate to achieve the aim of the PSI? • If present, is on-site 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? • Is the site suitable for its continued land use?
Step 3: Identify the information inputs	NEO Consulting has identified issues of potential environmental concern; • Appropriate identification of COPC; • Systematic soil sampling and analysis programs of shallow soil across the site; • Appropriate quality assurance/quality control to enable an evaluation of the reliability of the analytical data; and • Screening sampler analytical results against appropriate assessment criteria for the intended land use.
Step 4: Define the boundaries of the study	The study boundaries are: • Lateral boundary: The legally defined area of the site; • Vertical boundary: The soil interface to the maximum depth reached during soil sampling; and • Temporal boundary: Constrained to a single visit to the site.
Step 5: Develop the analytical approach	Here, NEO Consulting integrate the information from steps 1 – 4 to support and justify our proposed analytical approach. Our aim is to confirm if the site is suitable for the proposed development. If the findings of the chemical analysis identify; • Any exceedance of the adopted assessment criteria for soil;

	• Groundwater flow direction confirms contamination likely to be transported offsite; • Professional opinion that further assessment is required; and/or • Adopted RPD for QC data not met. Further assessment may be required to confirm suitability of the site in the form of; Detailed Site Investigation, Data Gap investigation, Remediation Action Plan and Site Validation.
Step 6: Specify performance or acceptance criteria	To determine if the soils are within acceptable ranges, we employ the following NEPM criteria: • A judgemental sampling pattern focusing on the most likely; type, location and depth, of potential contamination. Any exceedance of the applied assessment criteria for any analyte will require additional onsite investigations, which may include a DSI.
Step 7: Optimise the design for obtaining data	Judgemental sampling pattern within the AEC will provide suitable coverage of the site to produce reliable data in alignment with the Data Quality Indicators (DQIs) to cover precision, accuracy, representativeness, completeness and comparability (PARCC). This sampling pattern will ensure that critical locations are assessed and analysed appropriately for COPC.
The DQOs align with CSM	Yes

Data Quality Indicators (DQIs)

An assessment of the DQIs has been undertaken in accordance with the NEPM Appendix B of Schedule B2 to provide an evaluation of the field and laboratory procedures and to ensure appropriate documentation within this report.

If a Detailed Site Investigation is required, a more comprehensive SAQP will be conceived and therefore DQI will increase in complexity and detail. Due to the preliminary nature of this report, limited samples are obtained, and statistically significant results cannot be produced. However, our qualified environmental consultants and technicians are highly experienced and have a deep understanding of on-site conditions. The strategic sample locations for the judgemental sampling pattern provide a robust indication of potential contamination and allow site characterisation to the extent that can be expected from a PSI.

Table 16. Field Data Quality Indicators

Completeness	The PSI ensures that all critical locations for soil will be sampled, and samples will be collected within the judgemental formation at the appropriate depths during a single visit to the site. This plan also aligns with Standard Operating Practices (SOP), to produce valid and reproducible data. NEO Consulting's qualified environmental consultants are experienced and will ensure compliance and completion of all sample recording, labelling and COC procedures.
Comparability	The PSI aligns with SOP to produce qualitative data. NEO Consulting's qualified environmental consultants will sample uniformly to ensure that each individual sample collection contains sufficient soil (g) to produce a dataset that is reflective of the environmental conditions of the site at time of collection. All samples will be handled and stored in a manner that maximises the preservation of all potential CoPC within the soil samples. Climatic and physical conditions at the time of sample collection will be recorded.
Representativeness	The PSI aligns with SOP to produce a qualitative dataset that is representative of soil on site. NEO Consulting's qualified environmental consultants will ensure sample collection, handling, storage and transfer is appropriate for soil. Additionally, samples reflect environmental conditions at time of collection and samples are homogenised to maximise detection during laboratory analysis.
Precision	The PSI aligns with SOP to produce qualitative data that measures the variability of results. The qualified environmental consultants will collect the appropriate number of samples for the AEC.
Accuracy	The PSI aligns with SOP to produce qualitative data that measures bias within the results. NEO Consulting's qualified environmental consultants will ensure all COC procedures are carried out appropriately to minimise incidents of cross contamination or incorrect handling and storage of samples.

Table 17. Laboratory Data Quality Indicators

Completeness	The allocated NATA accredited laboratory produce reliable and thorough datasets. All samples will be analysed for CoPC using an appropriate and standardised extraction method and analytical instrument. Samples to be received, extracted and injected within specified holding times. The laboratory qualified environmental organic chemists will ensure completion of COC procedures, wet chemistry, data integration and calculation.
Comparability	Analytical procedures within the NATA accredited laboratory are specialised and standardised for soil samples. The qualified environmental organic chemists will determine the appropriate extraction methods and analytical instruments to be used based on response factor and ability to target CoPC. Spikes and surrogates to be chosen based on appropriateness to avoid coelution with contaminants indigenous to the samples and across varying retention times to map response factor. The chosen spikes and surrogates to be used for all samples and analysis to be completed within the same batch to account for analytical instrument calibration (in addition system blanks support instrument calibration baseline results).
Representativeness	The NATA accredited laboratory will undertake procedures to ensure the data is representative of the site by using appropriate extraction and analytical instrument methods. The qualified environmental organic chemists will follow COC procedures; ensure that extraction methods are specialised for each potential contaminant and standardised across all samples; and use analytical instruments suitable for the sample type, targeted CoPC, extraction method, instrument sensitivity, response factor and detection limit.
Precision	Quantitative measures undertaken by the NATA accredited laboratory include laboratory duplicates. The qualified environmental organic chemists will undertake a field duplicate analysis that measures the precision of field sampling and maps the potential heterogeneity of contamination across a field sampling location. The laboratory duplicate procedure is undertaken by taking two (2) laboratory sub-samples for extraction and analysis from the one (1) field sample in the collection container (250mL jar for soil). The two (2) laboratory sub-samples map the potential heterogeneity of contamination that can occur within the one (1) field samples collection.
Accuracy	Quantitative measures undertaken by the NATA accredited laboratory's qualified environmental organic chemists include the analysis of field, rinsate and method blanks; spike and surrogate analysis to measure response factor and retention time; laboratory control samples; appropriateness of analytical method; and timing and completion of analysis.

NEO CONSULTING

APPENDIX C

Laboratory Results and Chain of Custody (NATA)

NEO CONSULTING

Table 18. Total Recoverable Hydrocarbon (TRH) analytical results.

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-B for Vapour Intrusion, 0-<1m depth, Clay, mg/kg			50		280		
NEPM 2013 Residential Soil HSL-B for Vapour Intrusion, >1-2m depth, Clay, mg/kg			90		NL		
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
TP1	0-0.15	<25	<25	<25	<25	**110**	<120
TP2	0-0.15	<25	<25	<25	<25	**200**	<120
TP3	0-0.15	<25	<25	<25	<25	<90	<120
TP4	0-0.15	<25	<25	<25	<25	**170**	<120
TP5	0-0.15	<25	<25	**66**	**66**	**210**	<120
TP6	0-0.15	<25	<25	<25	<25	**140**	<120
TP7	0-0.15	<25	<25	**27**	**27**	**140**	<120
TP8	0-0.15	<25	<25	<25	<25	<90	<120

Table 19. Benzene, Toluene, Ethylbenzene and Xylene (BTEX) analytical results. NL = Not Limiting.

Assessment Criteria		Benzene	Toluene	Ethylbenzene	Xylenes
NEPM 2013 Residential Soil HSL-B for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		0.7	480	NL	110
NEPM 2013 Residential Soil HSL-B 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
TP1	0-0.15	<0.1	<0.1	<0.1	<0.3
TP2	0-0.15	<0.1	<0.1	<0.1	<0.3
TP3	0-0.15	<0.1	<0.1	<0.1	<0.3
TP4	0-0.15	<0.1	<0.1	<0.1	<0.3
TP5	0-0.15	<0.1	<0.1	<0.1	<0.3
TP6	0-0.15	<0.1	<0.1	<0.1	<0.3
TP7	0-0.15	<0.1	<0.1	<0.1	<0.3
TP8	0-0.15	<0.1	<0.1	<0.1	<0.3
Trip Blank	-	<0.1	<0.1	<0.1	<0.3
Trip Spike	-	93%	94%	94%	94%

Table 20. Polycyclic Aromatic Hydrocarbon (PAH) analytical results.

Assessment Criteria		Naphthalene	Benzo(a)pyrene	Carcinogenic PAH (as BaP TEQ)	Total PAH (18)
NEPM 2013 Residential Soil HSL-B for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		5			
NEPM 2013 Residential Soil HSL-B for Vapour Intrusion, >1-2m depth, Clay, mg/kg		NL			
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg		170			
Soil ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg			0.7		
NEPM 2013 Residential Soil HIL-B, mg/kg			1.00 TEF	4	400
Sample	Depth (m)	mg/kg	mg/kg	TEQ (mg/kg)	mg/kg
TP1	0-0.15	<0.1	<0.1	<0.3	<0.8
TP2	0-0.15	<0.1	<0.1	<0.3	<0.8
TP3	0-0.15	<0.1	<0.1	<0.3	<0.8
TP4	0-0.15	<0.1	<0.1	<0.3	<0.8
TP5	0-0.15	<0.1	<0.1	<0.3	<0.8
TP6	0-0.15	<0.1	<0.1	<0.3	<0.8
TP7	0-0.15	<0.1	<0.1	<0.3	<0.8
TP8	0-0.15	<0.1	<0.1	<0.3	<0.8

Table 21. 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-B, mg/kg		500	150	500	30 000	1200	1200	60 000	120
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
TP1	0-0.15	**7**	**0.3**	**17**	**38**	**170**	**9.6**	**170**	**0.13**
TP2	0-0.15	**7**	<0.3	**19**	**35**	**140**	**9.4**	**300**	**0.11**
TP3	0-0.15	**7**	<0.3	**15**	**27**	**58**	**9.3**	**150**	**0.19**
TP4	0-0.15	**7**	**0.4**	**17**	**59**	**100**	**8.0**	**160**	**0.38**
TP5	0-0.15	**5**	<0.3	**15**	**18**	**48**	**8.1**	**82**	**0.07**
TP6	0-0.15	**5**	**0.6**	**12**	**37**	**79**	**9.6**	**190**	**0.09**
TP7	0-0.15	**4**	<0.3	**11**	**17**	**39**	**5.3**	**50**	<0.05
TP8	0-0.15	**11**	<0.3	**13**	**23**	**59**	**8.0**	**96**	**0.06**

Table 22. Pesticides analytical results. Values are presented as mg/kg.

Assessment Criteria		HCB	Heptachlor	Chlordane	Aldrin & Dieldrin	Endrin	DDT	DDD+DDE +DDT	Endosulfan	Methoxychlor	Mirex
NEPM 2013 Residential Soil HIL-B, mg/kg		15	10	90	10	20		600	400	500	20
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
TP1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
TP2	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
TP3	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
TP4	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
TP5	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
TP6	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
TP7	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
TP8	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1

Table 23. Asbestos analytical results. Values are presented as %w/w.

Assessment Criteria		Asbestos	ACM	AF/FA
NEPM 2013 Residential Soil HSL-B, mg/kg		Detection	0.04%w/w	0.001%w/w
Sample	Depth (m)	Yes/No		
TP1	0-0.15	No	<0.01	<0.001
TP2	0-0.15	No	<0.01	<0.001
TP3	0-0.15	No	<0.01	<0.001
TP4	0-0.15	No	<0.01	<0.001
TP5	0-0.15	No	<0.01	<0.001
TP6	0-0.15	No	<0.01	<0.001
TP7	0-0.15	No	<0.01	<0.001
TP8	0-0.15	No	<0.01	<0.001

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	**N7021**
Order Number	**N7021**
Samples	10

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	**SE248003 R0**
Date Received	24/5/2023
Date Reported	31/5/2023

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

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Chemist

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

Shane MCDERMOTT
Inorganic/Metals Chemist

VOC's in Soil [AN433] Tested: 26/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
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
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
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008	Trip Spike SOIL - 24/5/2023 SE248003.009	Trip Blank SOIL - 24/5/2023 SE248003.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	[93%]	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	[94%]	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	[94%]	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	[94%]	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	[94%]	<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
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	-	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 26/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
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	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
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: 26/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	**32**
TRH C15-C28	mg/kg	45	**56**	**130**	**46**	**100**	**180**
TRH C29-C36	mg/kg	45	**74**	**120**	**57**	**100**	**100**
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	**66**
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	**66**
TRH >C16-C34 (F3)	mg/kg	90	**110**	**200**	<90	**170**	**210**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	**130**	**240**	<110	**210**	**320**
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	**270**

PARAMETER	UOM	LOR	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
TRH C10-C14	mg/kg	20	<20	<20	<20
TRH C15-C28	mg/kg	45	**75**	**85**	<45
TRH C29-C36	mg/kg	45	**100**	**96**	<45
TRH C37-C40	mg/kg	100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	**27**	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	**27**	<25
TRH >C16-C34 (F3)	mg/kg	90	**140**	**140**	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	**180**	**180**	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 26/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
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	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
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: 26/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
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: 26/5/2023 (continued)

PARAMETER	UOM	LOR	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
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

OP Pesticides in Soil [AN420] Tested: 26/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<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	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<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	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 26/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
Arsenic, As	mg/kg	1	7	7	7	7	5
Cadmium, Cd	mg/kg	0.3	0.3	<0.3	<0.3	0.4	<0.3
Chromium, Cr	mg/kg	0.5	17	19	15	17	15
Copper, Cu	mg/kg	0.5	38	35	27	59	18
Lead, Pb	mg/kg	1	170	140	58	100	48
Nickel, Ni	mg/kg	0.5	9.6	9.4	9.3	8.0	8.1
Zinc, Zn	mg/kg	2	170	300	150	160	82

PARAMETER	UOM	LOR	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
Arsenic, As	mg/kg	1	5	4	11
Cadmium, Cd	mg/kg	0.3	0.6	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	12	11	13
Copper, Cu	mg/kg	0.5	37	17	23
Lead, Pb	mg/kg	1	79	39	59
Nickel, Ni	mg/kg	0.5	9.6	5.3	8.0
Zinc, Zn	mg/kg	2	190	50	96

Mercury in Soil [AN312] Tested: 26/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
Mercury	mg/kg	0.05	0.13	0.11	0.19	0.38	0.07

PARAMETER	UOM	LOR	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
Mercury	mg/kg	0.05	0.09	<0.05	0.06

Moisture Content [AN002] Tested: 26/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
% Moisture	%w/w	1	25.1	31.1	20.9	31.1	22.6

PARAMETER	UOM	LOR	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008	Trip Blank SOIL - 24/5/2023 SE248003.010
% Moisture	%w/w	1	20.3	18.4	27.8	<1.0

Fibre Identification in soil [AS4964/AN602] Tested: 30/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
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	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
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: 30/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
Total Sample Weight*	g	1	**575**	**521**	**587**	**502**	**601**
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	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
Total Sample Weight*	g	1	**628**	**686**	**603**
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.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

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.

STATEMENT OF QA/QC PERFORMANCE

SE248003 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	**N7021**
Order Number	**N7021**
Samples	10

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	**SE248003 R0**
Date Received	24 May 2023
Date Reported	31 May 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:

Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	3 items

SAMPLE SUMMARY

Sample counts by matrix	10 Soil	Type of documentation received	COC
Date documentation received	24/5/2023	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	8.5°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

SE248003 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
TP1	SE248003.001	LB280944	24 May 2023	24 May 2023	23 May 2024	30 May 2023	23 May 2024	31 May 2023
TP2	SE248003.002	LB280944	24 May 2023	24 May 2023	23 May 2024	30 May 2023	23 May 2024	31 May 2023
TP3	SE248003.003	LB280944	24 May 2023	24 May 2023	23 May 2024	30 May 2023	23 May 2024	31 May 2023
TP4	SE248003.004	LB280944	24 May 2023	24 May 2023	23 May 2024	30 May 2023	23 May 2024	31 May 2023
TP5	SE248003.005	LB280944	24 May 2023	24 May 2023	23 May 2024	30 May 2023	23 May 2024	31 May 2023
TP6	SE248003.006	LB280944	24 May 2023	24 May 2023	23 May 2024	30 May 2023	23 May 2024	31 May 2023
TP7	SE248003.007	LB280944	24 May 2023	24 May 2023	23 May 2024	30 May 2023	23 May 2024	31 May 2023
TP8	SE248003.008	LB280944	24 May 2023	24 May 2023	23 May 2024	30 May 2023	23 May 2024	31 May 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
TP1	SE248003.001	LB280944	24 May 2023	24 May 2023	20 Nov 2023	30 May 2023	20 Nov 2023	31 May 2023
TP2	SE248003.002	LB280944	24 May 2023	24 May 2023	20 Nov 2023	30 May 2023	20 Nov 2023	31 May 2023
TP3	SE248003.003	LB280944	24 May 2023	24 May 2023	20 Nov 2023	30 May 2023	20 Nov 2023	31 May 2023
TP4	SE248003.004	LB280944	24 May 2023	24 May 2023	20 Nov 2023	30 May 2023	20 Nov 2023	31 May 2023
TP5	SE248003.005	LB280944	24 May 2023	24 May 2023	20 Nov 2023	30 May 2023	20 Nov 2023	31 May 2023
TP6	SE248003.006	LB280944	24 May 2023	24 May 2023	20 Nov 2023	30 May 2023	20 Nov 2023	31 May 2023
TP7	SE248003.007	LB280944	24 May 2023	24 May 2023	20 Nov 2023	30 May 2023	20 Nov 2023	31 May 2023
TP8	SE248003.008	LB280944	24 May 2023	24 May 2023	20 Nov 2023	30 May 2023	20 Nov 2023	31 May 2023

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE248003.001	LB280674	24 May 2023	24 May 2023	21 Jun 2023	26 May 2023	21 Jun 2023	29 May 2023
TP2	SE248003.002	LB280674	24 May 2023	24 May 2023	21 Jun 2023	26 May 2023	21 Jun 2023	29 May 2023
TP3	SE248003.003	LB280674	24 May 2023	24 May 2023	21 Jun 2023	26 May 2023	21 Jun 2023	29 May 2023
TP4	SE248003.004	LB280674	24 May 2023	24 May 2023	21 Jun 2023	26 May 2023	21 Jun 2023	29 May 2023
TP5	SE248003.005	LB280674	24 May 2023	24 May 2023	21 Jun 2023	26 May 2023	21 Jun 2023	29 May 2023
TP6	SE248003.006	LB280674	24 May 2023	24 May 2023	21 Jun 2023	26 May 2023	21 Jun 2023	29 May 2023
TP7	SE248003.007	LB280674	24 May 2023	24 May 2023	21 Jun 2023	26 May 2023	21 Jun 2023	29 May 2023
TP8	SE248003.008	LB280674	24 May 2023	24 May 2023	21 Jun 2023	26 May 2023	21 Jun 2023	29 May 2023

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE248003.001	LB280676	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	31 May 2023	29 May 2023
TP2	SE248003.002	LB280676	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	31 May 2023	29 May 2023
TP3	SE248003.003	LB280676	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	31 May 2023	29 May 2023
TP4	SE248003.004	LB280676	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	31 May 2023	29 May 2023
TP5	SE248003.005	LB280676	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	31 May 2023	29 May 2023
TP6	SE248003.006	LB280676	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	31 May 2023	29 May 2023
TP7	SE248003.007	LB280676	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	31 May 2023	29 May 2023
TP8	SE248003.008	LB280676	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	31 May 2023	29 May 2023
Trip Blank	SE248003.010	LB280676	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	31 May 2023	29 May 2023

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE248003.001	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP2	SE248003.002	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP3	SE248003.003	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP4	SE248003.004	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP5	SE248003.005	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP6	SE248003.006	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP7	SE248003.007	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP8	SE248003.008	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE248003.001	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP2	SE248003.002	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP3	SE248003.003	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP4	SE248003.004	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP5	SE248003.005	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP6	SE248003.006	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023

HOLDING TIME SUMMARY

SE248003 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.

OP Pesticides in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP7	SE248003.007	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP8	SE248003.008	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 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
TP1	SE248003.001	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP2	SE248003.002	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP3	SE248003.003	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP4	SE248003.004	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP5	SE248003.005	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP6	SE248003.006	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP7	SE248003.007	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP8	SE248003.008	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 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
TP1	SE248003.001	LB280673	24 May 2023	24 May 2023	20 Nov 2023	26 May 2023	20 Nov 2023	29 May 2023
TP2	SE248003.002	LB280673	24 May 2023	24 May 2023	20 Nov 2023	26 May 2023	20 Nov 2023	29 May 2023
TP3	SE248003.003	LB280673	24 May 2023	24 May 2023	20 Nov 2023	26 May 2023	20 Nov 2023	29 May 2023
TP4	SE248003.004	LB280673	24 May 2023	24 May 2023	20 Nov 2023	26 May 2023	20 Nov 2023	29 May 2023
TP5	SE248003.005	LB280673	24 May 2023	24 May 2023	20 Nov 2023	26 May 2023	20 Nov 2023	29 May 2023
TP6	SE248003.006	LB280673	24 May 2023	24 May 2023	20 Nov 2023	26 May 2023	20 Nov 2023	29 May 2023
TP7	SE248003.007	LB280673	24 May 2023	24 May 2023	20 Nov 2023	26 May 2023	20 Nov 2023	29 May 2023
TP8	SE248003.008	LB280673	24 May 2023	24 May 2023	20 Nov 2023	26 May 2023	20 Nov 2023	29 May 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
TP1	SE248003.001	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP2	SE248003.002	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP3	SE248003.003	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP4	SE248003.004	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP5	SE248003.005	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP6	SE248003.006	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP7	SE248003.007	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023
TP8	SE248003.008	LB280670	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	05 Jul 2023	31 May 2023

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE248003.001	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP2	SE248003.002	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP3	SE248003.003	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP4	SE248003.004	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP5	SE248003.005	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP6	SE248003.006	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP7	SE248003.007	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP8	SE248003.008	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
Trip Spike	SE248003.009	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
Trip Blank	SE248003.010	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 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
TP1	SE248003.001	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP2	SE248003.002	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP3	SE248003.003	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP4	SE248003.004	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP5	SE248003.005	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP6	SE248003.006	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP7	SE248003.007	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
TP8	SE248003.008	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
Trip Spike	SE248003.009	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 2023
Trip Blank	SE248003.010	LB280672	24 May 2023	24 May 2023	07 Jun 2023	26 May 2023	07 Jun 2023	29 May 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)	TP1	SE248003.001	%	60 - 130%	107
	TP2	SE248003.002	%	60 - 130%	103
	TP3	SE248003.003	%	60 - 130%	104
	TP4	SE248003.004	%	60 - 130%	99
	TP5	SE248003.005	%	60 - 130%	100
	TP6	SE248003.006	%	60 - 130%	102
	TP7	SE248003.007	%	60 - 130%	101
	TP8	SE248003.008	%	60 - 130%	103

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP1	SE248003.001	%	60 - 130%	90
	TP2	SE248003.002	%	60 - 130%	91
	TP3	SE248003.003	%	60 - 130%	84
	TP4	SE248003.004	%	60 - 130%	94
	TP5	SE248003.005	%	60 - 130%	93
	TP6	SE248003.006	%	60 - 130%	91
	TP7	SE248003.007	%	60 - 130%	93
	TP8	SE248003.008	%	60 - 130%	91
d14-p-terphenyl (Surrogate)	TP1	SE248003.001	%	60 - 130%	94
	TP2	SE248003.002	%	60 - 130%	99
	TP3	SE248003.003	%	60 - 130%	90
	TP4	SE248003.004	%	60 - 130%	101
	TP5	SE248003.005	%	60 - 130%	104
	TP6	SE248003.006	%	60 - 130%	99
	TP7	SE248003.007	%	60 - 130%	102
	TP8	SE248003.008	%	60 - 130%	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP1	SE248003.001	%	70 - 130%	90
	TP2	SE248003.002	%	70 - 130%	91
	TP3	SE248003.003	%	70 - 130%	84
	TP4	SE248003.004	%	70 - 130%	94
	TP5	SE248003.005	%	70 - 130%	93
	TP6	SE248003.006	%	70 - 130%	91
	TP7	SE248003.007	%	70 - 130%	93
	TP8	SE248003.008	%	70 - 130%	91
d14-p-terphenyl (Surrogate)	TP1	SE248003.001	%	70 - 130%	94
	TP2	SE248003.002	%	70 - 130%	99
	TP3	SE248003.003	%	70 - 130%	90
	TP4	SE248003.004	%	70 - 130%	101
	TP5	SE248003.005	%	70 - 130%	104
	TP6	SE248003.006	%	70 - 130%	99
	TP7	SE248003.007	%	70 - 130%	102
	TP8	SE248003.008	%	70 - 130%	98
d5-nitrobenzene (Surrogate)	TP1	SE248003.001	%	70 - 130%	88
	TP2	SE248003.002	%	70 - 130%	93
	TP3	SE248003.003	%	70 - 130%	86
	TP4	SE248003.004	%	70 - 130%	95
	TP5	SE248003.005	%	70 - 130%	93
	TP6	SE248003.006	%	70 - 130%	94
	TP7	SE248003.007	%	70 - 130%	96
	TP8	SE248003.008	%	70 - 130%	95

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP1	SE248003.001	%	60 - 130%	100
	TP2	SE248003.002	%	60 - 130%	91
	TP3	SE248003.003	%	60 - 130%	96
	TP4	SE248003.004	%	60 - 130%	91
	TP5	SE248003.005	%	60 - 130%	97

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)	TP6	SE248003.006	%	60 - 130%	99
	TP7	SE248003.007	%	60 - 130%	98
	TP8	SE248003.008	%	60 - 130%	94
	Trip Spike	SE248003.009	%	60 - 130%	95
	Trip Blank	SE248003.010	%	60 - 130%	104
d4-1,2-dichloroethane (Surrogate)	TP1	SE248003.001	%	60 - 130%	94
	TP2	SE248003.002	%	60 - 130%	87
	TP3	SE248003.003	%	60 - 130%	93
	TP4	SE248003.004	%	60 - 130%	89
	TP5	SE248003.005	%	60 - 130%	95
	TP6	SE248003.006	%	60 - 130%	96
	TP7	SE248003.007	%	60 - 130%	94
	TP8	SE248003.008	%	60 - 130%	90
	Trip Spike	SE248003.009	%	60 - 130%	100
	Trip Blank	SE248003.010	%	60 - 130%	101
d8-toluene (Surrogate)	TP1	SE248003.001	%	60 - 130%	98
	TP2	SE248003.002	%	60 - 130%	90
	TP3	SE248003.003	%	60 - 130%	97
	TP4	SE248003.004	%	60 - 130%	92
	TP5	SE248003.005	%	60 - 130%	99
	TP6	SE248003.006	%	60 - 130%	100
	TP7	SE248003.007	%	60 - 130%	98
	TP8	SE248003.008	%	60 - 130%	93
	Trip Spike	SE248003.009	%	60 - 130%	102
	Trip Blank	SE248003.010	%	60 - 130%	105

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP1	SE248003.001	%	60 - 130%	100
	TP2	SE248003.002	%	60 - 130%	91
	TP3	SE248003.003	%	60 - 130%	96
	TP4	SE248003.004	%	60 - 130%	91
	TP5	SE248003.005	%	60 - 130%	97
	TP6	SE248003.006	%	60 - 130%	99
	TP7	SE248003.007	%	60 - 130%	98
	TP8	SE248003.008	%	60 - 130%	94
d4-1,2-dichloroethane (Surrogate)	TP1	SE248003.001	%	60 - 130%	94
	TP2	SE248003.002	%	60 - 130%	87
	TP3	SE248003.003	%	60 - 130%	93
	TP4	SE248003.004	%	60 - 130%	89
	TP5	SE248003.005	%	60 - 130%	95
	TP6	SE248003.006	%	60 - 130%	96
	TP7	SE248003.007	%	60 - 130%	94
	TP8	SE248003.008	%	60 - 130%	90
d8-toluene (Surrogate)	TP1	SE248003.001	%	60 - 130%	98
	TP2	SE248003.002	%	60 - 130%	90
	TP3	SE248003.003	%	60 - 130%	97
	TP4	SE248003.004	%	60 - 130%	92
	TP5	SE248003.005	%	60 - 130%	99
	TP6	SE248003.006	%	60 - 130%	100
	TP7	SE248003.007	%	60 - 130%	98
	TP8	SE248003.008	%	60 - 130%	93

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
LB280674.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB280670.001		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)	%	-	100

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB280670.001		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)	%	-	87
		d14-p-terphenyl (Surrogate)	%	-	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB280670.001	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
LB280670.001		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)	%	-	87
		2-fluorobiphenyl (Surrogate)	%	-	87
		d14-p-terphenyl (Surrogate)	%	-	94

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

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

Sample Number	Parameter	Units	LOR	Result
LB280673.001	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
LB280670.001	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
LB280672.001	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)	%	-	122
		d8-toluene (Surrogate)	%	-	128
		Bromofluorobenzene (Surrogate)	%	-	128
	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
LB280672.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	122

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 %
SE248008.001	LB280674.014	Mercury	mg/kg	0.05	<0.05	0.07	121	34
SE248008.009	LB280674.023	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 %
SE248003.010	LB280676.011	% Moisture	%w/w	1	<1.0	<1.0	200	0
SE248008.011	LB280676.022	% Moisture	%w/w	1	<1	<1	200	0

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE248008.002	LB280670.014		Azinphos-methyl (Guthion)	mg/kg	0.2	0	0	200	0
			Bromophos Ethyl	mg/kg	0.2	0	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	0.001378934	90.000914366	8 200	0
			Diazinon (Dimpylate)	mg/kg	0.5	0.001388071	10.006639883	5 200	0
			Dichlorvos	mg/kg	0.5	0.000629877	7 0	200	0
			Dimethoate	mg/kg	0.5	0.001349697	1 0	200	0
			Ethion	mg/kg	0.2	0.006370063	40.004615577	2 200	0
			Fenitrothion	mg/kg	0.2	0.001629087	30.000757462	3 200	0
			Malathion	mg/kg	0.2	0.006396724	90.004766009	8 200	0
			Methidathion	mg/kg	0.5	0.000415196	70.000395034	0 200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	0	0	200	0
			Total OP Pesticides*	mg/kg	1.7	0	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.424695852	90.431763365	5 30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.456406769	0.465112094	6 30	2
SE248008.009	LB280670.025		Azinphos-methyl (Guthion)	mg/kg	0.2	0	0	200	0
			Bromophos Ethyl	mg/kg	0.2	0	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	0.002221683	30.002871039	1 200	0
			Diazinon (Dimpylate)	mg/kg	0.5	0.002412000	30.002728467	5 200	0
			Dichlorvos	mg/kg	0.5	0.001078293	80.001344810	6 200	0
			Dimethoate	mg/kg	0.5	0.003338472	70.000565175	3 200	0
			Ethion	mg/kg	0.2	0.007469642	60.002769564	0 200	0
			Fenitrothion	mg/kg	0.2	0	0	200	0
			Malathion	mg/kg	0.2	0.002549546	20.002757892	3 200	0
			Methidathion	mg/kg	0.5	0.000812317	00.000467764	1 200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	0	0	200	0
			Total OP Pesticides*	mg/kg	1.7	0	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.393635436	40.443958543	3 30	12
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.428157287	50.486547617	3 30	13

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE248008.002	LB280670.014	Naphthalene	mg/kg	0.1	0.025229928	40.001600372	2 200	0
		2-methylnaphthalene	mg/kg	0.1	0.029396649	00.000964486	2 200	0
		1-methylnaphthalene	mg/kg	0.1	0.032232083	70.001117134	4 200	0
		Acenaphthylene	mg/kg	0.1	0.003238101	20.003861482	5 200	0
		Acenaphthene	mg/kg	0.1	0.000427578	10.000275684	1 200	0
		Fluorene	mg/kg	0.1	0.000687084	20.000565389	2 200	0
		Phenanthrene	mg/kg	0.1	0.033031765	50.010274561	1 200	0
		Anthracene	mg/kg	0.1	0.005149871	60.003968018	4 200	0
		Fluoranthene	mg/kg	0.1	0.028832229	60.026063944	9 200	0
		Pyrene	mg/kg	0.1	0.028956780	90.030954647	7 200	0
		Benzo(a)anthracene	mg/kg	0.1	0.020240245	00.020884684	4 200	0
		Chrysene	mg/kg	0.1	0.015237218	40.016277907	8 200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.020123315	20.021827765	5 200	0
		Benzo(k)fluoranthene	mg/kg	0.1	0.008837816	80.009251170	3 200	0
		Benzo(a)pyrene	mg/kg	0.1	0.017677142	90.019051934	8 200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.013365603	70.015281495	5 200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	0.003038693	10.003399638	4 200	0
		Benzo(ghi)perylene	mg/kg	0.1	0.015771098	70.018004849	4 200	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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE248008.002	LB280670.014		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.121	0.121	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.242	0.242	134	0
			Total PAH (18)	mg/kg	0.8	0	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.436763053	0.431874272	30	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.424695852	0.431763365	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.456440676	0.465112094	30	2
SE248008.009	LB280670.025		Naphthalene	mg/kg	0.1	0.001600659	0.000939065	200	0
			2-methylnaphthalene	mg/kg	0.1	0.001340602	0.000791135	200	0
			1-methylnaphthalene	mg/kg	0.1	0.001561071	0.001091086	200	0
			Acenaphthylene	mg/kg	0.1	0.003120330	0.002470384	200	0
			Acenaphthene	mg/kg	0.1	0.000394134	3 0	200	0
			Fluorene	mg/kg	0.1	0.000768591	0.000468269	200	0
			Phenanthrene	mg/kg	0.1	0.013240101	0.006701538	200	0
			Anthracene	mg/kg	0.1	0.005052647	0.002475990	200	0
			Fluoranthene	mg/kg	0.1	0.039818901	0.015786151	200	0
			Pyrene	mg/kg	0.1	0.047884106	0.018233971	200	0
			Benzo(a)anthracene	mg/kg	0.1	0.038164495	0.015219008	200	0
			Chrysene	mg/kg	0.1	0.033028929	0.009418853	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.042641642	0.012980768	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	0.019732896	0.005607242	200	0
			Benzo(a)pyrene	mg/kg	0.1	0.039828938	0.012171134	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.027915290	0.008857962	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	0.006062325	5 0.002100807	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.032362847	8 0.010118938	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.121	0.121	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.242	0.242	134	0
			Total PAH (18)	mg/kg	0.8	0	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.411639347	9 0.459650736	30	11
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.393635436	4 0.443958543	30	12
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.428157287	5 0.486547617	30	13

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 %
SE248008.001	LB280673.014	Arsenic, As	mg/kg	1	2	2	88	1
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	5.3	6.6	38	22
		Copper, Cu	mg/kg	0.5	2.3	2.5	51	10
		Nickel, Ni	mg/kg	0.5	0.7	0.7	98	0
		Lead, Pb	mg/kg	1	6	7	45	18
		Zinc, Zn	mg/kg	2	9.657784475	10.56175930	50	9
SE248008.009	LB280673.023	Arsenic, As	mg/kg	1	1	1	111	4
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	1.9	1.9	56	1
		Copper, Cu	mg/kg	0.5	2.9	2.2	50	25
		Nickel, Ni	mg/kg	0.5	1.0	1.2	75	22
		Lead, Pb	mg/kg	1	12	11	39	5
		Zinc, Zn	mg/kg	2	11.93839855	10.32821851	48	14

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE248008.002	LB280670.014		TRH C10-C14	mg/kg	20	2.380470096	83.40882872	92	0
			TRH C15-C28	mg/kg	45	4.082394979	22.92493922	65	0
			TRH C29-C36	mg/kg	45	1.181336094	81.53375690	60	0
			TRH C37-C40	mg/kg	100	0	0	200	0
			TRH C10-C36 Total	mg/kg	110	0	0	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	0	0	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	2.380470096	83.40882872	92	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	0	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	4.872177114	23.97264640	88	0
			TRH >C34-C40 (F4)	mg/kg	120	0.391553959	80.48604972	37	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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE248008.009	LB280670.025		TRH C10-C14	mg/kg	20	0	0	200	0
			TRH C15-C28	mg/kg	45	0	0	200	0
			TRH C29-C36	mg/kg	45	0	0	200	0
			TRH C37-C40	mg/kg	100	0	0	200	0
			TRH C10-C36 Total	mg/kg	110	0	0	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	0	0	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	0	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	0	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	0	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	0	0	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE248003.008	LB280672.031	Monocyclic	Benzene	mg/kg	0.1	<0.1	0	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	0.0030273563	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	0.0009971521	200	0
			m/p-xylene	mg/kg	0.2	<0.2	0.0099673359	200	0
			o-xylene	mg/kg	0.1	<0.1	0.0010804036	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	0.0021305703	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	9.0728194819	50	0
			d8-toluene (Surrogate)	mg/kg	-	9.3	9.3486596184	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	9.3615408146	50	0
		Totals	Total BTEX*	mg/kg	0.6	<0.6	0	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	0.0110477396	200	0
SE248008.009	LB280672.032	Monocyclic	Benzene	mg/kg	0.1	0	0	200	0
		Aromatic	Toluene	mg/kg	0.1	0.002427089	30.0023233440	200	0
			Ethylbenzene	mg/kg	0.1	0.000812429	60.0007173863	200	0
			m/p-xylene	mg/kg	0.2	0.008680297	20.0084479554	200	0
			o-xylene	mg/kg	0.1	0.010354203	0.0008696677	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	0.001609841	00.0013420808	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.324543969	28.9812741244	50	4
			d8-toluene (Surrogate)	mg/kg	-	9.580325805	69.1353994252	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.690990450	99.2486216656	50	5
		Totals	Total BTEX*	mg/kg	0.6	0	0	200	0
			Total Xylenes*	mg/kg	0.3	0.009715717	60.0093176231	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE248003.008	LB280672.031		TRH C6-C10	mg/kg	25	<25	0	200	0
			TRH C6-C9	mg/kg	20	<20	0	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.0	9.0728194819	50	0
			d8-toluene (Surrogate)	mg/kg	-	9.3	9.3486596184	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	9.3615408146	50	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	0	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	0	200	0
SE248008.009	LB280672.032		TRH C6-C10	mg/kg	25	0	0	200	0
			TRH C6-C9	mg/kg	20	0	0	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.324543969	28.9812741244	50	4
			d8-toluene (Surrogate)	mg/kg	-	9.580325805	69.1353994252	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.690990450	99.2486216656	50	5
		VPH F Bands	Benzene (F0)	mg/kg	0.1	0	0	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	0	0	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 %
LB280674.002	Mercury	mg/kg	0.05	0.23	0.2	80 - 120	113

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB280670.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	93
		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	96
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	97
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	94
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	99
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	79
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130	102

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB280670.002		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	83
		Diazinon (Dimpylate)	mg/kg	0.5	1.7	2	60 - 140	87
		Dichlorvos	mg/kg	0.5	1.3	2	60 - 140	65
		Ethion	mg/kg	0.2	1.4	2	60 - 140	70
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	87
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB280670.002		Naphthalene	mg/kg	0.1	3.5	4	60 - 140	87
		Acenaphthylene	mg/kg	0.1	3.4	4	60 - 140	84
		Acenaphthene	mg/kg	0.1	3.6	4	60 - 140	90
		Phenanthrene	mg/kg	0.1	3.5	4	60 - 140	88
		Anthracene	mg/kg	0.1	3.4	4	60 - 140	86
		Fluoranthene	mg/kg	0.1	3.4	4	60 - 140	84
		Pyrene	mg/kg	0.1	3.6	4	60 - 140	90
		Benzo(a)pyrene	mg/kg	0.1	3.4	4	60 - 140	85
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	87
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84

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 %
LB280673.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	111
	Cadmium, Cd	mg/kg	0.3	3.9	4.81	70 - 130	82
	Chromium, Cr	mg/kg	0.5	43	38.31	80 - 120	113
	Copper, Cu	mg/kg	0.5	330	290	80 - 120	112
	Nickel, Ni	mg/kg	0.5	200	187	80 - 120	107
	Lead, Pb	mg/kg	1	97	89.9	80 - 120	108
	Zinc, Zn	mg/kg	2	290	273	80 - 120	108

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB280670.002		TRH C10-C14	mg/kg	20	48	40	60 - 140	121
		TRH C15-C28	mg/kg	45	48	40	60 - 140	121
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	97
	TRH F Bands	TRH >C10-C16	mg/kg	25	49	40	60 - 140	122
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	114
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	92

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB280672.002	Monocyclic	Benzene	mg/kg	0.1	4.9	5	60 - 140	97
	Aromatic	Toluene	mg/kg	0.1	4.9	5	60 - 140	97
		Ethylbenzene	mg/kg	0.1	4.8	5	60 - 140	97
		m/p-xylene	mg/kg	0.2	9.7	10	60 - 140	97
		o-xylene	mg/kg	0.1	4.9	5	60 - 140	98
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.2	10	70 - 130	122

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 %
LB280672.002	Surrogates	d8-toluene (Surrogate)	mg/kg	-	12.4	10	70 - 130	124
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.5	10	70 - 130	115

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB280672.002		TRH C6-C10	mg/kg	25	96	92.5	60 - 140	104
		TRH C6-C9	mg/kg	20	83	80	60 - 140	104
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.2	10	70 - 130	122
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.5	10	70 - 130	115
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	67	62.5	60 - 140	108

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%
SE247915.001	LB280674.004	Mercury	mg/kg	0.05	0.20	<0.05	0.2	94

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE248003.001	LB280670.004		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	91
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	95
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	95
			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	91
			Endrin	mg/kg	0.2	<0.2	<0.2	0.2	99
			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	78
			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	-	0.15	0.16	-	100

OP Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE248003.001	LB280670.004		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	<0.2	2	101
			Diazinon (Dimpylate)	mg/kg	0.5	2.0	<0.5	2	102
			Dichlorvos	mg/kg	0.5	1.6	<0.5	2	80
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	1.9	<0.2	2	94
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	7.5	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	92
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	-	89

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE248003.001	LB280670.004	Naphthalene	mg/kg	0.1	3.7	<0.1	4	92
		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	3.6	<0.1	4	91
		Acenaphthene	mg/kg	0.1	3.8	<0.1	4	95
		Fluorene	mg/kg	0.1	<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	Result	Original	Spike	Recovery%
SE248003.001	LB280670.004		Phenanthrene	mg/kg	0.1	3.7	<0.1	4	93
			Anthracene	mg/kg	0.1	3.6	<0.1	4	90
			Fluoranthene	mg/kg	0.1	3.6	<0.1	4	89
			Pyrene	mg/kg	0.1	3.7	<0.1	4	90
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	3.4	<0.1	4	83
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	3.4	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	3.4	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	3.5	<0.3	-	-
			Total PAH (18)	mg/kg	0.8	29	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	90
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	92
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	-	89

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%
SE247915.001	LB280673.004	Arsenic, As	mg/kg	1	65	12	50	105
		Cadmium, Cd	mg/kg	0.3	40	<0.3	50	79
		Chromium, Cr	mg/kg	0.5	72	18	50	109
		Copper, Cu	mg/kg	0.5	64	12	50	103
		Nickel, Ni	mg/kg	0.5	51	0.9	50	100
		Lead, Pb	mg/kg	1	75	27	50	97

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE248003.001	LB280670.004		TRH C10-C14	mg/kg	20	48	<20	40	99
			TRH C15-C28	mg/kg	45	76	56	40	48 Ⓢ
			TRH C29-C36	mg/kg	45	68	74	40	-15 Ⓢ
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	190	130	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	48	<25	40	97
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	48	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	98	110	40	-20 Ⓢ
			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%
SE248003.001	LB280672.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	5.2	<0.1	5	104
			Toluene	mg/kg	0.1	5.3	<0.1	5	105
			Ethylbenzene	mg/kg	0.1	5.3	<0.1	5	107
			m/p-xylene	mg/kg	0.2	11	<0.2	10	106
			o-xylene	mg/kg	0.1	5.4	<0.1	5	108
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.9	9.4	10	99
			d8-toluene (Surrogate)	mg/kg	-	9.9	9.8	10	99
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	10.0	10	94
		Totals	Total BTEX*	mg/kg	0.6	32	<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%
SE248003.001	LB280672.004		TRH C6-C10	mg/kg	25	99	<25	92.5	106
			TRH C6-C9	mg/kg	20	87	<20	80	109
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.9	9.4	10	99
			d8-toluene (Surrogate)	mg/kg	-	9.9	9.8	10	99
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	10.0	-	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.

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE248003.001	LB280672.004	VPH F	Benzene (F0)	mg/kg	0.1	5.2	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	67	<25	62.5	106

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	**N7021**
Order Number	**N7021**
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	**SE248003 R0**
Date Received	24 May 2023
Date Reported	31 May 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*
SE248003.001	TP1	Soil	575g Sand, Soil, Rocks, Plant Matter	24 May 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE248003.002	TP2	Soil	521g Sand, Soil, Rocks, Plant Matter	24 May 2023	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE248003.003	TP3	Soil	587g Sand, Soil, Rocks, Plant Matter	24 May 2023	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE248003.004	TP4	Soil	502g Sand, Soil, Rocks, Plant Matter	24 May 2023	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE248003.005	TP5	Soil	601g Clay, Sand, Soil, Rocks	24 May 2023	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE248003.006	TP6	Soil	628g Clay, Sand, Soil, Rocks	24 May 2023	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE248003.007	TP7	Soil	686g Clay, Sand, Soil, Rocks	24 May 2023	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE248003.008	TP8	Soil	603g Clay, Sand, Soil, Rocks	24 May 2023	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 30/5/2023

PARAMETER	UOM	LOR	TP1 SOIL - 24/5/2023 SE248003.001	TP2 SOIL - 24/5/2023 SE248003.002	TP3 SOIL - 24/5/2023 SE248003.003	TP4 SOIL - 24/5/2023 SE248003.004	TP5 SOIL - 24/5/2023 SE248003.005
Total Sample Weight*	g	1	**575**	**521**	**587**	**502**	**601**
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	TP6 SOIL - 24/5/2023 SE248003.006	TP7 SOIL - 24/5/2023 SE248003.007	TP8 SOIL - 24/5/2023 SE248003.008
Total Sample Weight*	g	1	**628**	**686**	**603**
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 SUMMARY

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.
			**	-	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-qb/environment-health-and-safety.

CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 1 of 1

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:	N7021
Address:	186 Riverstone Parade	Purchase Order No:	QUOTE NUMER: 322722
	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:			

SG S ID	Client Sample ID	Sampling Date/ Time	Matrix (Tick as appropriate) Soil Sample	Water Sample	Other_Cartridge	NO. OF CONTAINERS	ANALYSIS REQUESTED NEO 1	NEO 2	NEO 3	NEO 4	Asbestos NEPM 500g.	Asbestos I.D.	BTEX	TRH	PAH	Metals
1	TP1	24/05/2023	x			2		x			x					
2	TP2	24/05/2023	x			2		x			x					
3	TP3	24/05/2023	x			2		x			x					
4	TP4	24/05/2023	x			2		x			x					
5	TP5	24/05/2023	x			2		x			x					
6	TP6	24/05/2023	x			2		x			x					
7	TP7	24/05/2023	x			2		x			x					
8	TP8	24/05/2023	x			2		x			x					
9	Trip Spike	24/05/2023	x			1							x			
10	Trip Blank	24/05/2023	x			1							x			

Additional Report Formats

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

Notes/Guidelines/LOR/ Special instructions

SGS EHS Sydney COC
SE248003

Relinquished By: Ehsan Zare	Date/Time: **24/05/2023**	Received By: Vanl	Date/Time: 24/5/23 @ 15:35
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: Yes / No	Temperature: 8.5 °C	Sample Security Sealed: Yes / No	Hazards: *e.g. may contain Asbestos*
Comments / Subcontracting details:			

SAMPLE RECEIPT ADVICE

SE248003

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	**N7021**
Order Number	**N7021**
Samples	10

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	Wed 24/5/2023
Report Due	Wed 31/5/2023
SGS Reference	**SE248003**

SUBMISSION DETAILS

This is to confirm that 10 samples were received on Wednesday 24/5/2023. Results are expected to be ready by COB Wednesday 31/5/2023.
Please quote SGS reference SE248003 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	10 Soil	Type of documentation received	COC
Date documentation received	24/5/2023	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	8.5°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

SAMPLE RECEIPT ADVICE

SE248003

CLIENT DETAILS

Client NEO CONSULTING PTY LTD

Project N7021

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP 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	TP1	30	14	26	7	10	11	7
002	TP2	30	14	26	7	10	11	7
003	TP3	30	14	26	7	10	11	7
004	TP4	30	14	26	7	10	11	7
005	TP5	30	14	26	7	10	11	7
006	TP6	30	14	26	7	10	11	7
007	TP7	30	14	26	7	10	11	7
008	TP8	30	14	26	7	10	11	7
009	Trip Spike	-	-	-	-	-	11	-
010	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

SE248003

CLIENT DETAILS

Client NEO CONSULTING PTY LTD

Project N7021

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content
001	TP1	2	9	1	1
002	TP2	2	9	1	1
003	TP3	2	9	1	1
004	TP4	2	9	1	1
005	TP5	2	9	1	1
006	TP6	2	9	1	1
007	TP7	2	9	1	1
008	TP8	2	9	1	1
010	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 .

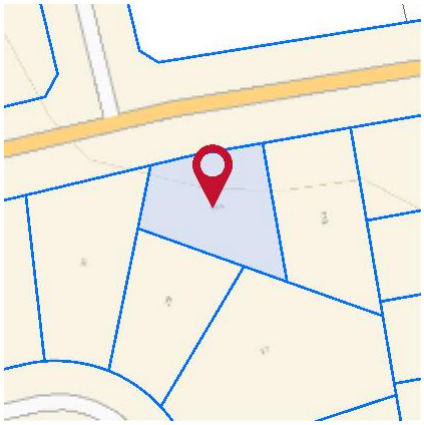
NEO CONSULTING

APPENDIX D

Property Report and Relevant Information

Property Report

15A MOSELEY STREET CARLINGFORD 2118



Property Details

Address:	15A MOSELEY STREET CARLINGFORD 2118
Lot/Section /Plan No:	35/-/DP536982
Council:	CITY OF PARRAMATTA 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	Parramatta Local Environmental Plan 2023 (pub. 3-3-2023)
Land Zoning	R4 - High Density Residential: (pub. 3-3-2023)
Height Of Building	16 m
Floor Space Ratio	1:1
Minimum Lot Size	550 m²
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

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)

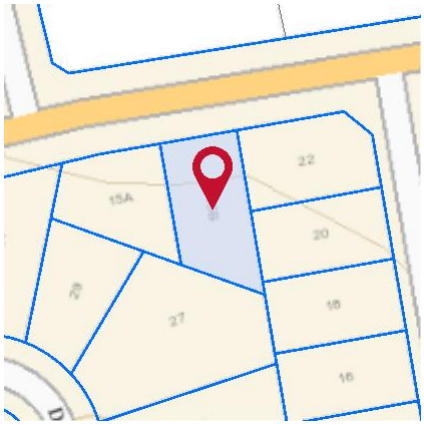
Other matters affecting the property

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

Local Aboriginal Land Council	METROPOLITAN
Regional Plan Boundary	Greater Sydney

Property Report

15B MOSELEY STREET CARLINGFORD 2118



Property Details

Address:	15B MOSELEY STREET CARLINGFORD 2118
Lot/Section /Plan No:	34/-/DP536982
Council:	CITY OF PARRAMATTA 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	Parramatta Local Environmental Plan 2023 (pub. 3-3-2023)
Land Zoning	R4 - High Density Residential: (pub. 3-3-2023)
Height Of Building	16 m
Floor Space Ratio	1:1
Minimum Lot Size	550 m²
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

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)

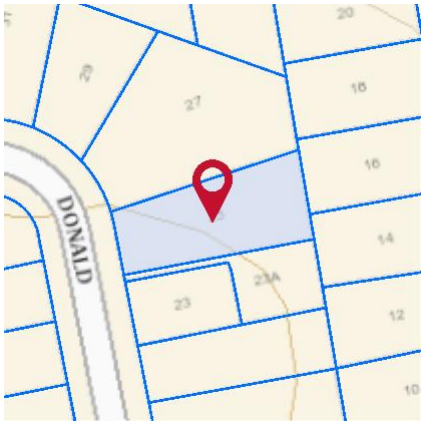
Other matters affecting the property

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

Local Aboriginal Land Council	METROPOLITAN
Regional Plan Boundary	Greater Sydney

Property Report

25 DONALD STREET CARLINGFORD 2118



Property Details

Address:	25 DONALD STREET CARLINGFORD 2118
Lot/Section /Plan No:	5/-/DP35555
Council:	CITY OF PARRAMATTA 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	Parramatta Local Environmental Plan 2023 (pub. 3-3-2023)
Land Zoning	R4 - High Density Residential: (pub. 3-3-2023)
Height Of Building	21 m
Floor Space Ratio	1.49:1
Minimum Lot Size	550 m²
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

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)

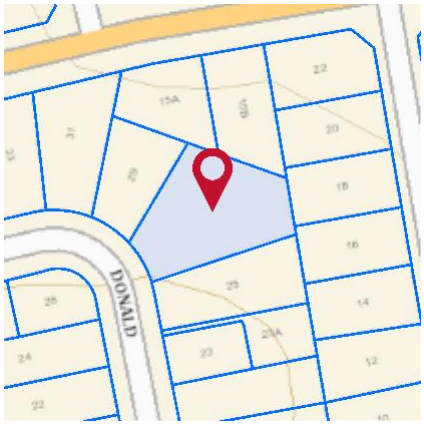
Other matters affecting the property

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

Local Aboriginal Land Council	METROPOLITAN
Regional Plan Boundary	Greater Sydney

Property Report

27 DONALD STREET CARLINGFORD 2118



Property Details

Address:	27 DONALD STREET CARLINGFORD 2118
Lot/Section /Plan No:	33/-/DP536982
Council:	CITY OF PARRAMATTA 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	Parramatta Local Environmental Plan 2023 (pub. 3-3-2023)
Land Zoning	R4 - High Density Residential: (pub. 3-3-2023)
Height Of Building	16 m
Floor Space Ratio	1:1
Minimum Lot Size	550 m²
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

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)

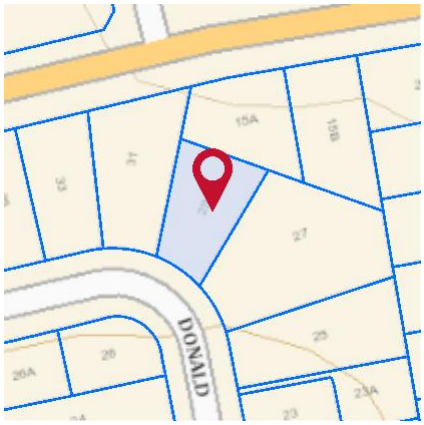
Other matters affecting the property

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

Local Aboriginal Land Council	METROPOLITAN
Regional Plan Boundary	Greater Sydney

Property Report

29 DONALD STREET CARLINGFORD 2118



Property Details

Address:	29 DONALD STREET CARLINGFORD 2118
Lot/Section /Plan No:	32/-/DP536982
Council:	CITY OF PARRAMATTA 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	Parramatta Local Environmental Plan 2023 (pub. 3-3-2023)
Land Zoning	R4 - High Density Residential: (pub. 3-3-2023)
Height Of Building	16 m
Floor Space Ratio	1:1
Minimum Lot Size	550 m²
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

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)

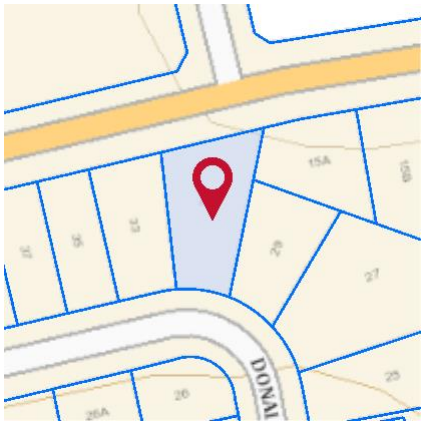
Other matters affecting the property

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

Local Aboriginal Land Council	METROPOLITAN
Regional Plan Boundary	Greater Sydney

Property Report

31 DONALD STREET CARLINGFORD 2118



Property Details

Address:	31 DONALD STREET CARLINGFORD 2118
Lot/Section /Plan No:	2/-/DP35555
Council:	CITY OF PARRAMATTA 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	Parramatta Local Environmental Plan 2023 (pub. 3-3-2023)
Land Zoning	R4 - High Density Residential: (pub. 3-3-2023)
Height Of Building	16 m
Floor Space Ratio	1:1
Minimum Lot Size	550 m²
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

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 (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 (Sustainable Buildings) 2022: Land Application (pub. 29-8-2022)
- 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

Greater Sydney Tree Canopy Cover 2019 Percentage	51.13
Greater Sydney Tree Canopy Cover 2022 Percentage	45.52
Housing and Productivity Contribution	Housing and Productivity Contribution Greater Sydney Region_A&A
Local Aboriginal Land Council	METROPOLITAN
Regional Plan Boundary	Greater Sydney

NEO CONSULTING

APPENDIX E

Borehole and Test Pit Logs

NEO Consulting
186 Riverstone Parade, Riverstone NSW 2765, Australia
Phone: 61 455 485 502

Engineering Log - Testpit

Testpit No: TP1

UTM	: 56H	Excavator	: Shovel	Job Number	: N7021
Easting	: 319362.1988558859	Excavator Supplier	: NEO	Client	: NA
Northing	: 6260838.479604202	Logged By	: Ehsan Zare	Project	: Carlingford
RL	: N/A	Reviewed By	:	Location	: 15A-15B Moseley Street & 25-29 Donald Street, Carlingford NSW 2118
Total Depth	: 0.5m	Date	: 23/05/2023	Loc Comment	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency	Samples	PID
	0.25	Topsoil		CI		Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	M	F		
		Natural		CI		Natural silty CLAY (CI) : stiff, medium plasticity, brown dark brown, with fine grained sand, trace fine sized gravel, inorganic, moist.	M	St		
	0.5					**TP1 Terminated at 0.5m**				
	1									
	1.5									
	2									
	2.5									
	3									

NEO Consulting
186 Riverstone Parade, Riverstone NSW 2765, Australia
Phone: 61 455 485 502

Engineering Log - Testpit

Testpit No: TP2

UTM	: 56H	Excavator	: Shovel	Job Number	: N7021
Easting	: 319387.99854212324	Excavator Supplier	: NEO	Client	: NA
Northing	: 6260849.020538047	Logged By	: Ehsan Zare	Project	: Carlingford
RL	: N/A	Reviewed By	:	Location	: 15A-15B Moseley Street & 25-29 Donald Street, Carlingford NSW 2118
Total Depth	: 0.5m	Date	: 23/05/2023	Loc Comment	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency	Samples	PID
	0.2	Topsoil		CI		Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	M	F		
		Natural		CI		Natural silty CLAY (CI) : stiff, medium plasticity, brown dark brown, with fine grained sand, trace fine sized gravel, inorganic, moist.	M	St		
	0.5					**TP2 Terminated at 0.5m**				
	1									
	1.5									
	2									
	2.5									
	0									

NEO Consulting
186 Riverstone Parade, Riverstone NSW 2765, Australia
Phone: 61 455 485 502

Engineering Log - Testpit

Testpit No: TP3

UTM	: 56H	Excavator	: Shovel	Job Number	: N7021
Easting	: 319357.59581907024	Excavator Supplier	: NEO	Client	: NA
Northing	: 6260853.63885066	Logged By	: Ehsan Zare	Project	: Carlingford
RL	: N/A	Reviewed By	:	Location	: 15A-15B Moseley Street & 25-29 Donald Street, Carlingford NSW 2118
Total Depth	: 0.5m	Date	: 23/05/2023	Loc Comment	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency	Samples	PID
	0.25	Topsoil		CI		Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	M	F		
		Natural		CI		Natural silty CLAY (CI) : stiff, medium plasticity, brown dark brown, with fine grained sand, trace fine sized gravel, inorganic, moist.	M	St		
	0.5					**TP3 Terminated at 0.5m**				
	1									
	1.5									
	2									
	2.5									
	0									

NEO Consulting
186 Riverstone Parade, Riverstone NSW 2765, Australia
Phone: 61 455 485 502

Engineering Log - Testpit

Testpit No: TP4

UTM	: 56H	Excavator	: Shovel	Job Number	: N7021
Easting	: 319375.372975111	Excavator Supplier	: NEO	Client	: NA
Northing	: 6260872.772908162	Logged By	: Ehsan Zare	Project	: Carlingford
RL	: N/A	Reviewed By	:	Location	: 15A-15B Moseley Street & 25-29 Donald Street, Carlingford NSW 2118
Total Depth	: 0.5m	Date	: 23/05/2023	Loc Comment	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency	Samples	PID
	0.2	Topsoil		CI		Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	M	F		
		Natural		CI		Natural silty CLAY (CI) : stiff, medium plasticity, brown dark brown, with fine grained sand, trace fine sized gravel, inorganic, moist.	M	St		
	0.5					**TP4 Terminated at 0.5m**				
	1									
	1.5									
	2									
	2.5									
	0									

NEO Consulting
186 Riverstone Parade, Riverstone NSW 2765, Australia
Phone: 61 455 485 502

Engineering Log - Testpit

Testpit No: TP5

UTM	: 56H	Excavator	: Shovel	Job Number	: N7021
Easting	: 319343.15156154433	Excavator Supplier	: NEO	Client	: NA
Northing	: 6260868.452703133	Logged By	: Ehsan Zare	Project	: Carlingford
RL	: N/A	Reviewed By	:	Location	: 15A-15B Moseley Street & 25-29 Donald Street, Carlingford NSW 2118
Total Depth	: 0.5m	Date	: 23/05/2023	Loc Comment	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency	Samples	PID
	0.25	Topsoil		CI		Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	M	F		
		Natural		CI		Natural silty CLAY (CI) : stiff, medium plasticity, brown dark brown, with fine grained sand, trace fine sized gravel, inorganic, moist.	M	St		
	0.5					**TP5 Terminated at 0.5m**				

1
1.5
2
2.5
0

NEO Consulting
186 Riverstone Parade, Riverstone NSW 2765, Australia
Phone: 61 455 485 502

Engineering Log - Testpit

Testpit No: TP6

UTM	: 56H	Excavator	: Shovel	Job Number	: N7021
Easting	: 319349.20252045314	Excavator Supplier	: NEO	Client	: NA
Northing	: 6260890.085437952	Logged By	: Ehsan Zare	Project	: Carlingford
RL	: N/A	Reviewed By	:	Location	: 15A-15B Moseley Street & 25-29 Donald Street, Carlingford NSW 2118
Total Depth	: 0.5m	Date	: 23/05/2023	Loc Comment	:

Well Diagram	Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency	Samples
		0.2	Topsoil		CI		Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	M	F	
			Natural		CI		Natural silty CLAY (CI) : stiff, medium plasticity, brown dark brown, with fine grained sand, trace fine sized gravel, inorganic, moist.	M	St	
		0.5					**TP6 Terminated at 0.5m**			
		1								
		1.5								
		2								
		2.5								
		0								

NEO Consulting
186 Riverstone Parade, Riverstone NSW 2765, Australia
Phone: 61 455 485 502

Engineering Log - Testpit

Testpit No: TP7

UTM	: 56H	Excavator	: Shovel	Job Number	: N7021
Easting	: 319352.70397411025	Excavator Supplier	: NEO	Client	: NA
Northing	: 6260915.13263488	Logged By	: Ehsan Zare	Project	: Carlingford
RL	: N/A	Reviewed By	:	Location	: 15A-15B Moseley Street & 25-29 Donald Street, Carlingford NSW 2118
Total Depth	: 0.5m	Date	: 23/05/2023	Loc Comment	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency	Samples	PID
	0.2	Topsoil		CI		Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	M	F		
		Natural		CI		Natural silty CLAY (CI) : stiff, medium plasticity, brown dark brown, with fine grained sand, trace fine sized gravel, inorganic, moist.	M	St		
	0.5					**TP7 Terminated at 0.5m**				
	1									
	1.5									
	2									
	2.5									
	0									

NEO Consulting
186 Riverstone Parade, Riverstone NSW 2765, Australia
Phone: 61 455 485 502

Engineering Log - Testpit

Testpit No: TP8

UTM	: 56H	Excavator	: Shovel	Job Number	: N7021
Easting	: 319380.791723452	Excavator Supplier	: NEO	Client	: NA
Northing	: 6260914.67516635	Logged By	: Ehsan Zare	Project	: Carlingford
RL	: N/A	Reviewed By	:	Location	: 15A-15B Moseley Street & 25-29 Donald Street, Carlingford NSW 2118
Total Depth	: 0.5m	Date	: 23/05/2023	Loc Comment	:

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency	Samples	PID
	0.2	Topsoil		CI		Topsoil silty CLAY (CI) : firm, medium plasticity, dark brown, with fine sized gravel, with fine grained sand, organic, moist, (plant roots).	M	F		
		Natural		CI		Natural silty CLAY (CI) : stiff, medium plasticity, brown dark brown, with fine grained sand, trace fine sized gravel, inorganic, moist.	M	St		
	0.5					**TP8 Terminated at 0.5m**				
	1									
	1.5									
	2									
	2.5									
	0									