



PRELIMINARY SITE INVESTIGATION

N09489

Bell Architecture Pty Ltd

PROPOSED DEVELOPMENT AT:

45 Orth Street,

Kingswood NSW 2747

24th July 2024

Report Distribution

Preliminary Site Investigation

Address: 45 Orth Street, Kingswood NSW 2747

Report No: N09489

Date: 24th July 2024

Copies Recipient/Custodian

1 Soft Copy (PDF) – Secured and issued by email Bell Architecture 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 	23 rd July 2024
FINAL	Ehsan Zare Environmental Consultant 	Nick Caltabiano Project Manager 	24 th July 2024

Report Revision	Details	Report No.	Date	Amended By
0	FINAL Report	N09489	24.07.2024	-

Issued By:



Nick Caltabiano

This report may only be reproduced or reissued in electronic or hard copy format by its rightful custodians listed above, with written permission by NEO Consulting. This report is protected by copyright law.

Table of Contents

Executive Summary	5
1. Introduction	6
1.1 Background	6
1.2 Objectives	6
1.3 Trigger for Assessment	6
1.4 Regulatory Framework	6
2. Scope of Work	6
3. Site Details	7
4. Site Condition	7
5. Site History	8
5.1 History of Site	8
5.2 Section 10.7 (2) Planning Certificate	8
5.3 NSW EPA Contaminated Land Register	8
5.4 Protection of the Environment Operation Act (POEO) Public Register	8
5.5 SafeWork NSW Hazardous Goods	8
5.6 Product Spill and Loss History	8
5.7 PFAS Investigation Program	8
6. Environmental Setting	9
6.1 Geology	9
6.2 Soil Landscape	9
6.3 Groundwater	9
6.4 Topography	9
6.5 Site Drainage	9
6.6 Acid Sulphate Soils	9
7. Areas of Environmental Concern	10
8. Conceptual Site Model	11
9. Assessment Criteria	13
9.1 NEPM Health Investigation Level D (HIL-D) – Commercial/Industrial	13
9.2 NEPM Health Screening Level D (HSL-D) – Commercial/Industrial	14
9.3 NEPM Ecological Investigation Level (EIL) – Commercial/Industrial	14
9.4 NEPM Ecological Screening Level (ESL) – Commercial/Industrial	15
9.5 NEPM Management Limits – Commercial/Industrial	15
9.6 NEPM Health Screening Level D (HSL-D) – Commercial/Industrial	16
10. Sampling and Analysis Plan	17
10.1 Sampling Rationale	17
10.2 Field Sampling Methodology	17
11. Analytical Results	19
11.1 Soil Analytical Results	19
11.2 QA/QC Results	19
12. Data Gaps	20

13. Conclusion 20

14. Recommendations 21

References..... 22

Limitations 23

Appendices

- Appendix A – Figures and Site Photographic Log
- Appendix B – QA/QC Discussion
- Appendix C – Laboratory Results and Chain of Custody (NATA)
- Appendix D – Property Report and Relevant Information
- Appendix E – Test Pit Logs

Executive Summary

NEO Consulting were appointed by Bell Architecture Pty Ltd (the client) to undertake a Preliminary Site Investigation (PSI) for the property located at No. 45 Orth Street, Kingswood NSW 2747 (the site). The site is legally identified as Lot 86/-/DP14333 and has an area of approximately 727m². The site is currently zoned as MU1 - Mixed Use.

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

- 1- Demolition of onsite structures; and
- 2- Construction of a medical centre.

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 12th July 2024 by qualified environmental consultants. During the site inspection, a soil investigation program was undertaken with a judgemental approach within the site to identify areas of contamination. Six (6) soil samples were obtained from the topsoil/Fill (0-0.15m). 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.

Historical aerial images indicate that the building structures on the site were built in 1970s. The site originally contained a secondary building that was demolished in the 1980s. That area was covered with a concrete slab and has been used as a parking lot since then.

The soil underlying the front portion of the site consists of dark silty sandy clay topsoil to a depth of approximately 0.5 m, followed by natural reddish-brown silty sandy clay beyond 0.5 m.

Analytical results indicated that all analytes were below the laboratory limit of reporting (LOR) and/or the NEPM 2013 Health and Ecological Assessment Criteria for Residential (A) developments, except for Asbestos in one sample collected from the footprint of the previous secondary building in this area. The identified Asbestos contamination may be the result of the demolition of this structure.

Therefore, post-demolition soil sampling should be conducted in areas beneath the concrete slab to determine the extent of Asbestos contamination, and a Remedial Action Plan (RAP) should be prepared based on the findings of this PSI and the post-demolition soil sampling. The RAP will outline the steps for remediation and validation of this area.

Data gaps remain for the site, including the presence of hazardous materials within onsite. Therefore, a Hazardous Materials Survey (HMS) should be undertaken prior to the demolition of onsite structures.

Based on the site investigation and analytical results, NEO Consulting finds that the site can be made suitable for the proposed development and Residential (A) land use, provided the recommendations within **Section 14** are undertaken.

1. Introduction

1.1 Background

NEO Consulting were appointed by Bell Architecture Pty Ltd (the client) to undertake a Preliminary Site Investigation (PSI) for the property located at No. 45 Orth Street, Kingswood NSW 2747 (the site). The site is legally identified as Lot 86/-/DP14333 and has an area of approximately 727m². The site is currently zoned as MU1 - Mixed Use.

A site inspection was undertaken on 12th July 2024 by qualified environmental consultants. Reporting, photographs and sampling were conducted on this day and with reference to the relevant regulatory criterion (**2. Scope of Work**). Further information of the inspection is described in **4. Site Condition**.

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

- 1- Demolition of onsite structures; and
- 2- Construction of a medical centre.

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 Trigger for Assessment

The trigger for assessment is to support a Development Application (DA) that is submitted to Penrith City Council.

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
- Protection of the Environment Operations (Waste) Regulations, 2005;
- Blacktown Local Environmental Plan (2015); and
- Blacktown Development Control Plan (BDGP 2015).

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 and Local Council records and planning certificates and NSW EPA Contaminated Land Records and 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	45 Orth Street, Kingswood NSW 2747
Deposited plan	Lot 186/-/DP14333
Zoning	MU1 - Mixed Use
Locality map	Figure 1, Appendix A
Site Boundary	Figure 2, Appendix A
Area	727m ²
LGA	Penrith City Council
Site Coordinates	-33.759687, 150.716065
GDA 94	288,466.14 mE, : 6,262,123.16 mS, 56H

Table 2. Surrounding land-use

Direction from site	Land-use
North	Parking lot
East	Commercial Property
South	Orth Street
West	Somerset Street

4. Site Condition

A site inspection was undertaken on 12th July 2024 by NEO Consulting. During the site inspection, the following observations were noted (photographs in [Appendix A](#)):

- The site was contained a building structure within the southern portion used as medical centre.
- The site was contained a parking area within the central and northern portion.
- The groundcover of the parking lot was consisted of concrete slab and gravel.
- The front portion of the site had lawn groundcover.
- The soil underlying the front portion of the site consists of dark silty sandy clay topsoil to a depth of approximately 0.5 m, followed by natural reddish-brown silty sandy clay beyond 0.5 m.
- No oil staining was observed within the topsoil and subsoil.
- The site gradient was overall flat.

The nearest human receptors include adjoining residential and commercial properties, and environmental receptor includes Werrington Creek located ~1.5km east of the site.

5. Site History

5.1 History of Site

Historical aerial images indicate that the building structure on the site was built in 1970s. The site originally contained a secondary building that was demolished in the 1980s. That area was covered with a concrete slab and has been used as a parking lot since then.

A summary of available 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
1943-1947	The site and surrounding area comprised a rural vegetated landscape.
1955	The site remained unchanged. The surrounding area saw an increase in residential developments.
1975-1986	The site contained a dwelling within the southern portion and a secondary building within the northern portion. The surrounding area increased further in residential developments to the east.
1998	The building within the northern portion of the site was removed and that area was covered with a concrete slab. The surrounding area increased in commercial developments to the west.
2004-2005-2013	The site was in a condition similar to its current state. The surrounding area improved in commercial 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. No active licences were found within 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. No evidence of underground storage of chemicals was encountered during the site inspection.

5.6 Product Spill and Loss History

The visual site inspection did not identify evidence of surface and subsurface staining within the site.

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 Penrith 1:100000 geology map indicates that the site is underlain by Bringelly Shale of the Wianamatta Group. This unit regionally consists of Shale, carbonaceous claystone, laminite, lithic sandstone, rare coal.

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 Luddenham soil landscape. This landscape is normally recognised by undulating to rolling low hills on Wianamatta Group shales, often associated with Minchinbury Sandstone; Local relief of 50–80 m and slopes of 5–20%. Soils are shallow (<100 cm) dark Podzolic Soils or massive Earthy Clays on crests; moderately deep (70–150 cm) Red Podzolic Soils on upper slopes; moderately deep (<150 cm) Yellow Podzolic Soils and Prairie Soils on lower slopes and drainage lines.

6.3 Groundwater

The site is located within Upper South Creek Hydrogeological Landscape (HGL). This HGL is characterised by low hills on Triassic shale and sandstone within the Sydney Basin at Badgerys Creek and Catherine Field. It is an area of moderate to high rainfall (~800 mm) located in the centre of the Western Sydney region.

Water predominantly moves laterally through the shale layers (although vertical movement through fracturing does occur) and vertically through interbedded sandstone and sandstone fracturing (primary and secondary porosity). Considerable lateral water movement may occur at sandstone shale interface. Water is likely to move relatively slowly through this landscape due to the low gradient and is therefore likely to accumulate more salt out of the soils and bedrock.

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

A groundwater bore search was conducted on 23rd July 2024. No Bore was found within 500m radius of the site.

It was beyond the scope of works to study the groundwater flow direction. However, based on the regional topography, groundwater is expected to flow towards Werrington Creek located ~1.5km east of the site.

6.4 Topography

The site gradient is overall flat. The regional topography surrounding the site has a gentle sloping (<5%) towards east.

6.5 Site Drainage

Site drainage is likely consistent with the local topography. Stormwater probably flows east via the municipal stormwater system and reaches Werrington Creek located ~1.5km east of the site.

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 (**Table 4**).

Table 4. Potential Areas and Contaminants of Concern

AEC	Potentially Contaminating / Hazardous Activity	CoPC	Likelihood of Site Impact	Comments
Entire site	Onsite Carparking Hazardous materials from demolition of historical onsite structures	TRH, BTEX, PAH, OCP/OPP, PCBs, Metals, Asbestos	Low	No staining was observed within the site.
Onsite structures	Hazardous materials	ACM, Lead (paint and/or dust), PCBs, SMF	Low	A HMS should be undertaken.

ABBREVIATIONS: TOTAL RECOVERABLE HYDROCARBONS (TRH), BENZENE TOLUENE ETHYLBENZENE AND XYLENE (BTEX), POLYCYCLIC AROMATIC HYDROCARBON (PAH), ORGANOCHLORINE PESTICIDES (OCPs), ORGANOPHOSPHORUS PESTICIDES (OPPs), POLYCHLORINATED BIPHENYLS (PCBs), ASBESTOS CONTAINING MATERIALS (ACM), HAZARDOUS MATERIALS SURVEY (HMS), OZONE DEPLETING SUBSTANCES (ODS), SYNTHETIC MINERAL FIBRES (SMF), POLYCHLORINATED BIPHENYLS (PCBs), METALS INCLUDING ARSENIC (AS), CADMIUM (CD), CHROMIUM (CR), COPPER (CU), LEAD (PB), NICKEL (NI), ZINC (ZN) AND MERCURY (HG).

8. Conceptual Site Model

A Conceptual Site Model (CSM) was developed to provide an indication of potential risks associated with contamination source and contamination migration pathways, receptors and exposure mechanisms. The CSM provides a framework for the review of the reliability and useability of the data collected and to identify data gaps 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 5. Conceptual Site Model

Potential Sources and Mechanism of Contamination	Potential Receptor	Potential Exposure Pathway	Complete connection	Risk	Justification/ Control Measures
Onsite Carparking (Top down)	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.
Hazardous materials from demolition of historical onsite structures (Top down)			Complete (Future)	Low	If present, impacted soils are to be disposed of off-site in accordance with an unexpected finds protocol.
Hazardous materials within onsite structures (Top down)		Natural soils	Migration of contamination from fill layer.	Complete (current)	Low
			Complete (Future)	Low	If present, impacted soils are to be disposed of off-site.
	Werrington Creek located ~1.5km east of the site	Migration of impacted groundwater and surface water run-off.	Incomplete (current)	Low	The local topography surrounding the site falls toward Werrington Creek located ~1.5km east of the site. It is unlikely surface waters from the site

		Incomplete (future)	Low	reach this waterway. If present, contaminated soils and groundwater are likely to be remediated.
Underlying aquifer	Leaching and migration of contaminants through groundwater infiltration.	Incomplete (current)	Low	leachability of contaminants is likely to be limited due to presence of clayey subsoil.
		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 D (HIL-D) – Commercial/Industrial

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. Tier 1 HILs are divided into sub-criteria. The sub-criteria appropriate to the site is HIL D –Commercial/Industrial.

Table 6. HIL-D

NEPM Assessment Criteria	NEPM 2013 Commercial/Industrial Soil HIL-D, mg/kg
Pesticides	
HCB	80
Heptachlor	50
Chlordane	530
Aldrin & Dieldrin	45
Endrin	100
DDT+DDE+DDT	3,600
Endosulfan	2,000
Methoxychlor	2,500
Mirex	100
Metals	
Arsenic, As	3,000
Cadmium, Cd	900
Chromium, Cr	3,600
Copper, Cu	240,000
Lead, Pb	1,500
Nickel, Ni	6,000
Zinc, Zn	400,000
Mercury, Hg	730
Polycyclic Aromatic Hydrocarbons	
Carcinogenic PAH (as BaP TEQ)	40
Total PAH (18)	4,000
Polychlorinated biphenyls	
Total PCBs	8

9.2 NEPM Health Screening Level D (HSL-D) – Commercial/Industrial

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 D – Commercial/Industrial.

Table 7. HSL-D

Assessment Criteria	NEPM 2013 Soil HSL-D for Vapour Intrusion, 0-<1m Depth, Clay,
Monocyclic Aromatic Hydrocarbons	
Benzene	4
Toluene	NL
Ethylbenzene	NL
Xylenes	NL
Polycyclic Aromatic Hydrocarbons	
Naphthalene	NL
Total Recoverable Hydrocarbons	
TRH C6-C10 - BTEX (F1)	310
TRH >C10-C16 - N (F2)	NL

9.3 NEPM Ecological Investigation Level (EIL) – Commercial/Industrial

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 8. Generic EIL

Assessment Criteria	NEPM 2013 Soil Generic EIL for Commercial/Industrial, mg/kg
Metals	
Arsenic, As	160
Lead, Pb	1800
Pesticides	
DDT	640
Polycyclic Aromatic Hydrocarbons	
Naphthalene	370

9.4 NEPM Ecological Screening Level (ESL) – Commercial/Industrial

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 9. ESL

Assessment Criteria	NEPM 2013 Soil ESL for Urban, Commercial/Industrial, Fine - Grained Soil, mg/kg
Monocyclic Aromatic Hydrocarbons	
Benzene	95
Toluene	135
Ethylbenzene	185
Xylenes	95
Polycyclic Aromatic Hydrocarbons	
BaPyr (BaP)	1.4
Total Recoverable Hydrocarbons	
TRH C6-C10	215
TRH >C10-C16	170
TRH >C16-C34 (F3)	2,500
TRH >C34-C40 (F4)	6,600

9.5 NEPM Management Limits – Commercial/Industrial

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. Commercial/Industrial limits have been adopted based on the proposed land use.

Table 10. Management Limits

Assessment Criteria	NEPM 2013 Management Limits for Commercial/Industrial Space, Fine-Grained Soil, mg/kg
Total Recoverable Hydrocarbons	
TRH C6-C10	800
TRH >C10-C16	1,000
TRH >C16-C34 (F3)	5,000
TRH >C34-C40 (F4)	10,000

9.6 NEPM Health Screening Level D (HSL-D) – Commercial/Industrial

The assessed soil must not contain Asbestos Containing Materials (ACM) in the excess of 0.05%w/w and Asbestos Fines (AF) and Fibrous Asbestos (FA) in the excess of 0.001%w/w. Additionally, surface soil within the site must be free of visible ACM, AF and FA.

Table 11. HSL-D for Asbestos

Assessment Criteria	Health Screening Level (%w/w) Commercial/Industrial (D)
Asbestos	
ACM	0.05%w/w
FA and AF (friable asbestos)	0.001%w/w
All forms of asbestos	No visible asbestos for surface soils

10. Sampling and Analysis Plan

10.1 Sampling Rationale

Table 12. 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	Six (6) soil samples from six (6) locations.	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
Field QA/QC Samples	Duplicate (TP6) Trip Spike (TS) Trip Blank (TB)	QA/QC sampling was undertaken in general accordance with specifications outlined in Australian Standards (AS) 4482.1-2005, Standard Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil and NEPM 2013 Schedule B2; <i>Guideline on Site Characterisation</i> .
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

Sampling was undertaken using borehole drilling and test pit excavation. Test pits (TP1 and 2, TP4,5 and 6) were excavated with a shovel to a depth of ~0.6m bgl. Boreholes (TP3) were drilled using a flight auger to a depth of ~6m bgl. The samples were collected using clean nitril gloves and placed into laboratory 250m sample jars. The samples were screened in the field using a handheld Photoionisation Detector (PID). The equipment was decontaminated with detergent and deionised water between samplings. 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.

Additional 500ml soil samples were collected from areas beneath previous onsite secondary building (TP3) and current building (TP5) for Asbestos analysis with NEPM Gravimetric Method.

Borehole and test pit logs are provided in [Appendix E](#).

Table 13. Sample details

Sample ID	Depth (m)	Sample Description	Matrix	PID (ppm)
TP1	0-0.15	Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine-grained sand, trace fine sized gravel, organic, slightly moist.	Topsoil	<1.0
TP2	0-0.15	Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine-grained sand, trace fine sized gravel, organic, slightly moist.	Topsoil	<1.0
TP3	0-0.15	Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine-grained sand, trace fine sized gravel, organic, slightly moist.	Topsoil	<1.0
TP4	0-0.15	Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine-grained sand, trace fine sized gravel, organic, slightly moist.	Topsoil	<1.0
TP5	0-0.15	Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine-grained sand, trace fine sized gravel, organic, slightly moist.	Topsoil	<1.0
TP6	0-0.15	Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine-grained sand, trace fine sized gravel, organic, slightly moist, plant rootlets.	Topsoil	<1.0

Table 14. Laboratory Testing Program

Sample	Analyses
TP1, TP2, TP4, and TP6	TRH, BTEX, PAH, OCP, OPP, PCBs, Metals and Asbestos (AS4964)
TP3 and TP5	TRH, BTEX, PAH, OCP, OPP, PCBs, Metals and Asbestos (AS4964 and NEPM Gravimetric Method)

11. Analytical Results

11.1 Soil Analytical Results

Analytical results indicated that all analytes were below the laboratory limit of reporting (LOR) and/or the NEPM 2013 Health and Ecological Assessment Criteria for Residential (A) developments, except for Asbestos in TP3 which exceeded HSL-D (FA/AF). The identified asbestos contamination may be the result of the demolition of this a structure within this area.

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

11.2 QA/QC Results

Analytical results for the field Trip Blank were below LOR and all RPDs for field Duplicate and Trip Spike were within acceptable limits ($\pm 30\%$).

SGS laboratory report SE268113 R0 indicates all Data Quality Objectives were met with the exception of the following:

- Duplicate: PAH (Polynuclear Aromatic Hydrocarbons) in Soil, 1 item.

Overall, the QA/QC results indicate a good quality data set.

12. Data Gaps

- The presence and extent of hazardous materials within onsite structures; A Hazardous Material Survey (HMS) is required prior to demolition of onsite structures; and
- Extent of Asbestos contamination beneath concrete slab within the central portion of the site. Post-demolition sampling is required.

13. Conclusion

Historical aerial images indicate that the building structures on the site were built in 1970s. The site originally contained a secondary building that was demolished in the 1980s. That area was covered with a concrete slab and has been used as a parking lot since then.

The soil underlying the front portion of the site consists of dark silty sandy clay topsoil to a depth of approximately 0.5 m, followed by natural reddish-brown silty sandy clay beyond 0.5 m.

Analytical results indicated that all analytes were below the laboratory limit of reporting (LOR) and/or the NEPM 2013 Health and Ecological Assessment Criteria for Residential (A) developments, except for asbestos in one sample collected from the footprint of the previous secondary building in this area. The identified asbestos contamination may be the result of the demolition of this structure.

Therefore, post-demolition soil sampling should be conducted in areas beneath the concrete slab to determine the extent of asbestos contamination, and a Remedial Action Plan (RAP) should be prepared based on the findings of this PSI and the post-demolition soil sampling. The RAP will outline the steps for remediation and validation of this area.

Data gaps remain for the site, including the presence of hazardous materials within onsite. Therefore, a Hazardous Materials Survey (HMS) should be undertaken prior to the demolition of onsite structures.

Based on the site investigation and analytical results, NEO Consulting finds that the site can be made suitable for the proposed development and Residential (A) land use, provided the recommendations within **Section 14** are undertaken.

14. Recommendations

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

- All structures onsite should have a Hazardous Materials Survey (HMS) conducted by a qualified occupational hygienist and/or environmental consultant for the site prior to any demolition or renovation works in accordance with relevant Australian Standards, SafeWork NSW codes of practice and any other applicable requirements;
- If ACM confirmed by the HMS, then following is required:
 - An Asbestos Removal Management Plan (ARMP); The ARMP should address the removal of surface Asbestos contamination near onsite structures.
 - The removal works will require a Class B licensed removal contractor;
 - Reporting on transport and management of asbestos waste in accordance with EPA Part 7 of the Protection of the Environment Waste Regulation 2017; and
 - A clearance inspection and clearance certificate will be required post demolition by a licensed asbestos assessor under clauses 473 & 474 of NSW Work Health and Safety Regulations 2017.
- The demolition of structures and excavation activity on site be undertaken in accordance with relevant Australian Standards, SafeWork NSW codes of practice and any other applicable requirements;
- Post-demolition sampling and inspection of the site by an NSW Licensed Asbestos Assessor (LAA) to further assess the presence of Asbestos beneath concrete slab within central portion of the site.
- A Remedial Action Plan (RAP) should be prepared based on the findings of this PSI and the post-demolition soil sampling. The RAP will outline the steps for remediation and validation of this area.
- Any other soils requiring excavation, onsite reuse and/or removal must be classified in accordance with "Waste Classification Guidelines Part 1: Classifying Waste" NSW EPA (2014); and
- A site specific 'Unexpected Finds Protocol' is to be made available for reference for all occupants and/or site workers in the event unanticipated contamination is discovered, 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;
- 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



APPENDIX A

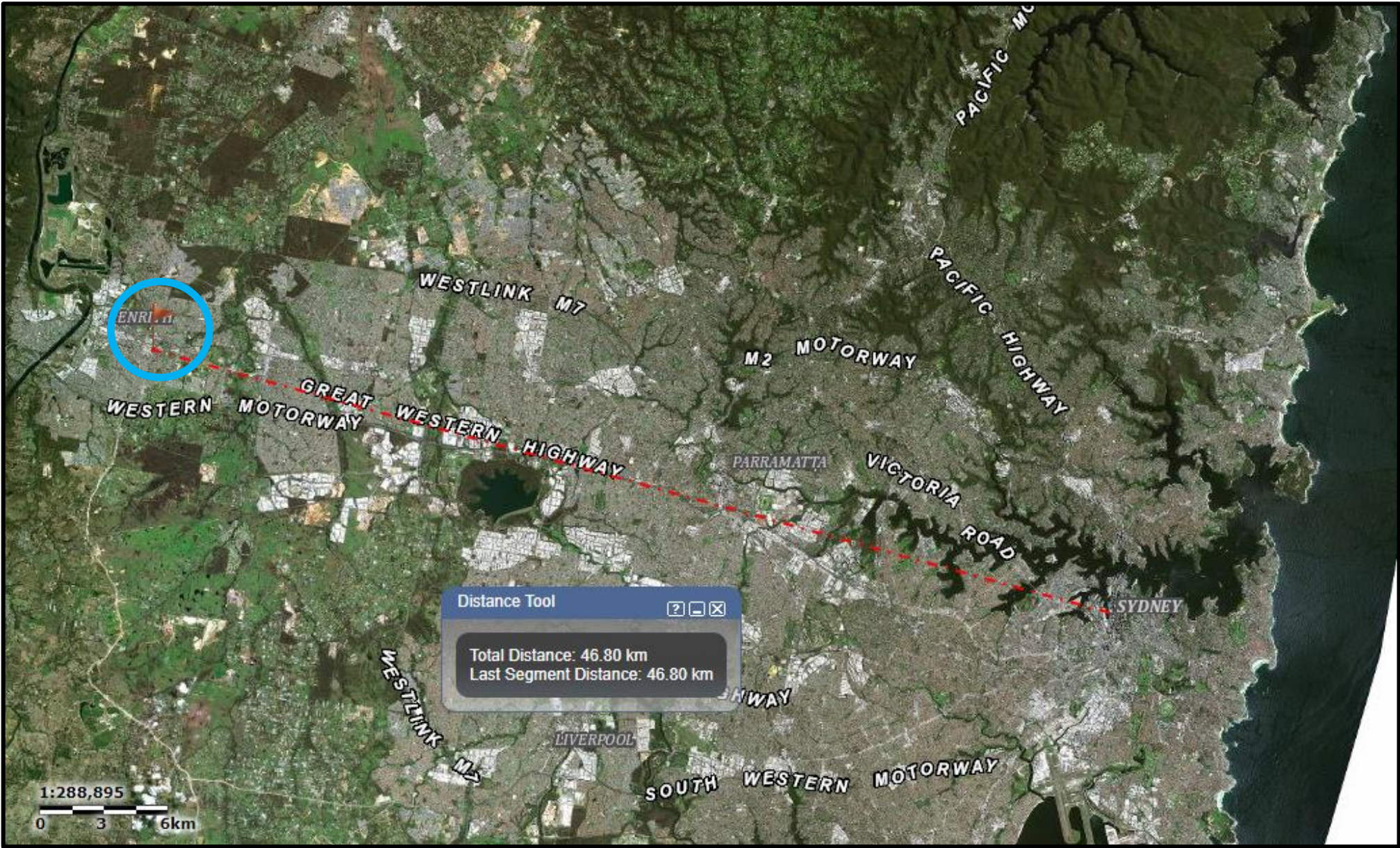
Figures and Photographic Log

NEO CONSULTING



Figure 1. The site is located approximately 46km west of Sydney CBD.

 Site location



Source: Six Maps

Figure 1	Locality Map
Project	45 Orth Street, Kingswood NSW 2747



Figure 2. The approximate area of the property is 727m². Six (6) soil samples were obtained from the site.

● Soil Sample Locations

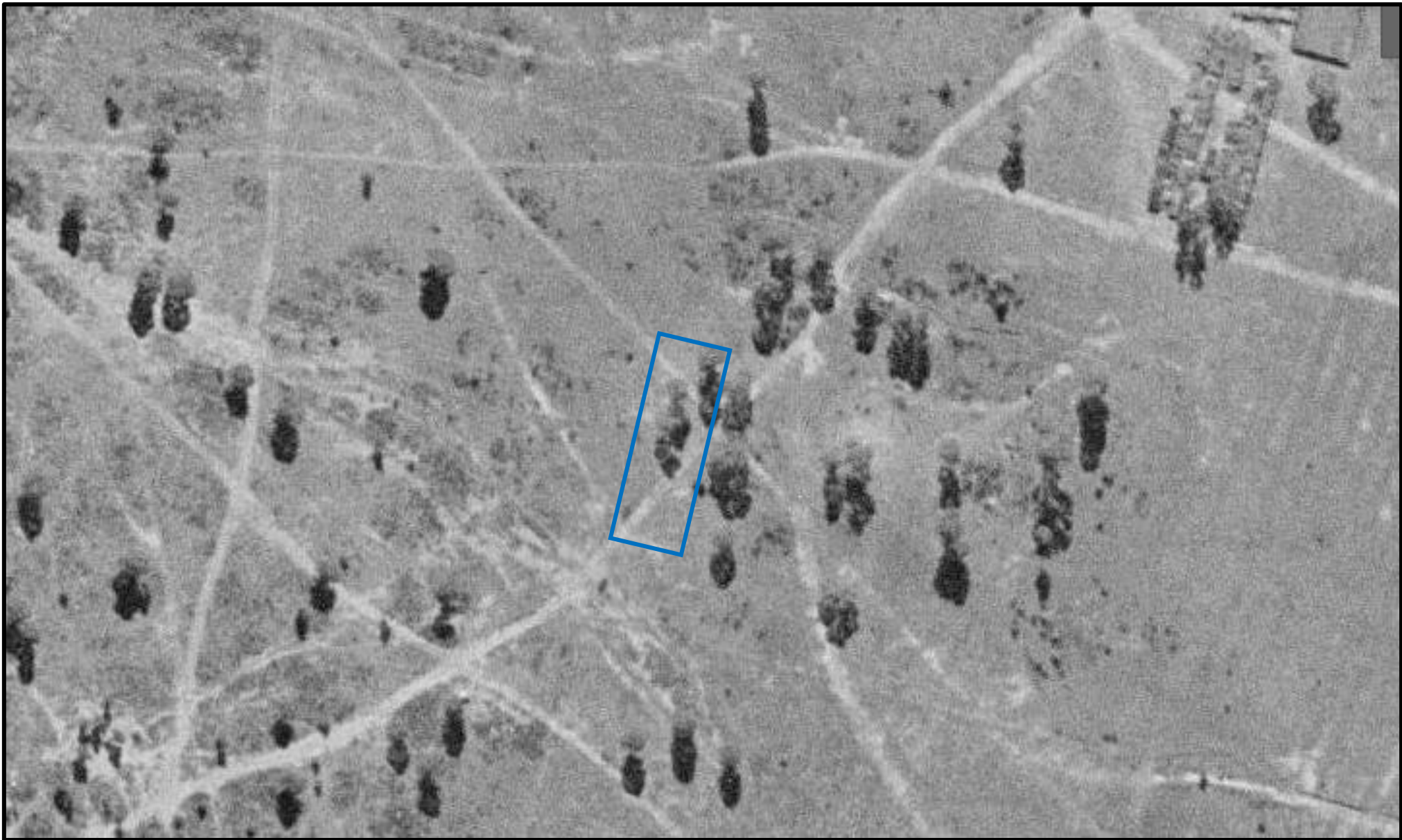


Source: Nearmap

Figure 2	Site Area
Project	45 Orth Street, Kingswood NSW 2747



Figure 3. Aerial image of the site and surrounding area 1943. The site and surrounding area comprised a rural vegetated landscape.



Source: NSW Historical Imagery

Figure 3	Aerial Image 1943
Project	45 Orth Street, Kingswood NSW 2747



Figure 4. Aerial image of the site and surrounding area 1955. The site remained unchanged. The surrounding area saw an increase in residential developments.



Source: NSW Historical Imagery

Figure 4	Aerial Image 1955
Project	45 Orth Street, Kingswood NSW 2747



Figure 5. Aerial image of the site and surrounding area 1975. The site contained a dwelling within the southern portion and a secondary building within the northern portion. The surrounding area increased further in residential developments to the east.



Source: NSW Historical Imagery

Figure 5	Aerial Image 1975
Project	45 Orth Street, Kingswood NSW 2747



Figure 6. Aerial image of the site and surrounding area 1998. The building within the northern portion of the site was removed and that area was covered with a concrete slab. The surrounding area increased in commercial developments to the west.



Source: NSW Historical Imagery

Figure 6	Aerial Image 1998
Project	45 Orth Street, Kingswood NSW 2747



Figure 7. Aerial image of the site and surrounding area 2013. The site was in a condition similar to its current state. The surrounding area improved in commercial developments.



Source: NSW Historical Imagery

Figure 7	Aerial Image 2013
Project	45 Orth Street, Kingswood NSW 2747



Figure 8. Front view of the dwelling within the site.



Figure 9. Western aspect of the dwelling.



Figure 10. Parking with concrete groundcover within the rear of the site.



Figure 11. Test pit excavation of TP4 beneath onsite dwelling.

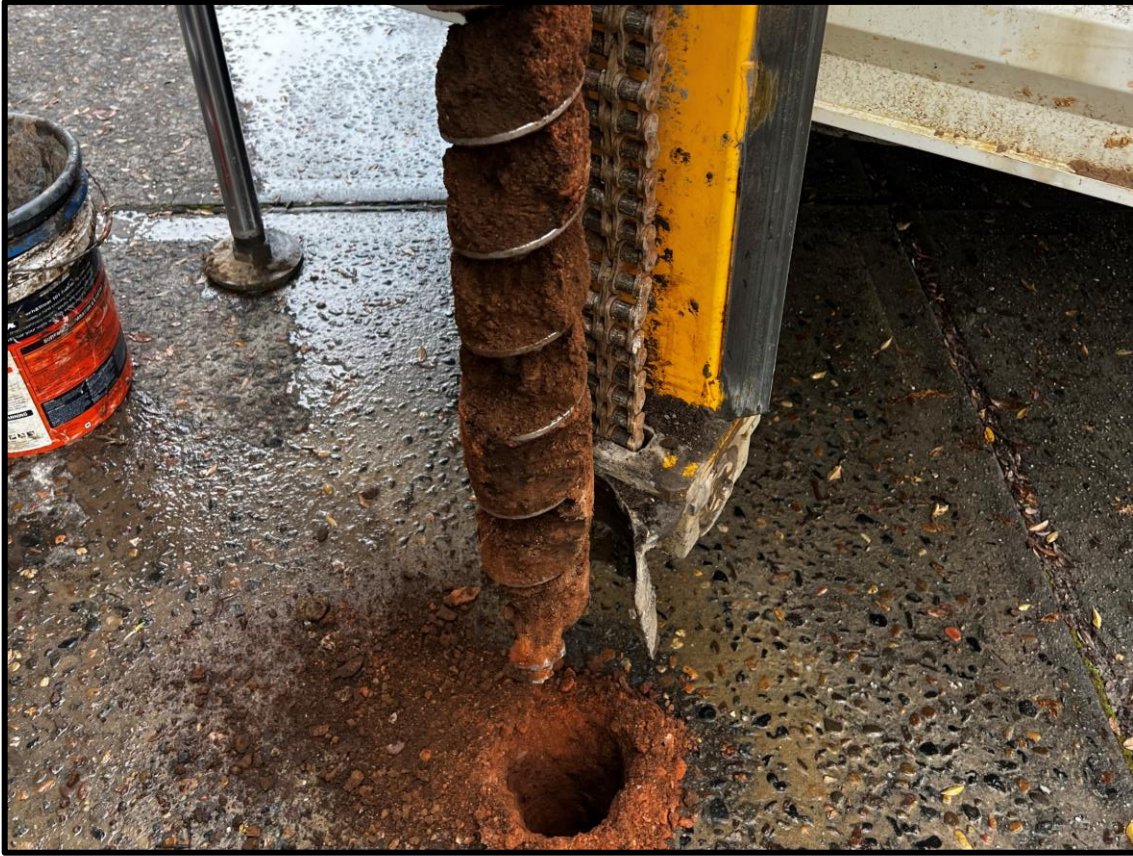


Figure 12. Borehole drilling of TP3 within the concrete area.



Figure 13. Test pit excavation of TP4 underneath onsite building



APPENDIX B

QA/QC Discussion

NEO CONSULTING

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. DQOs

Step 1: State the problem	NEO Consulting have identified the following risks to human and environmental receptors: - The proposed development for the site includes demolition of onsite buildings and construction of a medical centre. The intended future use of the site is considered a sensitive human health risk setting.
Step 2: Identify the decision/goal of the study	NEO Consulting considered the site history, the use of this site, and the NEPM Guidelines, 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 report? - 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; - Soil sampling and analysis programs 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 SAQP identify; - Any exceedance of the adopted assessment criteria for soil; - 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; Data Gap investigation, Remediation Action Plan and Site Validation.
Step 6: Specify performance or acceptance criteria	For judgemental soil sampling the data must meet the following qualifiers; - Acceptable recovery on all surrogate spikes used in laboratory analyses; - Acceptable analytical method to ensure detection limit appropriate for all analytes; If these conditions are not met, then chemical analysis will require re-testing for all samples with fresh aliquot.
Step 7: 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



APPENDIX C

Laboratory Results and Chain of Custody (NATA)

NEO CONSULTING

Table 16. Total Recoverable Hydrocarbon (TRH) analytical results. Values are presented as mg/kg. NL = Not Limiting.

Assessment Criteria		TRH C ₆ -C ₁₀	TRH C ₆ -C ₁₀ - BTEX (F1)	TRH >C ₁₀ -C ₁₆	TRH >C ₁₀ -C ₁₆ - N (F2)	TRH >C ₁₆ -C ₃₄ (F3)	TRH >C ₃₄ -C ₄₀ (F4)
NEPM 2013 Commercial/Industrial Soil HSL-D for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		26 000	310	20 000	NL	27 000	38 000
NEPM 2013 Commercial/Industrial Soil HSL-D for direct contact, mg/kg							
NEPM 2013 Commercial/Industrial Soil ESL-D for direct contact, mg/kg		215		170		2500	6600
NEPM 2013 Management Limits for Commercial/Industrial for fine-grained soil, mg/kg		800		1000		5000	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	<90	<120
TP2	0-0.15	<25	<25	<25	<25	<90	<120
TP3	0-0.15	<25	<25	<25	<25	<90	<120
TP4	0-0.15	<25	<25	<25	<25	<90	<120
TP5	0-0.15	<25	<25	<25	<25	<90	<120
TP6	0-0.15	<25	<25	<25	<25	<90	<120
D1	0-0.15	<25	<25	<25	<25	<90	<120

Table 17. Benzene, Toluene, Ethylbenzene and Xylene (BTEX) analytical results. Values are presented as mg/kg. NL = Not Limiting.

Assessment Criteria		Benzene	Toluene	Ethylbenzene	Xylenes
NEPM 2013 Commercial/Industrial Soil HSL-D for Vapour Intrusion, 0- <1m depth, Clay, mg/kg		4	NL	NL	NL
NEPM 2013 Commercial/Industrial Soil ESL-D for direct contact, mg/kg		95	135	185	95
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
D1	0-0.15	<0.1	<0.1	<0.1	<0.3
TB	0-0.15	<0.1	<0.1	<0.1	<0.3
TS	0-0.15	[94%]	[94%]	[94%]	[94%]

Table 18. Polycyclic Aromatic Hydrocarbon (PAH) and Polychlorinated biphenyl (PCBs) analytical results. Not Analysed (N.A.)

Assessment Criteria		Naphthalene	Benzo(a)pyrene	Carcinogenic PAH (as BaP TEQ)	Total PAH (18)	Total PCBs
NEPM 2013 Commercial/Industrial Soil HSL-D for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		NL				
NEPM 2013 Soil Generic EIL for Commercial/Industrial, mg/kg		370				
NEPM 2013 Soil ESL for Commercial/Industrial for fine-grained soil, mg/kg			1.4			
NEPM 2013 Commercial/Industrial Soil HIL-D, mg/kg			1.00 TEF			
Sample	Depth (m)	mg/kg	mg/kg	TEQ (mg/kg)	mg/kg	mg/kg
TP1	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
TP2	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
TP3	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
TP4	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
TP5	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
TP6	0-0.15	<0.1	<0.1	<0.3	<0.8	<1
D1	0-0.15	<0.1	<0.1	<0.3	<0.8	<1

Table 19. 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 Commercial/Industrial Soil HIL-D, mg/kg		3000	900	3600	240 000	1500	6000	400 000	730
NEPM 2013 Soil Generic EIL for Commercial/Industrial, mg/kg		160				1800			
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	18	23	67	5.8	170	<0.05
TP2	0-0.15	7	1.1	20	67	170	5.8	470	<0.05
TP3	0-0.15	6	<0.3	18	7.7	24	3.8	32	<0.05
TP4	0-0.15	5	<0.3	13	8.2	22	4.0	30	<0.05
TP5	0-0.15	4	<0.3	14	60	120	9.7	250	0.09
TP6	0-0.15	4	<0.3	11	27	44	5.1	62	0.11
D1	0-0.15	4	<0.3	10	28	45	5.8	63	0.14

Table 20. Pesticides analytical results. Values are presented as mg/kg. Not Analysed (N.A.)

Assessment Criteria		HCB	Heptachlor	Chlordane	Aldrin & Dieldrin	Endrin	DDT	DDD+DDE +DDT	Endosulfan	Methoxychlor	Mirex
NEPM 2013 Commercial/Industrial Soil HIL-D, mg/kg		80	50	530	45	100		3600	2000	2500	100
NEPM 2013 Soil Generic EIL for Commercial/Industrial, mg/kg							640				
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
D1	0-0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1

Table 21. Asbestos analytical results. Not Analysed (N.A.)

NEPM 2013 Commercial/Industrial Soil HSL-D		Detection	Bonded ACM 0.05%w/w	AF/FA 0.001%w/w
Sample	Depth (m)	Yes/No	AS4964	NEPM Gravimetric Method
TP1	0-0.15	No	<0.01%w/w	N.A.
TP2	0-0.15	No	<0.01%w/w	N.A.
TP3	0-0.15	YES Chrysotile, Crocidolite	0.03%w/w	0.027%w/w
TP4	0-0.15	No	<0.01%w/w	N.A.
TP5	0-0.15	No	<0.01%w/w	<0.001%w/w
TP6	0-0.15	No	<0.01%w/w	N.A.

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 N09489
Order Number N09489
Samples 9

LABORATORY DETAILS

Manager Shane McDermott
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 SE268113 R0
Date Received 12/7/2024
Date Reported 20/7/2024

COMMENTS

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

No respirable fibres detected in all soil samples using trace analysis technique.

Sample #1,2,4,6: A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Industries and Environment recommends supplying approximately 50-100g of sample in a separate container.

Sample #3: Asbestos found in approx 25x15x4mm cement sheet fragments x2 and found in approx 12x4x3mm cement sheet fragments x3.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

Akheeque BENIAMEEN
Chemist

Bennet LO
Senior Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Shane MCDERMOTT
Laboratory Manager

Teresa NGUYEN
Organic Chemist

Yusuf KUTHPUDIN
Asbestos Analyst

VOC's in Soil [AN433] Tested: 15/7/2024

PARAMETER	UOM	LOR	TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			12/7/2024 SE268113.001	12/7/2024 SE268113.002	12/7/2024 SE268113.003	12/7/2024 SE268113.004	12/7/2024 SE268113.005
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	D1	TS	TB
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			12/7/2024 SE268113.006	12/7/2024 SE268113.007	12/7/2024 SE268113.008	12/7/2024 SE268113.009
Benzene	mg/kg	0.1	<0.1	<0.1	[94%]	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	[93%]	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	[92%]	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	[92%]	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	[92%]	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	-	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	-	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 15/7/2024

PARAMETER	UOM	LOR	TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			12/7/2024 SE268113.001	12/7/2024 SE268113.002	12/7/2024 SE268113.003	12/7/2024 SE268113.004	12/7/2024 SE268113.005
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	D1
			SOIL	SOIL
			-	-
			12/7/2024 SE268113.006	12/7/2024 SE268113.007
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 15/7/2024

PARAMETER	UOM	LOR	TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			12/7/2024 SE268113.001	12/7/2024 SE268113.002	12/7/2024 SE268113.003	12/7/2024 SE268113.004	12/7/2024 SE268113.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP6	D1
			SOIL	SOIL
			12/7/2024 SE268113.006	12/7/2024 SE268113.007
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 15/7/2024

PARAMETER	UOM	LOR	TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			12/7/2024 SE268113.001	12/7/2024 SE268113.002	12/7/2024 SE268113.003	12/7/2024 SE268113.004	12/7/2024 SE268113.005
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	D1
			SOIL	SOIL
			12/7/2024 SE268113.006	12/7/2024 SE268113.007
Naphthalene	mg/kg	0.1	<0.1	<0.1
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	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1
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	<0.1	<0.1
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	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 15/7/2024

PARAMETER	UOM	LOR	TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			12/7/2024 SE268113.001	12/7/2024 SE268113.002	12/7/2024 SE268113.003	12/7/2024 SE268113.004	12/7/2024 SE268113.005
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: 15/7/2024 (continued)

			TP6
			SOIL
			-
			12/7/2024
			SE268113.006
PARAMETER	UOM	LOR	
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2
Endrin	mg/kg	0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1
Total OC VIC EPA	mg/kg	1	<1

OP Pesticides in Soil [AN420] Tested: 15/7/2024

PARAMETER	UOM	LOR	TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			12/7/2024 SE268113.001	12/7/2024 SE268113.002	12/7/2024 SE268113.003	12/7/2024 SE268113.004	12/7/2024 SE268113.005
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
			12/7/2024 SE268113.006
Dichlorvos	mg/kg	0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2
Malathion	mg/kg	0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2
Methidathion	mg/kg	0.5	<0.5
Ethion	mg/kg	0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7

PCBs in Soil [AN420] Tested: 15/7/2024

PARAMETER	UOM	LOR	TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			12/7/2024 SE268113.001	12/7/2024 SE268113.002	12/7/2024 SE268113.003	12/7/2024 SE268113.004	12/7/2024 SE268113.005
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	TP6
			SOIL
			12/7/2024 SE268113.006
Arochlor 1016	mg/kg	0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 15/7/2024

PARAMETER	UOM	LOR	TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			12/7/2024 SE268113.001	12/7/2024 SE268113.002	12/7/2024 SE268113.003	12/7/2024 SE268113.004	12/7/2024 SE268113.005
Arsenic, As	mg/kg	1	7	7	6	5	4
Cadmium, Cd	mg/kg	0.3	<0.3	1.1	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	18	20	18	13	14
Copper, Cu	mg/kg	0.5	23	67	7.7	8.2	60
Lead, Pb	mg/kg	1	67	170	24	22	120
Nickel, Ni	mg/kg	0.5	5.8	5.8	3.8	4.0	9.7
Zinc, Zn	mg/kg	2	170	470	32	30	250

PARAMETER	UOM	LOR	TP6	D1
			SOIL	SOIL
			-	-
			12/7/2024 SE268113.006	12/7/2024 SE268113.007
Arsenic, As	mg/kg	1	4	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	10
Copper, Cu	mg/kg	0.5	27	28
Lead, Pb	mg/kg	1	44	45
Nickel, Ni	mg/kg	0.5	5.1	5.8
Zinc, Zn	mg/kg	2	62	63



ANALYTICAL RESULTS

SE268113 R0

Mercury in Soil [AN312] Tested: 15/7/2024

			TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			12/7/2024	12/7/2024	12/7/2024	12/7/2024	12/7/2024
PARAMETER	UOM	LOR	SE268113.001	SE268113.002	SE268113.003	SE268113.004	SE268113.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	0.09

			TP6	D1
			SOIL	SOIL
			-	-
			12/7/2024	12/7/2024
PARAMETER	UOM	LOR	SE268113.006	SE268113.007
Mercury	mg/kg	0.05	0.11	0.14



ANALYTICAL RESULTS

SE268113 R0

Moisture Content [AN002] Tested: 15/7/2024

			TP1	TP2	TP3	TP4	TP5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			12/7/2024	12/7/2024	12/7/2024	12/7/2024	12/7/2024
PARAMETER	UOM	LOR	SE268113.001	SE268113.002	SE268113.003	SE268113.004	SE268113.005
% Moisture	%w/w	1	14.0	14.4	10.7	5.0	18.8

			TP6	D1	TB
			SOIL	SOIL	SOIL
			-	-	-
			12/7/2024	12/7/2024	12/7/2024
PARAMETER	UOM	LOR	SE268113.006	SE268113.007	SE268113.009
% Moisture	%w/w	1	22.8	23.4	<1.0



ANALYTICAL RESULTS

SE268113 R0

Fibre Identification in soil [AS4964/AN602] Tested: 17/7/2024

			TP1	TP2	TP3	TP4	TP5
			SOIL - 12/7/2024 SE268113.001	SOIL - 12/7/2024 SE268113.002	SOIL - 12/7/2024 SE268113.003	SOIL - 12/7/2024 SE268113.004	SOIL - 12/7/2024 SE268113.005
PARAMETER	UOM	LOR					
Date Analysed*	No unit	-	19/07/2024 00:00	19/07/2024 00:00	18/07/2024 00:00	19/07/2024 00:00	18/07/2024 00:00
Asbestos Detected	No unit	-	No	No	Yes	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	>0.01	<0.01	<0.01

			TP6
			SOIL - 12/7/2024 SE268113.006
PARAMETER	UOM	LOR	
Date Analysed*	No unit	-	19/07/2024 00:00
Asbestos Detected	No unit	-	No
Estimated Fibres*	%w/w	0.01	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 17/7/2024

PARAMETER	UOM	LOR	TP3	TP5
			SOIL - 12/7/2024 SE268113.003	SOIL - 12/7/2024 SE268113.005
Date Analysed*	No unit	-	18/07/2024 00:00	18/07/2024 00:00
Total Sample Weight*	g	1	627	650
Bonded ACM in >7mm Sample*	g	0.001	1.24	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	0.172	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	0.03	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	0.027	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	0.027	<0.001
Fibre Type*	No unit	-	Chrysotile, Crocidolite	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 unequivocally 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:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

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

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

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

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This report must not be reproduced, except in full.



STATEMENT OF QA/QC PERFORMANCE

SE268113 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 **N09489**
Order Number **N09489**
Samples 9

LABORATORY DETAILS

Manager Shane McDermott
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 **SE268113 R0**
Date Received 12 Jul 2024
Date Reported 20 Jul 2024

COMMENTS

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

The data relating to sampling was taken from the Chain of Custody document.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

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

Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
-----------	---	--------

SAMPLE SUMMARY

Sample counts by matrix	9 Soil	Type of documentation received	COC
Date documentation received	12/7/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	7.5°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		

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

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

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

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317848	12 Jul 2024	12 Jul 2024	12 Jul 2025	17 Jul 2024	12 Jul 2025	19 Jul 2024
TP2	SE268113.002	LB317848	12 Jul 2024	12 Jul 2024	12 Jul 2025	17 Jul 2024	12 Jul 2025	19 Jul 2024
TP3	SE268113.003	LB317845	12 Jul 2024	12 Jul 2024	12 Jul 2025	17 Jul 2024	12 Jul 2025	19 Jul 2024
TP4	SE268113.004	LB317848	12 Jul 2024	12 Jul 2024	12 Jul 2025	17 Jul 2024	12 Jul 2025	19 Jul 2024
TP5	SE268113.005	LB317845	12 Jul 2024	12 Jul 2024	12 Jul 2025	17 Jul 2024	12 Jul 2025	19 Jul 2024
TP6	SE268113.006	LB317848	12 Jul 2024	12 Jul 2024	12 Jul 2025	17 Jul 2024	12 Jul 2025	19 Jul 2024

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
TP3	SE268113.003	LB317845	12 Jul 2024	12 Jul 2024	08 Jan 2025	17 Jul 2024	08 Jan 2025	19 Jul 2024
TP5	SE268113.005	LB317845	12 Jul 2024	12 Jul 2024	08 Jan 2025	17 Jul 2024	08 Jan 2025	19 Jul 2024

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317679	12 Jul 2024	12 Jul 2024	09 Aug 2024	15 Jul 2024	09 Aug 2024	17 Jul 2024
TP2	SE268113.002	LB317679	12 Jul 2024	12 Jul 2024	09 Aug 2024	15 Jul 2024	09 Aug 2024	17 Jul 2024
TP3	SE268113.003	LB317679	12 Jul 2024	12 Jul 2024	09 Aug 2024	15 Jul 2024	09 Aug 2024	17 Jul 2024
TP4	SE268113.004	LB317679	12 Jul 2024	12 Jul 2024	09 Aug 2024	15 Jul 2024	09 Aug 2024	17 Jul 2024
TP5	SE268113.005	LB317679	12 Jul 2024	12 Jul 2024	09 Aug 2024	15 Jul 2024	09 Aug 2024	17 Jul 2024
TP6	SE268113.006	LB317679	12 Jul 2024	12 Jul 2024	09 Aug 2024	15 Jul 2024	09 Aug 2024	17 Jul 2024
D1	SE268113.007	LB317679	12 Jul 2024	12 Jul 2024	09 Aug 2024	15 Jul 2024	09 Aug 2024	17 Jul 2024

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317677	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	20 Jul 2024	17 Jul 2024
TP2	SE268113.002	LB317677	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	20 Jul 2024	17 Jul 2024
TP3	SE268113.003	LB317677	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	20 Jul 2024	17 Jul 2024
TP4	SE268113.004	LB317677	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	20 Jul 2024	17 Jul 2024
TP5	SE268113.005	LB317677	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	20 Jul 2024	17 Jul 2024
TP6	SE268113.006	LB317677	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	20 Jul 2024	17 Jul 2024
D1	SE268113.007	LB317677	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	20 Jul 2024	17 Jul 2024
TB	SE268113.009	LB317677	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	20 Jul 2024	17 Jul 2024

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP2	SE268113.002	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP3	SE268113.003	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP4	SE268113.004	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP5	SE268113.005	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP6	SE268113.006	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
D1	SE268113.007	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP2	SE268113.002	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP3	SE268113.003	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP4	SE268113.004	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP5	SE268113.005	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP6	SE268113.006	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
D1	SE268113.007	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP2	SE268113.002	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP3	SE268113.003	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP4	SE268113.004	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP5	SE268113.005	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP6	SE268113.006	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
D1	SE268113.007	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024

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

PCBs in Soil Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP2	SE268113.002	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP3	SE268113.003	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP4	SE268113.004	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP5	SE268113.005	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP6	SE268113.006	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
D1	SE268113.007	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317678	12 Jul 2024	12 Jul 2024	08 Jan 2025	15 Jul 2024	08 Jan 2025	17 Jul 2024
TP2	SE268113.002	LB317678	12 Jul 2024	12 Jul 2024	08 Jan 2025	15 Jul 2024	08 Jan 2025	17 Jul 2024
TP3	SE268113.003	LB317678	12 Jul 2024	12 Jul 2024	08 Jan 2025	15 Jul 2024	08 Jan 2025	17 Jul 2024
TP4	SE268113.004	LB317678	12 Jul 2024	12 Jul 2024	08 Jan 2025	15 Jul 2024	08 Jan 2025	17 Jul 2024
TP5	SE268113.005	LB317678	12 Jul 2024	12 Jul 2024	08 Jan 2025	15 Jul 2024	08 Jan 2025	17 Jul 2024
TP6	SE268113.006	LB317678	12 Jul 2024	12 Jul 2024	08 Jan 2025	15 Jul 2024	08 Jan 2025	17 Jul 2024
D1	SE268113.007	LB317678	12 Jul 2024	12 Jul 2024	08 Jan 2025	15 Jul 2024	08 Jan 2025	17 Jul 2024

TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP2	SE268113.002	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP3	SE268113.003	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP4	SE268113.004	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP5	SE268113.005	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
TP6	SE268113.006	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024
D1	SE268113.007	LB317675	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	24 Aug 2024	17 Jul 2024

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP2	SE268113.002	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP3	SE268113.003	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP4	SE268113.004	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP5	SE268113.005	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP6	SE268113.006	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
D1	SE268113.007	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TS	SE268113.008	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TB	SE268113.009	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP1	SE268113.001	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP2	SE268113.002	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP3	SE268113.003	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP4	SE268113.004	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP5	SE268113.005	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TP6	SE268113.006	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
D1	SE268113.007	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TS	SE268113.008	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024
TB	SE268113.009	LB317676	12 Jul 2024	12 Jul 2024	26 Jul 2024	15 Jul 2024	26 Jul 2024	17 Jul 2024

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

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier 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	SE268113.001	%	60 - 130%	119
	TP2	SE268113.002	%	60 - 130%	120
	TP3	SE268113.003	%	60 - 130%	116
	TP4	SE268113.004	%	60 - 130%	120
	TP5	SE268113.005	%	60 - 130%	116
	TP6	SE268113.006	%	60 - 130%	123

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP1	SE268113.001	%	60 - 130%	94
	TP2	SE268113.002	%	60 - 130%	97
	TP3	SE268113.003	%	60 - 130%	96
	TP4	SE268113.004	%	60 - 130%	94
	TP5	SE268113.005	%	60 - 130%	102
	TP6	SE268113.006	%	60 - 130%	101
d14-p-terphenyl (Surrogate)	TP1	SE268113.001	%	60 - 130%	96
	TP2	SE268113.002	%	60 - 130%	100
	TP3	SE268113.003	%	60 - 130%	97
	TP4	SE268113.004	%	60 - 130%	99
	TP5	SE268113.005	%	60 - 130%	105
	TP6	SE268113.006	%	60 - 130%	107

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP1	SE268113.001	%	70 - 130%	94
	TP2	SE268113.002	%	70 - 130%	97
	TP3	SE268113.003	%	70 - 130%	96
	TP4	SE268113.004	%	70 - 130%	94
	TP5	SE268113.005	%	70 - 130%	102
	TP6	SE268113.006	%	70 - 130%	101
	D1	SE268113.007	%	70 - 130%	103
d14-p-terphenyl (Surrogate)	TP1	SE268113.001	%	70 - 130%	96
	TP2	SE268113.002	%	70 - 130%	100
	TP3	SE268113.003	%	70 - 130%	97
	TP4	SE268113.004	%	70 - 130%	99
	TP5	SE268113.005	%	70 - 130%	105
	TP6	SE268113.006	%	70 - 130%	107
	D1	SE268113.007	%	70 - 130%	105
d5-nitrobenzene (Surrogate)	TP1	SE268113.001	%	70 - 130%	102
	TP2	SE268113.002	%	70 - 130%	100
	TP3	SE268113.003	%	70 - 130%	103
	TP4	SE268113.004	%	70 - 130%	97
	TP5	SE268113.005	%	70 - 130%	104
	TP6	SE268113.006	%	70 - 130%	108
	D1	SE268113.007	%	70 - 130%	103

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	TP1	SE268113.001	%	60 - 130%	116
	TP2	SE268113.002	%	60 - 130%	117
	TP3	SE268113.003	%	60 - 130%	113
	TP4	SE268113.004	%	60 - 130%	117
	TP5	SE268113.005	%	60 - 130%	113
	TP6	SE268113.006	%	60 - 130%	128

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP1	SE268113.001	%	60 - 130%	86
	TP2	SE268113.002	%	60 - 130%	84
	TP3	SE268113.003	%	60 - 130%	87
	TP4	SE268113.004	%	60 - 130%	84
	TP5	SE268113.005	%	60 - 130%	84
	TP6	SE268113.006	%	60 - 130%	76

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	D1	SE268113.007	%	60 - 130%	85
	TS	SE268113.008	%	60 - 130%	75
	TB	SE268113.009	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	TP1	SE268113.001	%	60 - 130%	84
	TP2	SE268113.002	%	60 - 130%	84
	TP3	SE268113.003	%	60 - 130%	87
	TP4	SE268113.004	%	60 - 130%	86
	TP5	SE268113.005	%	60 - 130%	85
	TP6	SE268113.006	%	60 - 130%	76
	D1	SE268113.007	%	60 - 130%	87
	TS	SE268113.008	%	60 - 130%	77
	TB	SE268113.009	%	60 - 130%	86
d8-toluene (Surrogate)	TP1	SE268113.001	%	60 - 130%	86
	TP2	SE268113.002	%	60 - 130%	85
	TP3	SE268113.003	%	60 - 130%	89
	TP4	SE268113.004	%	60 - 130%	87
	TP5	SE268113.005	%	60 - 130%	86
	TP6	SE268113.006	%	60 - 130%	76
	D1	SE268113.007	%	60 - 130%	87
	TS	SE268113.008	%	60 - 130%	77
	TB	SE268113.009	%	60 - 130%	89

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP1	SE268113.001	%	60 - 130%	86
	TP2	SE268113.002	%	60 - 130%	84
	TP3	SE268113.003	%	60 - 130%	87
	TP4	SE268113.004	%	60 - 130%	84
	TP5	SE268113.005	%	60 - 130%	84
	TP6	SE268113.006	%	60 - 130%	76
	D1	SE268113.007	%	60 - 130%	85
d4-1,2-dichloroethane (Surrogate)	TP1	SE268113.001	%	60 - 130%	84
	TP2	SE268113.002	%	60 - 130%	84
	TP3	SE268113.003	%	60 - 130%	87
	TP4	SE268113.004	%	60 - 130%	86
	TP5	SE268113.005	%	60 - 130%	85
	TP6	SE268113.006	%	60 - 130%	76
	D1	SE268113.007	%	60 - 130%	87
d8-toluene (Surrogate)	TP1	SE268113.001	%	60 - 130%	86
	TP2	SE268113.002	%	60 - 130%	85
	TP3	SE268113.003	%	60 - 130%	89
	TP4	SE268113.004	%	60 - 130%	87
	TP5	SE268113.005	%	60 - 130%	86
	TP6	SE268113.006	%	60 - 130%	76
	D1	SE268113.007	%	60 - 130%	87

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)-ENVJAN312

Sample Number	Parameter	Units	LOR	Result
LB317679.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB317675.001	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	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.1
	Endrin	mg/kg	0.2	<0.1
	Beta Endosulfan	mg/kg	0.2	<0.1
	p,p'-DDD	mg/kg	0.1	<0.1
	Endrin aldehyde	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	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)	%	-	105

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB317675.001	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
	2-fluorobiphenyl (Surrogate)	%	-	94
	d14-p-terphenyl (Surrogate)	%	-	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB317675.001	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
LB317675.001	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)	%	-	95
	2-fluorobiphenyl (Surrogate)	%	-	94
	d14-p-terphenyl (Surrogate)	%	-	98

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB317675.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
Surrogates	TCMX (Surrogate)	%	-	102

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

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

Sample Number	Parameter	Units	LOR	Result
LB317678.001	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
LB317675.001	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
LB317676.001	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)	%	-	100
		d8-toluene (Surrogate)	%	-	99
		Bromofluorobenzene (Surrogate)	%	-	100
	Totals	Total BTEX*	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB317676.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

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

Mercury in Soil

Method: ME-(AU)-[ENV]JAN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317679.023	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE267905A.008	LB317679.014	Mercury	mg/kg	0.05	0.06	0.06	114	15

Moisture Content

Method: ME-(AU)-[ENV]JAN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317677.023	% Moisture	%w/w	1	7.6	8.5	42	11
SE267905A.006	LB317677.011	% Moisture	%w/w	1	17.0	17.7	36	4

OC Pesticides in Soil

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317675.023	Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.1	200	0
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.1	200	0
		Endrin	mg/kg	0.2	<0.2	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.1	200	0
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
SE267905A.008	LB317675.014	Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates						
		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.18	30	2
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.1	200	0
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.1	200	0
		Endrin	mg/kg	0.2	<0.2	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.1	200	0
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

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

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267905A.008	LB317675.014	Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Total OC VIC EPA	mg/kg	1	<1	<1	200	0
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)		mg/kg	-	0.18	0.19	30	5

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317675.023	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
SE267905A.008	LB317675.014	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	7
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317675.023	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317675.023	Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	7
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
SE267905A.008	LB317675.014	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	0.1	<0.1	133	8
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	0.3	0.2	76	39
		Pyrene	mg/kg	0.1	0.3	0.2	74	36
		Benzo(a)anthracene	mg/kg	0.1	0.1	<0.1	126	23
		Chrysene	mg/kg	0.1	0.1	<0.1	115	34
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.1	98	53
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	0.2	<0.1	108	46
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	<0.1	137	14
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	0.1	<0.1	119	28
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0.2	<0.2	199	6
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.3	<0.2	115	27
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.3	<0.3	118	4
		Total PAH (18)	mg/kg	0.8	1.6	<0.8	40	125 ②
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	8
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	7
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4

PCBs in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317675.023	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		TCMX (Surrogate)	mg/kg	-	0	0	30	2
SE267905A.008	LB317675.014	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		TCMX (Surrogate)	mg/kg	-	0	0	30	5

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

Method: ME-(AU)-[ENV]AN40/AN320

Original	Duplicate	Parameter	Units	LOR
----------	-----------	-----------	-------	-----

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

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

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

Method: ME-(AU)-[ENV]JAN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317678.023	Arsenic, As	mg/kg	1	<1	<1	154	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	7.2	5.1	38	35
		Copper, Cu	mg/kg	0.5	48	44	31	8
		Nickel, Ni	mg/kg	0.5	75	66	31	13
		Lead, Pb	mg/kg	1	2	2	77	22
		Zinc, Zn	mg/kg	2	34	30	36	14

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317675.023	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE267905A.008	LB317675.014	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	47	130	5
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]JAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317676.022	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	10.8	50	15
			d8-toluene (Surrogate)	mg/kg	-	9.2	9.8	50	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	7.3	50	15
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
		SE268113.003	LB317676.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1
Aromatic	Toluene				mg/kg	0.1	<0.1	<0.1	200
	Ethylbenzene			mg/kg	0.1	<0.1	<0.1	200	0
	m/p-xylene			mg/kg	0.2	<0.2	<0.2	200	0
	o-xylene			mg/kg	0.1	<0.1	<0.1	200	0
Polycyclic	Naphthalene (VOC)*			mg/kg	0.1	<0.1	<0.1	200	0
Surrogates	d4-1,2-dichloroethane (Surrogate)			mg/kg	-	8.7	7.4	50	16
	d8-toluene (Surrogate)			mg/kg	-	8.9	7.6	50	16
	Bromofluorobenzene (Surrogate)			mg/kg	-	8.7	7.4	50	16
Totals	Total BTEX*			mg/kg	0.6	<0.6	<0.6	200	0
	Total Xylenes*			mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]JAN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE267692B.053	LB317676.022	TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	10.8	50	15
			d8-toluene (Surrogate)	mg/kg	-	9.2	9.8	50	6

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier 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

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267692B.053	LB317676.022	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	7.3	50	15
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
			TRH C6-C10	mg/kg	25	<25	<25	200	0
SE268113.003	LB317676.014		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.7	7.4	50	16
			d8-toluene (Surrogate)	mg/kg	-	8.9	7.6	50	16
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	7.4	50	16
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317679.002	Mercury	mg/kg	0.05	0.19	0.2	80 - 120	96

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317675.002	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	97
	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	97
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	97
	Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	114
	Endrin	mg/kg	0.2	0.2	0.2	60 - 140	87
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	99
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/ka	-	0.16	0.15	40 - 130

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317675.002	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	94
	Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	60 - 140	93
	Dichlorvos	mg/kg	0.5	1.3	2	60 - 140	63
	Ethion	mg/kg	0.2	1.8	2	60 - 140	88
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317675.002	Naphthalene	mg/kg	0.1	4.1	4	60 - 140	102
	Acenaphthylene	mg/kg	0.1	4.2	4	60 - 140	104
	Acenaphthene	mg/kg	0.1	4.0	4	60 - 140	100
	Phenanthrene	mg/kg	0.1	4.3	4	60 - 140	107
	Anthracene	mg/kg	0.1	4.4	4	60 - 140	110
	Fluoranthene	mg/kg	0.1	4.1	4	60 - 140	103
	Pyrene	mg/kg	0.1	4.5	4	60 - 140	112
	Benzo(a)pyrene	mg/kg	0.1	4.7	4	60 - 140	117
Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	89
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	97

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317675.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	109

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 %
LB317678.002	Arsenic, As	mg/kg	1	340	318.22	80 - 120	107
	Cadmium, Cd	mg/kg	0.3	5.3	4.81	70 - 130	111
	Chromium, Cr	mg/kg	0.5	37	38.31	80 - 120	97
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	104
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	99
	Lead, Pb	mg/kg	1	92	89.9	80 - 120	103
	Zinc, Zn	mg/kg	2	270	273	80 - 120	100

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317675.002	TRH C10-C14	mg/kg	20	51	40	60 - 140	129
	TRH C15-C28	mg/kg	45	49	40	60 - 140	122
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	91
	TRH F Bands	TRH >C10-C16	mg/kg	51	40	60 - 140	129
		TRH >C16-C34 (F3)	mg/kg	90	<90	60 - 140	107
		TRH >C34-C40 (F4)	mg/kg	120	<120	60 - 140	90

VOC's in Soil

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

Sample Number	Parameter	Units	LOR
---------------	-----------	-------	-----

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

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

VOC's in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317676.002	Monocyclic	Benzene	mg/kg	0.1	4.0	5	60 - 140
	Aromatic	Toluene	mg/kg	0.1	4.1	5	60 - 140
		Ethylbenzene	mg/kg	0.1	4.1	5	60 - 140
		m/p-xylene	mg/kg	0.2	8.2	10	60 - 140
		o-xylene	mg/kg	0.1	4.1	5	60 - 140
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	10	70 - 130
		d8-toluene (Surrogate)	mg/kg	-	9.4	10	70 - 130
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	10	70 - 130

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317676.002	TRH C6-C10	mg/kg	25	68	92.5	60 - 140	73
	TRH C6-C9	mg/kg	20	60	80	60 - 140	75
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	10	70 - 130
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	10	70 - 130
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	43	62.5	60 - 140

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 identifier 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%
SE268094.001	LB317679.004	Mercury	mg/kg	0.05	0.18	<0.05	0.2	87

OC Pesticides in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE268094.005	LB317675.025	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	116
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	116
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	115
		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	<0.1	<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	106
		Endrin	mg/kg	0.2	0.2	<0.2	0.2	103
		Beta Endosulfan	mg/kg	0.2	<0.1	<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	109
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Total OC VIC EPA	mg/kg	1	1	<1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.18	0.19	-	121

OP Pesticides in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE268094.005	LB317675.025	Azinphos-methyl (Guthion)	mg/kg	0.2	2.1	<0.2	-	-
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	<0.2	2	97
		Diazinon (Dimpylate)	mg/kg	0.5	2.0	<0.5	2	97
		Dichlorvos	mg/kg	0.5	1.4	<0.5	2	70
		Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
		Ethion	mg/kg	0.2	2.0	<0.2	2	101
		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	9.4	<1.7	-	-
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	93
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE268094.005	LB317675.025	Naphthalene	mg/kg	0.1	4.1	<0.1	4	103
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.3	<0.1	4	107
		Acenaphthene	mg/kg	0.1	4.1	<0.1	4	101
		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 identifier 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%
SE268094.005	LB317675.025	Phenanthrene	mg/kg	0.1	4.2	<0.1	4	106
		Anthracene	mg/kg	0.1	4.4	<0.1	4	111
		Fluoranthene	mg/kg	0.1	4.1	<0.1	4	104
		Pyrene	mg/kg	0.1	4.4	<0.1	4	111
		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	4.8	<0.1	4	120
		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	4.8	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.9	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.9	<0.3	-	-
		Total PAH (18)	mg/kg	0.8	34	<0.8	-	-
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	96
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	93
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	100

PCBs in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE268094.005	LB317675.025	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.5	<0.2	0.4	118
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
	Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	-	119

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%
SE268094.001	LB317678.004	Arsenic, As	mg/kg	1	48	2	50	92
		Cadmium, Cd	mg/kg	0.3	42	<0.3	50	83
		Chromium, Cr	mg/kg	0.5	52	10	50	84
		Copper, Cu	mg/kg	0.5	50	3.3	50	94
		Nickel, Ni	mg/kg	0.5	50	4.6	50	90
		Lead, Pb	mg/kg	1	49	4	50	89
		Zinc, Zn	mg/kg	2	65	20	50	92

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE268094.005	LB317675.025	TRH C10-C14	mg/kg	20	48	<20	40	115
		TRH C15-C28	mg/kg	45	47	<45	40	113
		TRH C29-C36	mg/kg	45	<45	<45	40	102
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH >C10-C16	mg/kg	25	49	<25	40	116
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	49	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	112
		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%
SE268094.001	LB317676.004	Monocyclic						
		Benzene	mg/kg	0.1	3.9	<0.1	5	78
		Toluene	mg/kg	0.1	4.1	<0.1	5	81
		Ethylbenzene	mg/kg	0.1	4.0	<0.1	5	81
		Aromatic						
		m/p-xylene	mg/kg	0.2	8.3	<0.2	10	82

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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE268094.001	LB317676.004	Monocyclic	o-xylene	mg/kg	0.1	4.2	<0.1	5	83
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.3	8.6	10	73
			d8-toluene (Surrogate)	mg/kg	-	7.3	8.8	10	73
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.1	9.0	10	71
		Totals	Total BTEX*	mg/kg	0.6	24	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	12	<0.3	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE268094.001	LB317676.004	TRH C6-C10	mg/kg	25	69	<25	92.5	69	
		TRH C6-C9	mg/kg	20	61	<20	80	71	
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.3	8.6	10	73
			d8-toluene (Surrogate)	mg/kg	-	7.3	8.8	10	73
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.1	9.0	-	71
		VPH F	Benzene (F0)	mg/kg	0.1	3.9	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	44	<25	62.5	63

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

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: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

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 identifier when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

id samples expressed on a dry weight basis.

criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://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.

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

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.

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 **N09489**
Order Number **N09489**
Samples 6

LABORATORY DETAILS

Manager Shane McDermott
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 **SE268113 R0**
Date Received 12 Jul 2024
Date Reported 20 Jul 2024

COMMENTS

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

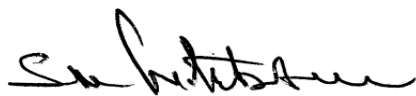
No respirable fibres detected in all soil samples using trace analysis technique.

Sample #1,2,4,6: A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Industries and Environment recommends supplying approximately 50-100g of sample in a separate container.

Sample #3: Asbestos found in approx 25x15x4mm cement sheet fragments x2 and found in approx 12x4x3mm cement sheet fragments x3.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES



Yusuf KUTHPUDIN
Asbestos Analyst

RESULTS

Fibre Identification in soil

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE268113.001	TP1	Soil	133g Clay, Sand, Soil, Rocks	12 Jul 2024	19 Jul 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE268113.002	TP2	Soil	107g Clay, Sand, Soil, Rocks	12 Jul 2024	19 Jul 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE268113.003	TP3	Soil	627g Clay, Sand, Soil, Rocks	12 Jul 2024	18 Jul 2024	Chrysotile & Crocidolite Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	>0.01
SE268113.004	TP4	Soil	166g Clay, Sand, Rocks	12 Jul 2024	19 Jul 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE268113.005	TP5	Soil	650g Sand, Soil, Rocks	12 Jul 2024	18 Jul 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE268113.006	TP6	Soil	89g Sand, Soil, Rocks	12 Jul 2024	19 Jul 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 17/7/2024

PARAMETER	UOM	LOR	TP3	TP5
			SOIL - 12/7/2024 SE268113.003	SOIL - 12/7/2024 SE268113.005
Date Analysed*	No unit	-	18/07/2024 00:00	18/07/2024 00:00
Total Sample Weight*	g	1	627	650
Bonded ACM in >7mm Sample*	g	0.001	1.24	<0.001
AF/FA in >2mm to <7mm Sample*	g	0.00001	0.172	<0.00001
AF/FA in <2mm Sample*	g	0.00001	<0.00001	<0.00001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	0.03	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	0.027	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	0.027	<0.001
Fibre Type*	No unit	-	Chrysotile, Crocidolite	NAD

METHOD

METHODOLOGY SUMMARY

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

FOOTNOTES

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

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

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

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

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

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

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

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law .

This test report shall not be reproduced, except in full.

 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)			CHAIN OF CUSTODY & ANALYSIS REQUEST										Page <u>1</u> of <u>1</u>				
			Company Name: Neo Consulting Pty Ltd			Project Name/No: N09489											
			Address: 186 Riverstone Parade Riverstone NSW 2765			Purchase Order No: QUOTE NUMBER: 322722v6											
						Results Required Date: Next Day/3 days/ <u>Standard</u>											
			Contact Name: Nick Caltabiano			Telephone: 0416680375			Fax:								
			Quotation No:			Email Results and invoices to: nick@neoconsulting , admin@neoconsulting , oskar@neoconsulting , sarah@neoconsulting , ehsan@neoconsulting , Isabella@neoconsulting											
Matrix (Tick as appropriate)			NO. OF CONTAINERS	ANALYSIS REQUESTED										Additional Report Formats			
				Soil Sample	Water Sample	Other_Cartridge	REST	Asbestos ID	Asbestos NEPM	CIDN	BTEX						
SGS ID	Client Sample ID	Sampling Date/ Time															SGS EHS Sydney COC SE268113
1	TP1	12/07/2024	X			1	X	X									
2	TP2	12/07/2024	X			1	X	X									
3	TP3	12/07/2024	X			2	X		X								
4	TP4	12/07/2024	X			1	X	X									
5	TP5	12/07/2024	X			2	X		X								
6	TP6	12/07/2024	X			1	X	X									
7	D1	12/07/2024	X			1				X							
8	TS	12/07/2024	X			1					X						
9	TB	12/07/2024	X			1					X						
Relinquished By: Jacob king			Date/Time: 12/07/2024			Received By: <i>B. Subarney</i>			Date/Time: 12/07/24 @ 2:10								
Relinquished By:			Date/Time:			Received By:			Date/Time:								
Samples Intact: <u>Yes</u> / No			Temperature: 7.5 °C			Sample Security Sealed: Yes / No			Hazards: e.g. may contain Asbestos								
Comments / Subcontracting details:																	



SAMPLE RECEIPT ADVICE

SE268113

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 **N09489**
Order Number **N09489**
Samples 9

LABORATORY DETAILS

Manager Shane McDermott
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 Fri 12/7/2024
Report Due Fri 19/7/2024
SGS Reference **SE268113**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Friday 12/7/2024. Results are expected to be ready by COB Friday 19/7/2024. Please quote SGS reference SE268113 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	9 Soil	Type of documentation received	COC
Date documentation received	12/7/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	7.5°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

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



SAMPLE RECEIPT ADVICE

SE268113

CLIENT DETAILS

Client NEO CONSULTING PTY LTD

Project N09489

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	TP1	30	14	26	11	7	10	11	7
002	TP2	30	14	26	11	7	10	11	7
003	TP3	30	14	26	11	7	10	11	7
004	TP4	30	14	26	11	7	10	11	7
005	TP5	30	14	26	11	7	10	11	7
006	TP6	30	14	26	11	7	10	11	7
007	D1	-	-	26	-	7	10	11	7
008	TS	-	-	-	-	-	-	11	-
009	TB	-	-	-	-	-	-	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

SE268113

CLIENT DETAILS

Client NEO CONSULTING PTY LTD

Project N09489

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content
001	TP1	3	-	1	1
002	TP2	3	-	1	1
003	TP3	3	10	1	1
004	TP4	3	-	1	1
005	TP5	3	10	1	1
006	TP6	3	-	1	1
007	D1	-	-	1	1
009	TB	-	-	-	1

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



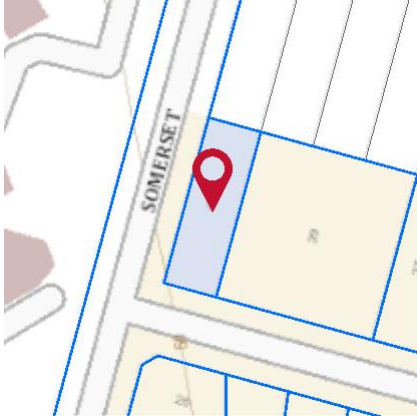
APPENDIX D

Property Report and Relevant Information

NEO CONSULTING

Property Report

45 ORTH STREET KINGSWOOD 2747



Property Details

Address: 45 ORTH STREET KINGSWOOD 2747
 Lot/Section 186/-/DP14333
 /Plan No:
 Council: PENRITH CITY 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	Penrith Local Environmental Plan 2010 (pub. 21-7-2023)
Land Zoning	MU1 - Mixed Use: (pub. 24-2-2023)
Height Of Building	18 m
Floor Space Ratio	3.5:1
Minimum Lot Size	400 m ²
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA
Active Street Frontages	Active Street Frontage
Local Provisions	13 km 30 km Clauses of LEP apply
Obstacle Limitation Surface	230.5-230.5

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.

This report provides general information only and does not replace a Section 10.7 Certificate (formerly Section 149)



Property Report

45 ORTH STREET KINGSWOOD 2747

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Excluded (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Hawkesbury Nepean Catchment (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Hawkesbury-Nepean Sub-Catchments (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: Strategic Conservation Planning Area (pub. 9-12-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Subject Land (pub. 2-12-2021)
- 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)

This report provides general information only and does not replace a Section 10.7 Certificate (formerly Section 149)



Property Report

45 ORTH STREET KINGSWOOD 2747

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	28.93
Greater Sydney Tree Canopy Cover 2022 Percentage	25.94
Housing and Productivity Contribution	Greater Sydney - Base HPC
Local Aboriginal Land Council	DEERUBBIN
Regional Plan Boundary	Greater Sydney

This report provides general information only and does not replace a Section 10.7 Certificate (formerly Section 149)

MEDICAL CONSULTING ROOMS, KINGSWOOD NSW



DRAWING REGISTRY

SHEET NO.	SHEET NAME
SK0001	COVER SHEET AND DRAWING REGISTRY
SK0101	3D IMPRESSION SHEET 1
SK1101	EXISTING SITE AND DEMOLITION PLAN
SK1102	SITE PLAN
SK1103	LANDSCAPE PLANS
SK1104	LANDSCAPE SCHEDULE
SK1105	LANDSCAPE PLANTING SECTION DETAILS
SK2201	GROUND LEVEL FLOOR PLAN
SK2202	LEVEL 1 FLOOR PLAN AND ROOF PLAN
SK3101	ELEVATIONS - SHEET 1
SK3102	ELEVATIONS - SHEET 2
SK4101	OVERALL SECTIONS
SK5101	SHADOW DIAGRAMS

THIS DRAWING IS OWNED BY AND REMAINS THE PROPERTY OF BELL ARCHITECTURE. ALL RIGHTS RESERVED. NO REPRODUCTION OR USE OF THIS DRAWING WITHOUT THE PERMISSION OF THE ARCHITECT IS LEGAL. THE CLIENT IS LICENSED TO USE THIS DRAWING FOR THE WORKS SPECIFIC TO THIS SITE, SUBJECT TO THE FULL PAYMENT OF THE ARCHITECT'S FEES AND COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE CLIENT/ARCHITECT AGREEMENT FOR THIS PROJECT. FIGURED DIMENSIONS SHALL BE USED. DO NOT SCALE THE DRAWING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF WORK.

FOR APPROVAL

C:\Users\Hazel\Documents\BAS220111 Granger Medical Kingswood 10/04/2024 12:37:32 PM NSW_Danielcodes.rvt

ISSUE	DATE	DESCRIPTION	ISSUED BY	ISSUE	DATE	DESCRIPTION	ISSUED BY
P2	10.04.2024	RESPONSE TO COUNCIL RF1	DOD				
P1	28.11.2023	ISSUED FOR APPROVAL	DOD				

CLIENT
AXIS TRUST

ARCHITECT
BELL Architecture
Matt Bell Nominated Architect NSW 9666
Level 4, Suite 4.04, 157 Walker Street (PO Box 1037) North Sydney NSW 2060 P +61 2 7254 4861 E sydney@bellarc.com.au W www.bellarc.com.au

BELL

JOB TITLE
AXIS TRUST MEDICAL CONSULTING ROOMS DEVELOPMENT
KINGSWOOD, NSW

DRAWING TITLE
COVER SHEET AND DRAWING
REGISTRY

DRAWING NO
BAS220111

DRAWING SCALE @ A1

DRAWN BY
JH

DRAWING NO
SK0001

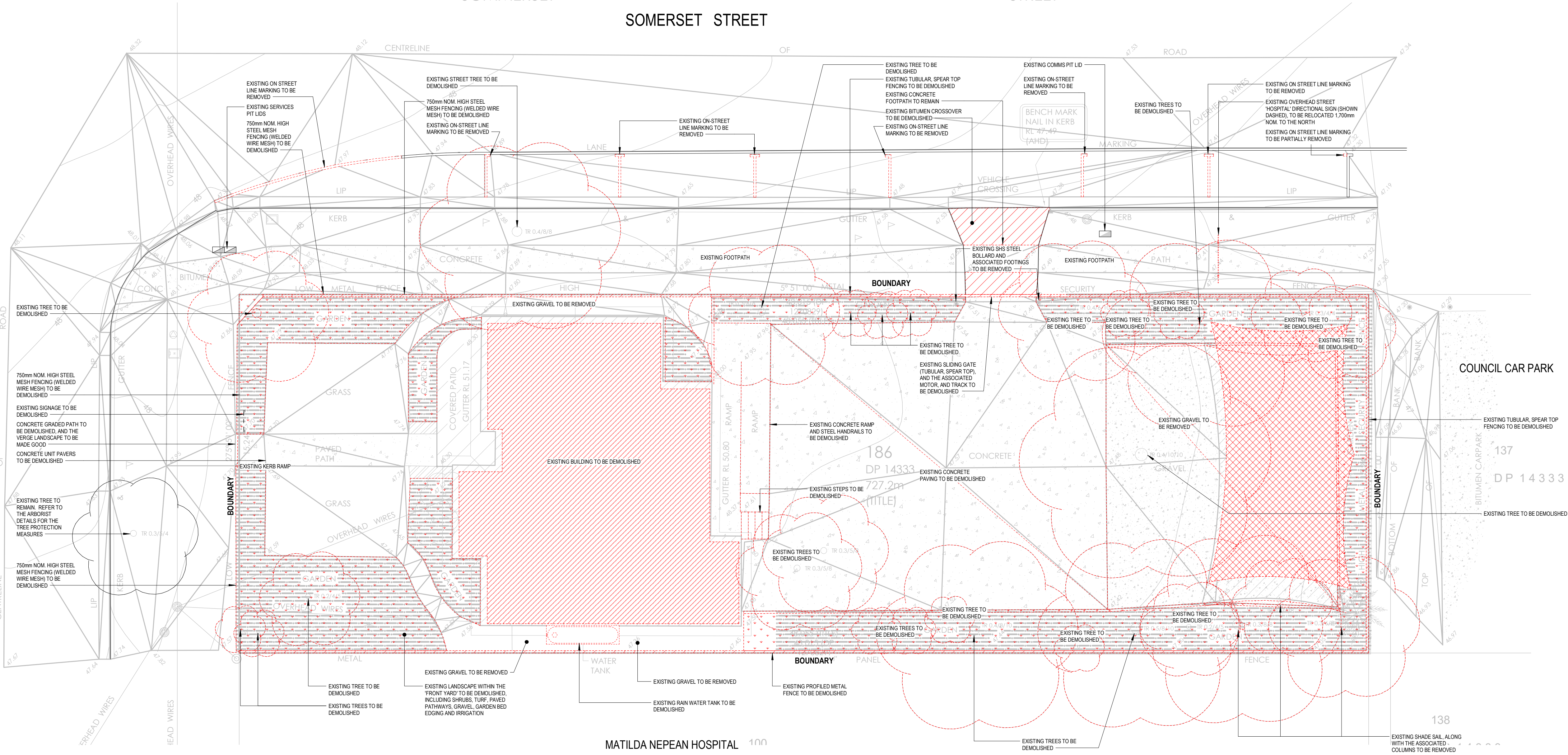
REVISION
P2

SOMMERSET

STREET

SOMMERSET STREET

ORTH STREET



EXISTING SITE/DEMOLITION PLAN

1:100

LEGEND:

- EXISTING TREES TO BE DEMOLISHED
- DEMOLISH THE EXISTING BRICK BUILDING WITH A TILED ROOF AND SUSPENDED SLAB FLOOR, DWARF WALLS, BRICK PIERS, FOOTINGS, INTERNAL FRAMED WALLS, AND FIXTURES AND FITTINGS, AND THE ASSOCIATED EXTERNAL RAMP, PORCH AND STAIRS
- EXISTING SHADE SAIL, ALONG WITH ASSOCIATED COLUMNS TO BE DEMOLISHED
- EXISTING BITUMEN CROSSOVER TO BE DEMOLISHED
- OUTLINE OF THE EXISTING STRUCTURES AND FENCING, AND THE EXTENT OF THE LANDSCAPE TO BE DEMOLISHED
- DEMOLISH THE EXISTING LANDSCAPE

SURVEY
THE UNDERLAID SURVEY WAS PREPARED BY FREEBURN SURVEYING: MATTHEW FREEBURN (LAND, ENGINEERING & MINING SURVEYOR), 12/09/2022. REFER TO DRAWING 38194 DETAIL, REVISION 02

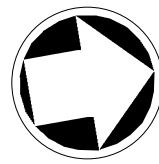
THIS DRAWING IS OWNED BY AND REMAINS THE PROPERTY OF BELL ARCHITECTURE. ALL RIGHTS RESERVED. NO REPRODUCTION OR USE OF THIS DRAWING WITHOUT THE PERMISSION OF THE ARCHITECT IS LEGAL. THE CLIENT IS LICENSED TO USE THIS DRAWING FOR THE WORKS SPECIFIC TO THIS SITE, SUBJECT TO THE FULL PAYMENT OF THE ARCHITECT'S FEES AND COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE CLIENT/ARCHITECT AGREEMENT FOR THIS PROJECT. FIGURED DIMENSIONS SHALL BE USED. DO NOT SCALE THE DRAWING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF WORK.

FOR APPROVAL

C:\Users\Nurul\Documents\BAS220111 Granger Medical Kingswood 9/04/2024 7:41:15 PM NSW_Danielcodes.rvt

ISSUE	DATE	DESCRIPTION	ISSUED BY	ISSUE	DATE	DESCRIPTION	ISSUED BY
P2	10/04/2024	RESPONSE TO COUNCIL RFI		DOD			
P1	28/11/2023	ISSUED FOR APPROVAL		DOD			

ORIENTATION



TRUE NORTH

CLIENT

AXIS TRUST

ARCHITECT

BELL Architecture

Matt Bell Nominated Architect NSW 9666
Level 4, Suite 4.04, 157 Walker Street (PO Box 1037) North Sydney NSW 2060 P +61 2 7254 4861 E sydney@bellarc.com.au W www.bellarc.com.au

BELL

JOB TITLE

AXIS TRUST MEDICAL CONSULTING ROOMS DEVELOPMENT
KINGSWOOD, NSW



DRAWING NO

BAS220111

DRAWING SCALE @ A1

1:100

DRAWN BY

ST

DRAWING TITLE

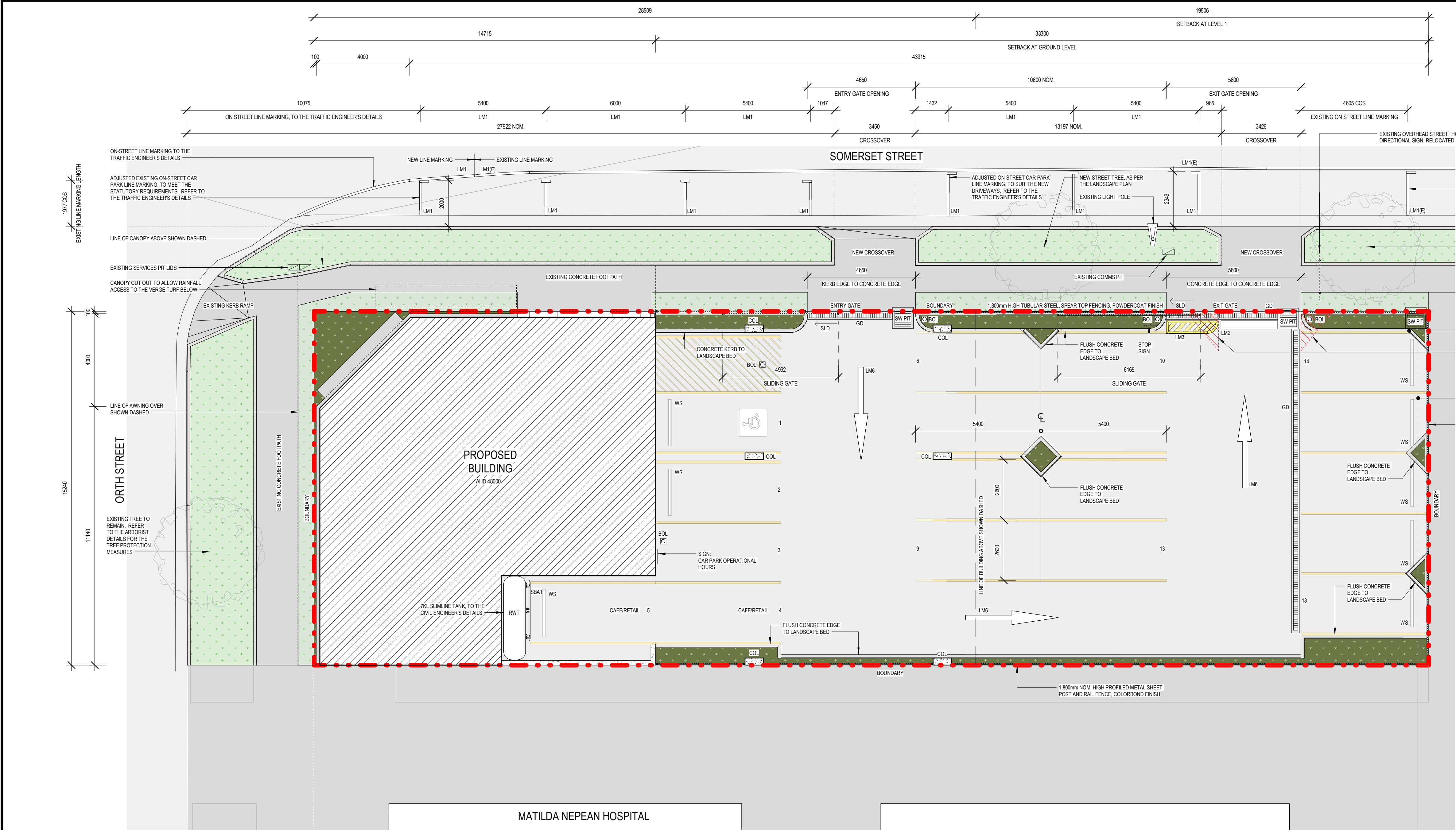
EXISTING SITE AND DEMOLITION
PLAN

DRAWING NO

SK1101

REVISION

P2



LEGEND	
AFL	ABOVE FLOOR LEVEL
AHD	AUSTRALIAN HEIGHT DATUM
COL	COLUMN
C.O.S	CHECK ON SITE
EJ	EXPRESSED JOINT
FCL	FINISHED CEILING LEVEL
FFL	FINISHED FLOOR LEVEL
GFL	GROUND FLOOR LEVEL FLOOR
PJ	PANEL JOINT
SLD	SLIDING PANEL OF A DOOR OR WINDOW

PROPOSED LANDSCAPING EXTENT INCLUDING IRRIGATION, AS DETAILED ON THE LANDSCAPE PLAN. REFER ALSO TO THE IRRIGATION SYSTEM NOTES BELOW.

EXISTING VERGE LANDSCAPING EXTENT, UNLESS NOTED OTHERWISE.

- GENERAL SITE PLAN NOTES:
- ACCESS TO BUILDINGS AND CAR PARKS TO COMPLY WITH AS 1428, PARTS 1, 2 & 4
 - ALL ON SITE CAR PARKING TO COMPLY WITH ASIANZ 2890.1 AND 2890.5

AREA SCHEDULE (OVERALL)	
AREA NAME	AREA
GROUND FLOOR	179 m ²
LEVEL 1	422 m ²
LEVEL 2 (OUTDOOR SPACE)	212 m ²
SITE - LANDSCAPING	59 m ²
SITE - PAVEMENT (AT GROUND LEVEL)	503 m ²
TOTAL SITE	732 m ²

PARKING SCHEDULE	
LIGHT VEHICLE PARKING SPACES	QUANTITY
CAR PARKING DISABLED PERSON: 5,400 x 2,600mm	1
CAR PARKING: 5,400 x 2,600mm (90°)	17
TOTAL	18

LEGEND - DRAWING	
CODE	DESCRIPTION
BIKE	BICYCLE RACK
BIN1	140L WASTE BIN (2 WHEELS)
BIN2	240L WASTE BIN (2 WHEELS)
BIN6	660L WASTE BIN (4 WHEELS)
BOL	BOLLARD 1,100mm NOM. HIGH
COL	STRUCTURAL COLUMN, TO STRUCTURAL ENGINEER'S DETAILS
GD	GRATED DRAIN, REFER TO CIVIL ENGINEER'S DRAWINGS FOR DETAILS
LK1	4 TIER LOCKER
LM1	100mm WIDE PAINTED LINE MARKING, COLOUR WHITE, REFER TO THE TRAFFIC ENGINEER'S DETAILS
LM1(E)	100mm NOM. WIDE PAINTED EXISTING LINE MARKING, COLOUR WHITE, TO BE RETAINED
LM2	360mm WIDE PAINTED LINE MARKING, COLOUR WHITE - STOP LINE, REFER TO THE TRAFFIC ENGINEER'S DETAILS
LM3	100mm WIDE PAINTED LINE MARKING, COLOUR SAFETY YELLOW, REFER TO THE TRAFFIC ENGINEER'S DETAILS
LM6	LINE MARKING, PAINTED ROADWAY SYMBOL, COLOUR WHITE, REFER TO THE TRAFFIC ENGINEER'S DETAILS
RWT	RAIN WATER TANK, TO HYDRAULIC SERVICES DETAILS
SBAT	SAFETY BARRIER, TYPE 1 (W/RAIL, SINGLE HEIGHT)
SW PIT	STORMWATER PIT, REFER TO CIVIL ENGINEER'S DRAWINGS FOR DETAILS
WS	WHEEL STOP, LIGHT VEHICLE

1 SITE PLAN



2 LOCALITY PLAN

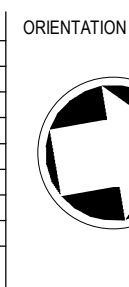
REFERENCE: GOOGLE, GOOGLE MAPS [WEBSITE], <http://www.google.com/maps/place/45+Orth+St,+Kingswood+NSW-2747/>, (ACCESSED 31 MARCH 2023).

THIS DRAWING IS OWNED BY AND REMAINS THE PROPERTY OF BELL ARCHITECTURE. ALL RIGHTS RESERVED. NO REPRODUCTION OR USE OF THIS DRAWING WITHOUT THE PERMISSION OF THE ARCHITECT IS LEGAL. THE CLIENT IS LICENSED TO USE THIS DRAWING FOR THE WORKS SPECIFIC TO THIS SITE, SUBJECT TO THE FULL PAYMENT OF THE ARCHITECT'S FEES AND COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE CLIENT/ARCHITECT AGREEMENT FOR THIS PROJECT. FIGURED DIMENSIONS SHALL BE USED. DO NOT SCALE THE DRAWING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF WORK.

FOR APPROVAL

C:\Users\Daniel\Documents\BAS220111 Granger Medical Kingswood 10/04/2024 2:53:49 PM NSW_Danielcodes.rvt

ISSUE	DATE	DESCRIPTION	ISSUED BY	ISSUE	DATE	DESCRIPTION	ISSUED BY
P2	10/04/2024	RESPONSE TO COUNCIL RF1		DOD			
P1	28/11/2023	ISSUED FOR APPROVAL		DOD			



CLIENT
AXIS TRUST

ARCHITECT
BELL Architecture

Matt Bell Nominated Architect NSW 9666
Level 4, Suite 4.04, 157 Walker Street (PO Box 1037) North Sydney NSW 2060 P +61 2 7254 4861 E sydney@bellarc.com.au W www.bellarc.com.au

BELL

JOB TITLE
AXIS TRUST MEDICAL CONSULTING ROOMS DEVELOPMENT
KINGSWOOD, NSW

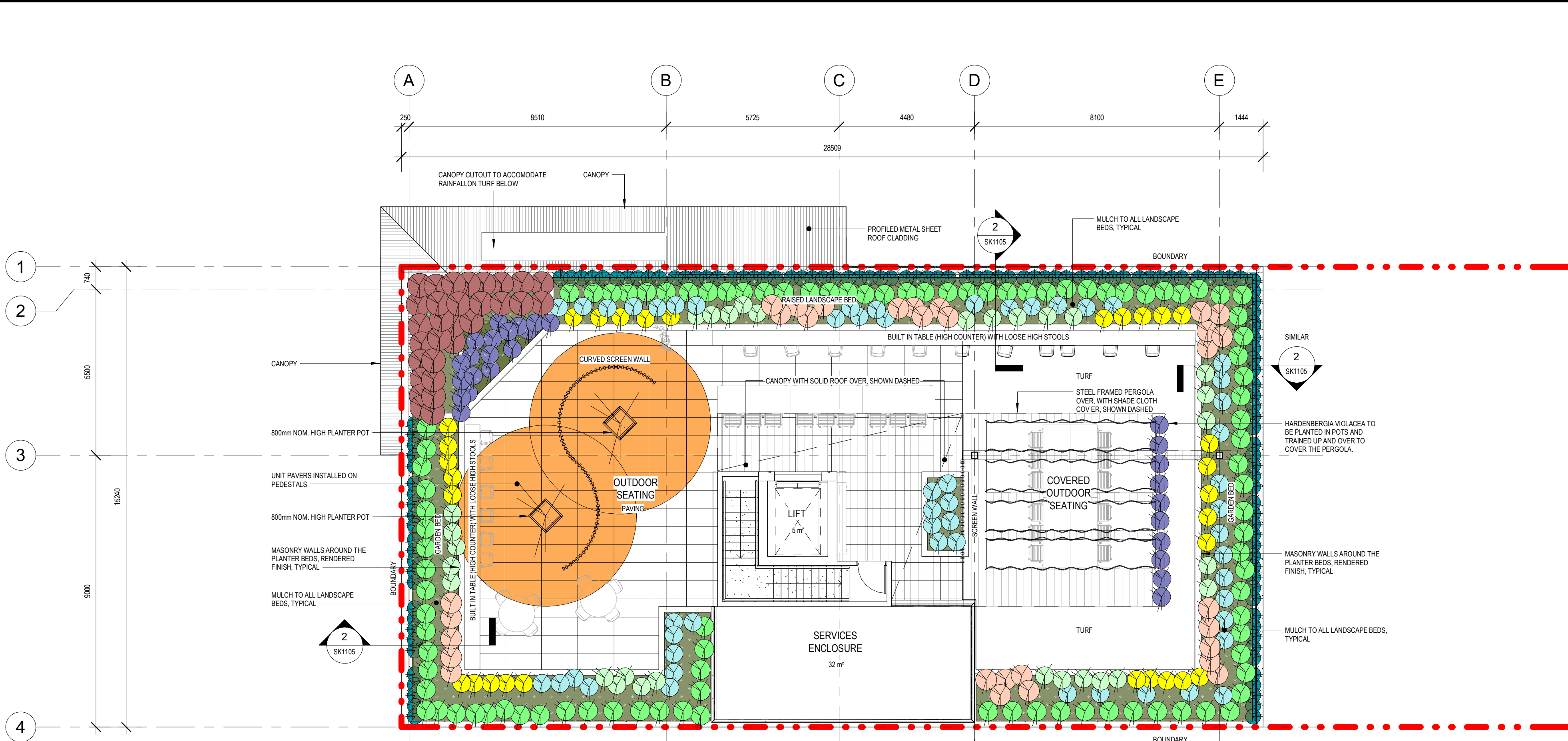
DRAWING SCALE @ A1
As indicated

DRAWN BY
CP

DRAWING TITLE
SITE PLAN

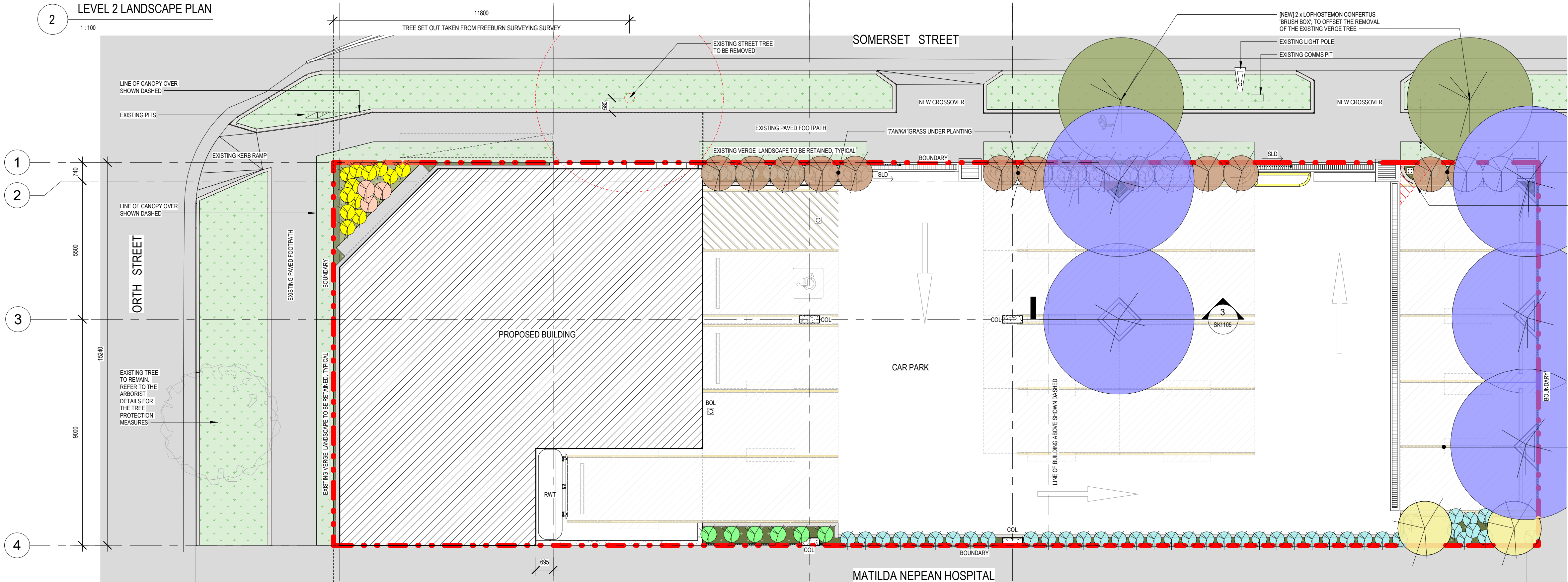
DRAWING NO
SK1102

REVISION
P2



LEVEL 2 LANDSCAPE PLAN

1:100



GROUND LEVEL LANDSCAPE PLAN

1:100

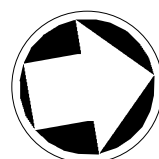
THIS DRAWING IS OWNED BY AND REMAINS THE PROPERTY OF BELL ARCHITECTURE. ALL RIGHTS RESERVED. NO REPRODUCTION OR USE OF THIS DRAWING WITHOUT THE PERMISSION OF THE ARCHITECT IS LEGAL. THE CLIENT IS LICENSED TO USE THIS DRAWING FOR THE WORKS SPECIFIC TO THIS SITE. SUBJECT TO THE FULL PAYMENT OF THE ARCHITECT'S FEES AND COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE CLIENT/ARCHITECT AGREEMENT FOR THIS PROJECT. FIGURED DIMENSIONS SHALL BE USED. DO NOT SCALE THE DRAWING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF WORK.

FOR APPROVAL

P2	10.04.2024	RESPONSE TO COUNCIL RFI
P1	28.11.2023	ISSUED FOR APPROVAL

ISSUE	DATE	DESCRIPTION
ISSUED BY	ISSUE	DATE
ISSUED BY	ISSUE	DATE

ORIENTATION



CLIENT

AXIS TRUST

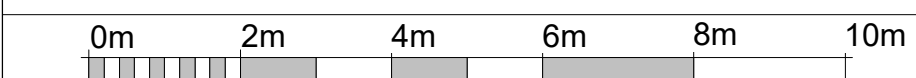
ARCHITECT

BELL Architecture

Matt Bell Nominated Architect NSW 9666
Level 4, Suite 4.04, 157 Walker Street (PO Box 1037) North Sydney NSW 2060 P +61 2 7254 4861 E sydney@bellarc.com.au W www.bellarc.com.au

JOB TITLE

AXIS TRUST MEDICAL CONSULTING ROOMS DEVELOPMENT
KINGSWOOD, NSW



JOB NO

BAS220111

DRAWING SCALE @ A1

As indicated

DRAWN BY

CP

DRAWING TITLE

LANDSCAPE PLANS

DRAWING NO

SK1103

REVISION

P2

LEGEND

AFL	ABOVE FLOOR LEVEL
AHD	AUSTRALIAN HEIGHT DATUM
COL	COLUMN
C.O.S	CHECK ON SITE
EJ	EXPRESSED JOINT
FCL	FINISHED CEILING LEVEL
FFL	FINISHED FLOOR LEVEL
GFL	GROUND FLOOR LEVEL FLOOR
PJ	PANEL JOINT
SLD	SLIDING PANEL OF A DOOR OR WINDOW

PROPOSED LANDSCAPING EXTENT INCLUDING IRRIGATION, AS DETAILED ON THE LANDSCAPE PLAN. REFER ALSO TO THE IRRIGATION SYSTEM NOTES BELOW

EXISTING VERGE LANDSCAPING EXTENT, UNLESS NOTED OTHERWISE

EXTERNAL FINISHES SCHEDULE - SITE

ELEMENT	MATERIAL AND FINISH	COLOUR
MASONRY WALLS TO PLANTER BEDS	FINE SAND RENDERED FINISH	SANDSTONE
NEW TUBULAR FENCE AND GATES - BOUNDARY	1.800mm HIGH TUBULAR STEEL, SPEAR TOP FENCING, POWDERCOAT FINISH (NOTE: FENCING SHALL BE IN ACCORDANCE WITH TNSW TYPE 1 PEDESTRIAN FENCING TO MAINTAIN SIGHT LINES FOR EXISTING VEHICLES)	CHARCOAL (TO MATCH COLORBOND MONUMENT)
NEW LAP AND CAP TIMBER FENCE - BOUNDARY	TREATED PINE	NATURAL
NEW POST AND RAIL, PROFILED METAL SHEET FENCE - BOUNDARY	STEEL, COLORBOND FINISH	COLORBOND MONUMENT
RAINWATER TANK	STEEL, COLORBOND FINISH	COLORBOND SHALE GREY
TURF, ARTIFICIAL	REFER TO THE LANDSCAPE PLANTING SCHEDULE ON DRAWING SK1103	-
UNIT PAVERS (CAR PARK)	BEST BRICKS AND PAVERS LARGE FORMAT 600mm (600mm x 400mm x 60mm H) URBAN BLACK SERIES	URBAN (OFF WHITE WITH VISIBLE AGGREGATE)
UNIT PAVERS (ROOF GARDEN)	ADRI MASONRY CONCRETE PAVES EURO HONED 6 x 4 (600mm x 400mm x 38mm H)	CYPRUS (OFF WHITE WITH VISIBLE AGGREGATE)

LANDSCAPE PLAN NOTES

THE TREE CANOPY EXTENT IS SHOWN AT MATURITY.

REFER TO DRAWING SHEET SK1104 LANDSCAPE SCHEDULE FOR THE DETAILED PLANTING SCHEDULE.

REFER TO THE ELEVATION DRAWING SHEETS SK3101 AND SK3102 FOR THE "EXTERNAL FINISHES SCHEDULE - BUILDING".

REFER TO DRAWING SK1105 LANDSCAPE PLANTING SECTION DETAILS FOR THE TYPICAL DETAILS.

IRRIGATION SYSTEM

AN AUTOMATIC WATERING SYSTEM WITH MICRO-JET SPRINKLER HEADS AND LOW DENSITY, RUBBER MODIFIED POLYPROPYLENE RETICULATION, TO INCLUDE FILTERS, BENDS, JUNCTIONS, ENDS AND OTHER ANGLARY EQUIPMENT. THE SYSTEM IS TO HAVE AN AUTOMATIC CONTROLLER THAT PROVIDES FOR TWO WEEK SCHEDULING AND HOURLY MULTI-CYCLE OPERATION, AND INCLUDE MANUAL OVERRIDE.
REFER TO THE HYDRAULIC SERVICES CONSULTANT AND COUNCIL AS NECESSARY, TO ENSURE THE IRRIGATION SYSTEM CONFORMS WITH ALL THE COUNCIL AND WATER BOARD CODES AND REQUIREMENTS.

PLANTING SELECTIONS SCHEDULE

THE SCHEDULE IS TO BE READ WITH THE DETAILED PLANTING SCHEDULE ON DRAWING SK1104

TYPE	SYMBOL	BOTANIC NAME	COMMON NAME
STREET TREE		LOPHOSTEMON CONFERTUS	BRUSH BOX
TREES		HYMENOSPORUM FLAVUM	NATIVE FRANGIPANI
		TRISTANIA LAURINA KANOOKA	WATER GUM
		ULMUS PARVIFOLIA	CHINESE ELM
HEDGES		ACMENA SMITHII MINOR	DWARF LILLY PILLY
GRASSES AND LOW PLANTING		LOMANDRA LONGIFOLIA	TANIKA
		HYMENOSPORUM FLAVUM 'GOLD NUGGET'	DWARF NATIVE FRANGIPANI
		CHEILANTHES SIEBERI	MULGA FERN
		SCHOENOPLECTUS VALIDUS	RIVER CLUB-RUSH
		JUNCUS USITATUS	COMMON RUSH
		SCAEVOLA AEMULA	FAIRY FAN
GROUND COVER		DICHONDRA REPENS	SILVER FALLS
CLIMBING		HARDENBERGIA VIOLACEA	HAPPY WANDERER
ARTIFICIAL TURF	TURF	-	ROYAL GRASS® BLOOM



APPENDIX E

Bore and Test pit logs

NEO CONSULTING



NEO Consulting

186 Riverstone Parade, Riverstone NSW 2765, Australia

Phone: 61 455 485 502

Geotechnical Log - Testpit

TP1

UTM : 56H Excavator : Shovel Job Number : N09489
Easting (m) : 288,471.01 Excavator Supplier : Client : NA
Northing (m) : 6,262,161.49 Logged By : Ehsan Zare Project : 45 Orth Street, Kingswood NSW 2747
Ground Elevation : Not Surveyed Reviewed By : Location : 45 Orth Street, Kingswood NSW 2747
Total Depth : 0.6 m BGL Date : 12/07/2024 Loc Comment :

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
	0.02	Fill		GP		Fill GRAVEL GP: very loose, grey, coarse sized, dry.	D	VL		
		Topsoil		CL		Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine grained sand, trace fine sized gravel, organic, slightly moist.	SLM	S		
	0.5	Natural		CL-CI		Natural Silty to sandy CLAY CL-CI: soft, low to medium plasticity, reddish brown, fine grained sand, trace fine sized gravel, inorganic, slightly moist.				
						TP1 Terminated at 0.6m				
	1									
	2									



NEO Consulting

186 Riverstone Parade, Riverstone NSW 2765, Australia

Phone: 61 455 485 502

Geotechnical Log - Testpit

TP2

UTM : 56H Excavator : Shovel Job Number : N09489
Easting (m) : 288,480.25 Excavator Supplier : Client : NA
Northing (m) : 6,262,159.35 Logged By : Ehsan Zare Project : 45 Orth Street, Kingswood NSW 2747
Ground Elevation : Not Surveyed Reviewed By : Location : 45 Orth Street, Kingswood NSW 2747
Total Depth : 0.6 m BGL Date : 12/07/2024 Loc Comment :

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
	0.02	Fill		GP		Fill GRAVEL GP: very loose, grey, coarse sized, dry.	D	VL		
		Topsoil		CL		Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine grained sand, trace fine sized gravel, organic, slightly moist.	SLM	S		
	0.5	Natural		CL-CI		Natural Silty to sandy CLAY CL-CI: soft, low to medium plasticity, reddish brown, fine grained sand, trace fine sized gravel, inorganic, slightly moist.				
						TP2 Terminated at 0.6m				
	1									
	2									



NEO Consulting

186 Riverstone Parade, Riverstone NSW 2765, Australia

Phone: 61 455 485 502

Geotechnical Log - Borehole

TP3

UTM : 56H Drill Rig : Flight Auger Job Number : N09489
Easting (m) : 288,472.47 Driller Supplier : Client : NA
Northing (m) : 6,262,151.38 Logged By : Ehsan Zare Project : 45 Orth Street, Kingswood NSW 2747
Ground Elevation : Not Surveyed Reviewed By : Location : 45 Orth Street, Kingswood NSW 2747
Total Depth : 0.6 m BGL Date : 12/07/2024 Loc Comment :

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
	0.15	Non-Soil		CCT		Concrete	D			
		Topsoil		CL		Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine grained sand, trace fine sized gravel, organic, slightly moist.	SLM	S		
	0.5	Natural		CL-CI		Natural Silty to sandy CLAY CL-CI: soft, low to medium plasticity, reddish brown, fine grained sand, trace fine sized gravel, inorganic, slightly moist.				
						TP3 Terminated at 0.6m				



NEO Consulting

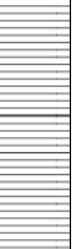
186 Riverstone Parade, Riverstone NSW 2765, Australia

Phone: 61 455 485 502

Geotechnical Log - Testpit

TP4

UTM : 56H Excavator : Shovel Job Number : N09489
Easting (m) : 288,463.67 Excavator Supplier : Client : NA
Northing (m) : 6,262,139.06 Logged By : Ehsan Zare Project : 45 Orth Street, Kingswood NSW 2747
Ground Elevation : Not Surveyed Reviewed By : Location : 45 Orth Street, Kingswood NSW 2747
Total Depth : 0.6 m BGL Date : 12/07/2024 Loc Comment :

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
	0.5	Topsoil		CL		Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine grained sand, trace fine sized gravel, organic, slightly moist.	SLM	S		
		Natural		CL-CI		Natural Silty to sandy CLAY CL-CI: soft, low to medium plasticity, reddish brown, fine grained sand, trace fine sized gravel, inorganic, slightly moist.				
						TP4 Terminated at 0.6m				



NEO Consulting

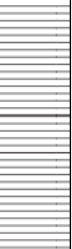
186 Riverstone Parade, Riverstone NSW 2765, Australia

Phone: 61 455 485 502

Geotechnical Log - Testpit

TP5

UTM : 56H Excavator : Shovel Job Number : N09489
Easting (m) : 288,474.67 Excavator Supplier : Client : NA
Northing (m) : 6,262,136.46 Logged By : Ehsan Zare Project : 45 Orth Street, Kingswood NSW 2747
Ground Elevation : Not Surveyed Reviewed By : Location : 45 Orth Street, Kingswood NSW 2747
Total Depth : 0.6 m BGL Date : 12/07/2024 Loc Comment :

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
	0.5	Topsoil		CL		Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine grained sand, trace fine sized gravel, organic, slightly moist.	SLM	S		
		Natural		CL-CI		Natural Silty to sandy CLAY CL-CI: soft, low to medium plasticity, reddish brown, fine grained sand, trace fine sized gravel, inorganic, slightly moist.				
						TP5 Terminated at 0.6m				



NEO Consulting

186 Riverstone Parade, Riverstone NSW 2765, Australia

Phone: 61 455 485 502

Geotechnical Log - Testpit

TP6

UTM : 56H Excavator : Shovel Job Number : N09489
Easting (m) : 288,466.14 Excavator Supplier : Client : NA
Northing (m) : 6,262,123.16 Logged By : Ehsan Zare Project : 45 Orth Street, Kingswood NSW 2747
Ground Elevation : Not Surveyed Reviewed By : Location : 45 Orth Street, Kingswood NSW 2747
Total Depth : 0.6 m BGL Date : 12/07/2024 Loc Comment :

Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	Samples	PID
		Topsoil		CL		Topsoil Silty to sandy CLAY CL: soft, low plasticity, dark brown, fine grained sand, trace fine sized gravel, organic, slightly moist, plant rootlets.	SLM	S		
	0.5	Natural		CL-CI		Natural Silty to sandy CLAY CL-CI: soft, low to medium plasticity, reddish brown, fine grained sand, trace fine sized gravel, inorganic, slightly moist.				
						TP6 Terminated at 0.6m				
	1									
	2									