DETAILED SITE INVESTIGATION

N10155

Brown Commercial

PROPOSED DEVELOPMENT AT:

7 Regiment Road,

Rutherford NSW 2320

Monday, 25th November 2024

NEO CONSULTING

Report Distribution

Detailed Site Investigation

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Executive Summary

NEO Consulting was commissioned by Brown Commerical (the client) to undertake a Detailed Site Investigation (DSI) for the site located at No. 7 Regiment Road, Rutherford NSW 2320 (the site). The site is legally defined as Lot 2/-/DP1260460, has an approximate total area of 3,226m^2, and is currently zoned as E3 - Productivity Support. NEO Consulting understands that the proposed development for this site includes construction of a single-storey childcare centre, with an on-grade carpark and outdoor play area.

The objectives of the DSI were to provide a detailed assessment of current and/or historical potentially contaminating activities that may have impacted the site.

The scope of works undertaken includes:

- Site inspections for evidence of sources of potential contamination onsite and neighbouring properties;
- Soil sampling to identify any contaminants (if present);
- Historical investigations relating to the site (if any);
- Historical aerial photographs;
- Review of the previous environmental investigation;
- Review of local geological and hydrogeological information, including an evaluation of the WaterNSW registered groundwater bore database;
- Acid Sulphate Soils (ASS) data maps;
- Evaluate the analytical results from the DSI sampling events;
- Establish whether data gaps may exist within the investigation; and
- Development of a Conceptual Site Model (CSM) to identify the connections between potential sources of contamination, exposure pathways, and human/ecological receptors.

A review of available historical images of the site has confirmed that the site has been used for commercial purposes since 2010. Numerous large onsite sheds and warehouses were demolished Between December 2018 and April 2019. Fill material was imported and spread across the northern portion of the site in numerous events between June 2019 and November 2021. The service station immediately north of the site was constructed between June 2019 and August 2019.

NEO Consulting undertook onsite works for the Detailed Site Investigation (DSI) on the 12th November 2024. During the DSI site inspection, soil samples were collected from judgementally selected areas across the site area. Thirteen (13) total soil samples were collected from ten (10) boreholes. Boreholes BH1, BH2 and BH3 were continued into groundwater monitoring wells. Field QA/QC sampling was undertaken in the form of one (1) Trip Spike, one (1) Trip Blank, one (1) Duplicate sample, one (1) Triplicate Sample and one (1) Rinsate sample.

NEO Consulting returned to the site on the 22nd November 2024, and found that the wells had not produced water, and had not intercepted the groundwater table with a maximum drill depth of 9m bgl.

Analytical results of soil samples indicated that all analytes were below the NEPM Health and Ecological Assessment Criteria for Residential (A) development, aside from Benzo(a)pyrene and Carcinogenic PAHs in the shallow fill layer across the northern portion of the site.

Based on the site investigation and analytical results, NEO Consulting concludes that the identified PAH contamination is limited to the shallow fill layer across the northern portion of the site. The contamination will be managed through the implementation of a Remedial Action Plan (RAP). Furthermore, any data gaps for the site will be addressed within the framework of the RAP.

Therefore, NEO Consulting finds that the site is not significantly contamination and it can be made suitable for the proposed development and Residential (A) land use, provided that the recommendations within Section 16 of this report are undertaken.

1. Introduction

1.1 Background

NEO Consulting was commissioned by Brown Commercial (the client) to undertake a Detailed Site Investigation (DSI) for the site located at No. 7 Regiment Road, Rutherford NSW 2320 (the site). The site is legally defined as Lot 2/-/DP1260460, has an approximate total area of 3,226m^2, and is currently zoned as E3 - Productivity Support. NEO Consulting understands that the proposed development for this site includes construction of a single-storey childcare centre, with an on-grade carpark and outdoor play area.

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

1.2 Objectives

This report provides a detailed 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 Statutory and Regulatory Requirements

This DSI has been prepared in general accordance with the following:

Statutory Requirements

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

Regulatory Requirements

- State Environmental Planning Policy (Resilience and Hazard) 2021;
- NEPC, National Environment Protection (Assessment of Site Contamination) Measures (NEPM), 2013;
- HEPA, PFAS National Environmental Management Plan, Version 2.0, 2020;
- The National Remediation Framework, CRC Care, 2019;
- Protection of the Environment Operations (Waste) Regulations, 2005;
- SafeWork NSW, *Managing Asbestos in or On Soil*, 2014;
- Work Health and Safety Regulation, 2017;
- NSW EPA, *Contaminated Land Guidelines*, *Sampling Design Part 1 – Application*, 2022;
- NSW EPA, *Contaminated Land Guidelines*, *Sampling Design Part 2 – Interpretation*, 2022;
- NSW EPA, *Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act*, 1997;
- NSW EPA, *Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation, 2014*;
- NSW EPA, *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines,* 2020;
- NSW EPA, *Contaminated Land Management, Guidelines for the NSW Site Auditor Scheme,* 2017 (3rd Edition);
- NSW EPA, *Waste Classification Guidelines Part 1: Classifying Waste,* 2014.

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 and laboratory analysis;
- Historical investigations relating to the site (if any);
- Review of current and historical Certificates of Title;
- Review of local Council records and planning certificates;
- Review of NSW EPA Contaminated Land Record of Notice, Protection of the Environment Operations (POEO) Register, NSW EPA PFAS Investigation Program map;
- 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	No. 7 Regiment Road, Rutherford NSW 2320
Deposited plan	Lot 2/-/DP1260460
Zoning	E3 - Productivity Support
Area	3,226m^2
LGA	Maitland City Council
Site Coordinates	-32.713158, 151.518505
GDA 94	361125.16 m E, 6379504.89 m S, 56H

Table 2. Surrounding land-use

Direction from site	Land-use
North	7-eleven, Guzman y Gomez
East	Regiment Road, Residential properties
South	Residential properties
West	Commercial properties, unnamed waterway

4. Site Condition

During the site inspections, the following observations were noted (photographs in **Appendix A**):

- The site no buildings at the time of inspection;
- The site area was used for the storage of concrete pits and pipes, which are manufactured immediately south of the site area;
- The site area was largely unsealed, but featured a concrete slab across the southern portion;
- The fill material overlying natural soils across the site featured sandy, gravelly clay material;
- A ICB tank was identified near the northern site boundary. The tank was empty, and was marked "diesel";
- No indications of underground storage of petroleum products were identified;
- The site gradient was overall flat, though the southern section of the site was approximately1.5m less elevated than the northern portion.

The nearest human receptors include adjoining residential properties, and the fast food restaurant immediately north of the site, and environmental receptors include an unnamed waterway located 100m north-west of the site, which leads to Stony Creek, 815m south-east of the site.

5. Site History

5.1 History of Site

A review of available historical images of the site has confirmed that the site has been used for commercial purposes since 2010. Numerous large onsite sheds and warehouses were demolished Between December 2018 and April 2019. Fill material was imported and spread across the northern portion of the site in numerous events between June 2019 and November 2021. The service station immediately north of the site was constructed between June 2019 and August 2019. A summary of historical aerial imagery is contained below, and the images referenced can be seen in **Appendix A**.

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

Year	Description
January 2010	At this time the western portion of the property appears to have been sealed with asphalt, while the remained of the site was sealed with concrete. Landscape media were stored onsite at the time. Three sheds were located against the northern boundary, in the north-eastern corner and in the south-eastern corner. Two large sheds cross the northern boundary of the site, and are shared with the site's northern neighbour.
January 2014	An additional shed had been constructed in the site centre, and the south-eastern onsite shed was extended to the north.
December 2018	The shed against the northern site boundary had been recently demolished.
February 2019	Demolition of the warehouses straddling the northern boundary had commenced. Demolition of the other structures found across the site's northern neighbour has occurred
April 2019	Demolition of all onsite structures apart from a shed in the south-eastern corner and soil bays in the south-western corner. All structures have been demolished across the property immediately north of the site. At this time the site's northern half was unsealed and the southern section was sealed with asphalt and concrete.
June 2019	Fill material has been imported across the northern half of the property. Stockpiled soils are visible in the north-eastern site corner. The property immediately to the north featured stockpiled soils. Construction of a service station had begun immediately north of the site.
August 2019	Fill material can be seen stockpiled near the centre of the western site boundary. A retail store and forecourt canopy are visible on the property north of the site, as is a fast-food restaurant.
October 2019	The neighboring property to the north of the site had been sealed with a concrete slab over the majority of its extent. Fill material has been spread over the northern portion of the site, and construction materials are seen stockpiled in the north-western site corner.
December 2019	Fill material appears to have been compacted across the site extent.
April 2020	Concrete pits can be seen stored across the southern half of the site. The northern, unsealed portion of the site has become vegetated with grass.
June 2020	No significant changes have occurred since the previous image was taken.
August 2021	Further earthworks have been undertaken on the northern portion of the site. Potentially deposition, excavation or reworking of fill material.
November 2021	Importation of further fill material has occurred over the northern portion of the site, likely the gravelly, sandy clay material found during onsite inspection.

February 2022	Concrete pits can be seen stored across the northern portion of the site.
June 2022	Further storage of miscellaneous industrial materials can be seen across the site.
May 2023	Further storage of miscellaneous industrial materials can be seen across the site.
March 2024	No significant changes have occurred since the previous image was taken.

5.2 Section 10.7 (2) & (5) 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. The Planning Certificate was not provided at the time of reporting.

5.3 NSW EPA Notified Sites

A search within the NSW EPA Notified Sites was undertaken for the site. No results were found for the site or within a 500m radius of the site.

5.4 NSW EPA Contaminated Land Register

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

5.5 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 or within a 500m radius of the site.

5.6 SafeWork NSW Hazardous Goods

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

5.7 Product Spill and Loss History

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

5.8 PFAS Investigation Program

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

6. Environmental Setting

6.1 Geology

Data obtained from the Geological Survey of NSW and the Geoscience Australia Stratigraphic Units Database indicate the site is underlain by the Rutherford Formation. This Formation is expected to consist of siltstone, marl and minor sandstone.

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 Bolwarra Heights landscape group. This landscape group is normally recognised by rolling low hills on Permian sediments in the centre-west of the sheet in the East Maitland Hills region. Slopes are 5–20%, elevation to 100 m, local relief to 80 m. Cleared tall open-forest.

6.3 Groundwater

A groundwater bore search was conducted on 5th July 2024. No registered bores were found within 500 of the site.

Three groundwater wells were installed onsite on the 12th November 2024. NEO Consulting returned to the site on the 22nd November 2024, and found that the wells had not produced water, and had not intercepted the groundwater table. Well details are included below.

Table 4. Groundwater monitoring well details.

Well I.D.	Depth to water (m)	Total well depth (m)
MW1	-	9.0
MW2	-	7.5
MW3	-	7.5

It was beyond the scope of works to study the groundwater flow direction. However, based on the regional topography, groundwater is expected to flow south-west towards Stoney Creek located approx. 815m south-west of the site.

6.4 Topography

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

6.5 Site Drainage

Site drainage is likely to be consistent with the local topography. Stormwater likely flows towards Stoney Creek located approx. 815m south-west of the site. Additionally, large portions of the site consist of accessible soils, which allow for direct infiltration into the sub-soil.

6.6 Acid Sulphate Soils

To determine whether there is a potential for ASS to be present at the site, information was reviewed utilising the NSW Department of Planning, Industry and Environment eSPADE map viewer. The ASS risk maps show the chance of acid sulphate soil occurrence. This search indicated that there is "no known occurrence" of ASS underlying the soil at this site.

7. Areas of Environmental Concern

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

Table 5. Potential Areas and Contaminants of Concern

AEC	Potentially Contaminating / Hazardous Activity	CoPC	Likelihood of Site Impact	Comments
Entire site	Importation of fill material across the northern portion of the site	TRH, BTEX, PAH, OCP, OPP, PCBs, Metals and Asbestos	Low	Multiple filling events have been identified in historical aerial imagery. A fill layer was identified across the site surface to a maximum depth of 1m bgl in borehole BH1.
	Carparking	TRH, BTEX, PAH, Metals	Low	Cars, trucks and other vehicles are likely to have frequented the site.

Abbreviations: Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene and Xylene (BTEX), Polycyclic Aromatic Hydrocarbon (PAH), Organochlorine pesticides (OCP), Organophosphate pesticides (OPP), Polychlorinated biphenyls (PCBs), Asbestos Containing Materials (ACM)Ozone Depleting Substances (ODS), Synthetic Mineral Fibres (SMF), Hazardous Materials Survey (HMS) 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 6. Conceptual Site Model

Potential Sources and Mechanism of Contamination	Potential Receptor	Potential Exposure Pathway	Complete connection	Risk	Justification/ Control Measures
Importation of fill material across the northern portion of the site (Entrained in Fill) 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. If present, impacted soils are to be disposed of off-site in accordance with an unexpected finds protocol.
			Incomplete (Future)	Low	
	Natural soils	Migration of contamination from fill layer.	Complete (current)	Low	If contamination is present in the fill layer, migration to the natural layer is limited due to low permeable subsoil. If present, impacted soils are to be disposed of off-site.
			Incomplete (Future)	Low	

	Stoney Creek (approx. 815m SW)	Migration of impacted groundwater and surface water run-off.	Incomplete (current)	Low	The local topography surrounding the site falls toward Stoney Creek. It is possible surface waters from the site reach this waterway. If present, contaminated soils and groundwater are likely to be remediated.
			Incomplete (future)	Low	
	Underlying aquifer	Leaching and migration of contaminants through groundwater infiltration.	Complete (current)	Low	Due to existing unsealed surfaces, leachability of contaminants is possible. If present, contaminated soil and/or groundwater is likely to be remediated.
			Incomplete (future)	Low	

9. Assessment Criteria

The following assessment criteria were adopted for the investigation.

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

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

Table 7. HIL-A

Assessment Criteria	HIL-A, mg/kg
HCB	10
Heptachlor	6
Chlordane	50
Aldrin & Dieldrin	6
Endrin	10
DDD+DDE+DDT	240
Endosulfan	270
Methoxychlor	300
Mirex	10
Arsenic, As	100
Cadmium, Cd	20
Chromium, Cr	100
Copper, Cu	6,000
Lead, Pb	300
Nickel, Ni	400
Zinc, Zn	7,400
Mercury, Hg	40
Carcinogenic PAHs (as BaP TEQ)	3
Total PAH (18)	300
PCBs (Total)	1

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

HSLs have been developed for selected petroleum compounds and fractions and are used for the assessment of potential risks to human health from chronic inhalation and direct contact pathways of petroleum vapour emanating off petroleum contaminated soils (Vapour Risk). HSLs are guided by land-use scenarios, specific soil physicochemical properties and generally apply to depths below surface to >4m.

Tier 1 HSLs are divided into sub-criteria. The sub-criteria appropriate to the site is HSL A – residential with garden/accessible soils.

Table 8. HSL-A

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

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

Ecological investigation levels (EILs) have been developed to assess the risk for the presence of metals and organic substance in a terrestrial ecosystem. EILs are guided by land-use scenarios, specific soil physicochemical properties and generally apply to the top 2m of soil. The NEPM Soil Quality Guidelines (SQG) for EILs are calculated using the Added Contamination Limit (ACL) to determine the amount of contamination that had to be added to the soil to cause toxicity, including ambient background concentration (ABC).

Table 9. Generic EIL

Assessment Criteria	Generic EIL for Urban Residential and Public Open Space, mg/kg
Arsenic, As	100
Lead, Pb	1100
DDT	180
Naphthalene	170

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

ESLs have been developed for selected petroleum hydrocarbons (BTEX, benzo(a)pyrene, TRH F1 and F2) in soil, based on fresh contamination. These parameters are applicable to coarse and fine-grained soil and apply from the surface of the soil to 2m below ground level, which corresponds with the root and habitat zone for many species.

Table 10. ESL

Assessment Criteria	Soil ESL for Urban Residential and Public Open Space, fine-grained soil, mg/kg
Benzene	65
Toluene	105
Ethylbenzene	125
Xylenes	45
BaPyr (BaP)	0.7
TRH C_6-C_{10}	180
TRH >C_{10}-C_{16}	120
TRH >C_{16}-C_{34} (F3)	1,300
TRH >C_{34}-C_{40} (F4)	5,600

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

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

Table 11. Management Limits

Assessment Criteria	Management Limits for Residential, Parkland and Public Open Space, fine-grained soil, mg/kg
TRH C_6-C_{10}	800
TRH >C_{10}-C_{16}	1000
TRH >C_{16}-C_{34} (F3)	3500
TRH >C_{34}-C_{40} (F4)	10000

9.6 NEPM Guidelines for Asbestos

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

Table 12. HSL-A for asbestos

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

10. Sampling and Analysis Plan

10.1 Sampling Rationale

Table 13. Sampling Rationale

Sampling Decision	Chosen Approach	Justification
Sampling Pattern	Judgmental sampling	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	Thirteen (13) soil samples were collected from ten (10) sampling points	This sampling density was selected to meet the minimum number of sampling points in accordance with the NSW EPA Contaminated Land Guidelines, Sampling Design Part 1 – Application (2022).
QA/QC Samples	One (1) Duplicate (D1), One (1) Triplicate (T1): BH6 One (1) Trip Blank One (1) Trip Spike One (1) Rinsate	QA/QC sampling was undertaken in general accordance with specifications outlined in Australian Standards (AS) 4482.1-2005, Standard Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil and NEPM 2013 Schedule B2; *Guideline on Site Characterisation*.
Sampling Depths	Shallow samples within fill/topsoil layer ~0.15m bgl Deeper sample from natural soil layer ~ 4.0/5.7m bgl	These depths were selected in compliment with sampling density and to target depths of potential contaminants. Additionally, soil thickness and proximity to the aquifer were considered when determining these depths.

10.2 Field Sampling Methodology

All boreholes were excavated using a trailer mounted drill rig. Soil samples were collected directly from the auger and placed into laboratory prepared 250ml jars, and all samples were collected whilst wearing nitrile gloves. 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.

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

Table 14. Sample details

Sample	Depth (m)	Sample Description	Matrix	Laboratory Testing
BH1.1	0.15	Fill Clayey SILT ML: medium plasticity clay, low plasticity, firm, brown and black, with medium to coarse sized gravel, trace fine grained sand, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos
BH1.2	4.0	Natural Sandy CLAY CL: firm, low plasticity, light brown, fine grained sand, with medium sized gravel, organic, dry.	Natural	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs,
BH2.1	0.15	Fill Sandy to silty CLAY CI: medium plasticity, very soft to soft, grey, fine to medium grained sand, inorganic, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos
BH2.2	5.7	Natural Sandy CLAY CI: firm, medium plasticity, brown, fine grained sand, organic, moist.	Natural	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs,
BH3.1	0.15	Fill Sandy CLAY CL: low plasticity, soft, grey, fine grained sand, with medium sized gravel, trace low plasticity silt, inorganic, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos
BH3.2	4.0	Natural Sandy CLAY CI: firm, medium plasticity, brown and grey, fine to medium grained sand, organic, moist.	Natural	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs,
BH4.1	0.15	Fill Gravelly to sandy CLAY CL: low plasticity, firm, grey, medium sized gravel, fine to medium grained sand, trace low plasticity silt, inorganic, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos
BH5.1	0.15	Fill Gravelly to sandy CLAY CL: low plasticity, soft to firm, grey and brown, medium sized gravel, fine to medium grained sand, trace low plasticity silt, organic, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos
BH6.1	0.15	Fill Sandy CLAY CL: low plasticity, firm, brown and grey, fine to medium grained sand, with medium sized gravel, trace low plasticity silt, organic, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos
BH7.1	0.15	Fill Gravelly to sandy CLAY CL: low plasticity, soft, light brown, medium sized gravel, fine grained sand, trace low plasticity silt, organic, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos
BH8.1	0.15	Fill Sandy CLAY CL-CI: low to medium plasticity, soft to firm, light brown and dark brown, fine grained sand, with fine to medium sized gravel, trace low plasticity silt, organic, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos
BH9.1	0.15	Fill Sandy CLAY CL-CI: low to medium plasticity, soft to firm, light brown and dark brown, fine grained sand, with fine to medium sized gravel, trace low plasticity silt, organic, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos
BH10.1	0.15	Fill Sandy CLAY CL-CI: low to medium plasticity, soft to firm, light brown and dark brown, fine grained sand, with fine to medium sized gravel, trace low plasticity silt, organic, moist.	Fill	Metals, TRH, BTEX, PAH, OCP, OPP, PCBs, Asbestos

10.4 Quality Assurance & Quality Control Procedures

Table 15. The Following Procedures were Undertaken to Ensure the Data Quality for Each Sample

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

11. Data Quality Objectives (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 16. Data Quality Objectives

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

12. Analytical Results

12.1 Soil Analytical Results

The analytical results of the DSI indicated exceedances above the NEPM Health and Ecological Assessment Criteria for Residential (A) sites in the following samples:

- NEPM 2013 Health Investigation Level (HIL-A):
  - Benzo(a)pyrene, 1mg/kg
    - BH3.1, 2.4mg/kg
    - BH9.1, 3.1mg/kg
    - BH10.1, 3.2mg/kg
  - Carcinogenic PAHs (as BaP, TEQ), 3mg/kg
    - BH3.1, 3.6mg/kg
    - BH9.1, 4.7mg/kg
    - BH10.1, 4.9mg/kg
- NEPM 2013 Ecological Screening Level (ESL):
  - Benzo(a)pyrene, 0.7mg/kg
    - BH3.1, 0.8mg/kg

All other analytes were below the limit of reporting, or below the Site Assessment Criteria.

Soil analytical results are provided in **Appendix B**.

12.2 Quality Control (QC) Sampling

Field QA/QC sampling was undertaken in the form of one (1) Trip Spike, one (1) Trip Blank, one (1) Duplicate sample, one (1) Triplicate Sample and one (1) Rinsate sample.

Table 17. QC Sample Response

Sample	Data Quality Indicator (DQI)
Trip Spike	103-109%
Trip Blank	Below LOR
Intra Lab (D1)	RPD<=30%
Intra Lab (T1)	RPD<=30%
Rinsate	Below LOR

SGS laboratory report SE274045 R0 indicates most Data Quality Objectives were met.

Overall, the QA/QC analytical results indicate an acceptable data set.

13. Data Quality Indicators

Table 17. Field Data Quality Indicators

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

Table 18. Laboratory Data Quality Indicators

Completeness	• Correct documentation and COC procedures undertaken; • Analysis of appropriate analytes; • Implementation of appropriate extraction and instrument methods; • Samples were received, extracted and injected within specified holding times; These considerations were undertaken and allows the percentage of usable data was calculated. Along with the field-based *Completeness* (100%), the dataset can be considered complete (100%).
Comparability	• Appropriate extraction methods and analytical methods, including instrument calibration and Practical Quantification Limits (PQL); • Justify and quantify differences in analytical results. These considerations provide qualitative confidence that the data reflects the site conditions. All considerations were undertaken. RPDs were within acceptable ranges.
Representativeness	• Correct documentation and COC procedures undertaken; • Implementation of appropriate extraction and instrument methods; • Samples received, extracted and injected within specified holding times; • Internal methods ensure detection of laboratory artefacts including contaminated extraction equipment, cross-contamination events; These considerations provide qualitative confidence that the data reflects the site conditions. All considerations were undertaken.

Precision	• Analysis of:
	  ○ Intra-laboratory samples
	  ○ Method blank
	  ○ Matrix and surrogate spikes
	Laboratory QA/QC samples provide a quantitative measure of analytical precision. These data measure variability between samples. Recoveries on all surrogates and blanks were within acceptable ranges. RPDs for the intra-laboratory sample were within acceptable ranges.

Accuracy	• Analysis of:
	  ○ Intra-laboratory samples
	  ○ Method blank
	  ○ Matrix and surrogate spikes
	• Spikes chosen based on appropriateness to avoid coelution with contaminants indigenous to the samples and across varying retention times to map response factor;
	• Blanks and intra-laboratory sample analyses included with the primary sample run to account for analytical instrument calibration;
	These considerations provide a quantitative measure of bias within the dataset. Recoveries on all surrogates and blanks were within acceptable ranges. RPDs for the intra-laboratory sample were within acceptable ranges.

14. Data Gaps

The vertical and horizontal extent of PAH contamination onsite.

15. Conclusion

Analytical results of soil samples indicated that all analytes were below the NEPM Health and Ecological Assessment Criteria for Residential (A) development, aside from Benzo(a)pyrene and Carcinogenic PAHs in the shallow fill layer across the northern portion of the site.

Based on the site investigation and analytical results, NEO Consulting concludes that the identified PAH contamination is limited to the shallow fill layer across the northern portion of the site. The contamination will be managed through the implementation of a Remedial Action Plan (RAP). Furthermore, any data gaps for the site will be addressed within the framework of the RAP.

Therefore, NEO Consulting finds that the site can be made suitable for the proposed development and Residential (A) land use, provided that the recommendations within Section 16 of this report are undertaken.

16. Recommendations

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

- A Remedial Action Plan (RAP) should be prepared to delineate and manage identified PAH contamination. The RAP should outline the steps for post-demolition sampling, data gap investigation, and remediation strategy in order to make the site suitable for future proposed development;
- A site specific 'Unexpected Finds Protocol' is to be made available for reference for all occupants and/or site workers in the event unanticipated contamination is discovered.

Limitations

The findings of this report are based on the Scope of Work outlined in Section 2. 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:

Oskar Lamperts

Environmental Consultant

Reviewed by:

Nick Caltabiano

Project Manager

NEO CONSULTING

APPENDIX A

Figures and Photographic Log

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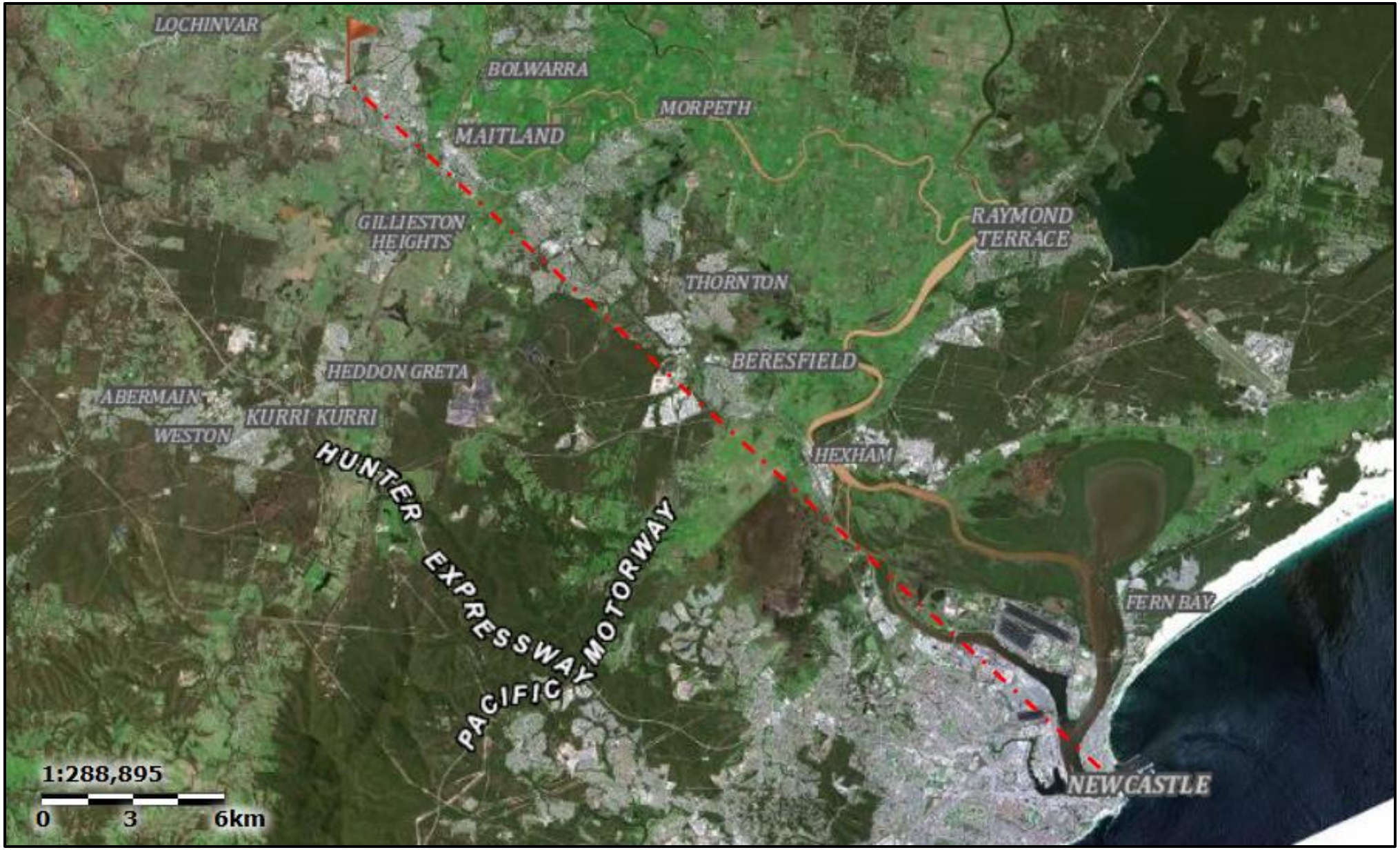
Figure 1. The site is located approximately 33.75km north-west of the Newcastle CBD.



Site location

Source: Six Map

Figure 1	Locality Map
Project	7 Regiment Road, Rutherford NSW 2320

N

Figure 2. The approximate area of the site is 3,226m^2. Ten (10) boreholes were excavated across the site area.

Borehole Locations

Source: Nearmap

Figure 2	Borehole Locations & Site Features
Project	7 Regiment Road, Rutherford NSW 2320

N

Figure 3. Aerial image of the site and surrounding area in January 2010. At this time the western portion of the property appears to have been sealed with asphalt, while the remained of the site was sealed with concrete. Landscape media were stored onsite at the time. Three sheds were located against the northern boundary, in the north-eastern corner and in the south-eastern corner. Two large sheds cross the northern boundary of the site, and are shared with the site's northern neighbour.

Source: Nearmaps

Figure 3	Aerial Image January 2010
Project	7 Regiment Road, Rutherford NSW 2320

N

Figure 4. Aerial image of the site and surrounding area January 2014. An additional shed had been constructed in the site centre, and the south-eastern onsite shed was extended to the north.

Source: Nearmaps

Figure 4	Aerial Image January 2014
Project	7 Regiment Road, Rutherford NSW 2320

N

Figure 5. Aerial image of the site and surrounding area December 2018. The shed against the northern site boundary had been recently demolished.

Source: Nearmaps

Figure 5	Aerial Image December 2018
Project	7 Regiment Road, Rutherford NSW 2320

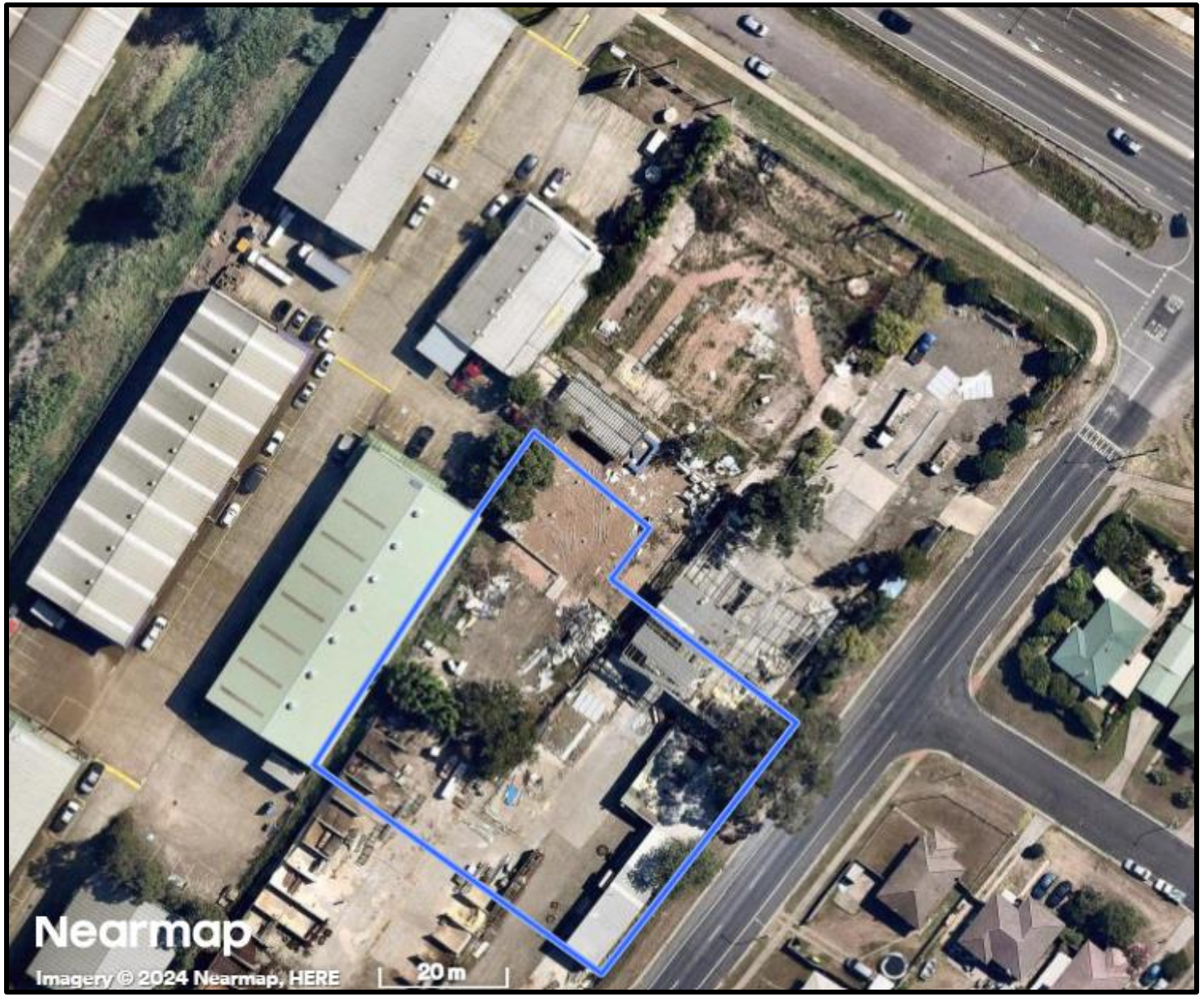


Figure 6. Aerial image of the site and surrounding area February 2019. Demolition of the warehouses straddling the northern boundary had commenced. Demolition of the other structures found across the site's northern neighbour has occurred.

Source: Nearmaps

Figure 6	Aerial Image February 2019
Project	7 Regiment Road, Rutherford NSW 2320

Figure 7. Aerial image of the site and surrounding area in April 2019. Demolition of all onsite structures apart from a shed in the south-eastern corner and soil bays in the south-western corner. All structures have been demolished across the property immediately north of the site. At this time the site's northern half was unsealed and the southern section was sealed with asphalt and concrete.

Source: Nearmaps

Figure 7	Aerial Images: April 2019
Project	7 Regiment Road, Rutherford NSW 2320

N

Figure 8. Aerial image of the site and surrounding area in June 2019. Fill material has been imported across the northern half of the property. Stockpiled soils are visible in the north-eastern site corner. The property immediately to the north featured stockpiled soils. Construction of a service station had begun immediately north of the site.

Figure 8	Aerial Images: June 2019
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

N

Figure 9. Aerial image of the site and surrounding area in August 2019. Fill material can be seen stockpiled near the centre of the western site boundary. A retail store and forecourt canopy are visible on the property north of the site, as is a fast-food restaurant.

Figure 9	Aerial Images: August 2019
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

N

Figure 10. Aerial image of the site and surrounding area in October 2019. The neighboring property to the north of the site had been sealed with a concrete slab over the majority of its extent.

Fill material has been spread over the northern portion of the site, and construction materials are seen stockpiled in the north-western site corner.

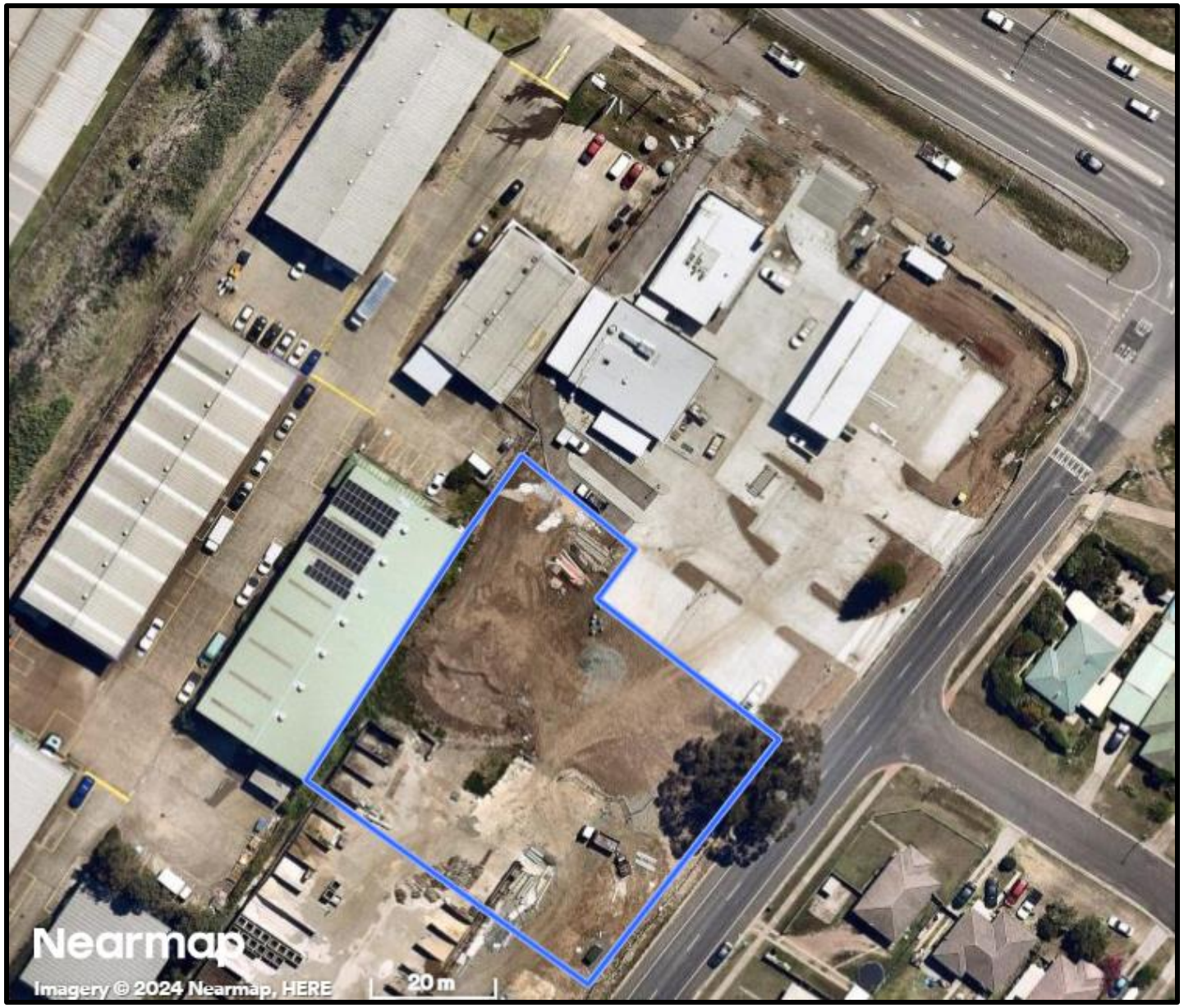


Figure 10	Aerial Images: October 2019
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

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Figure 11. Aerial image of the site and surrounding area in December 2019. Fill material appears to have been compacted across the site extent.

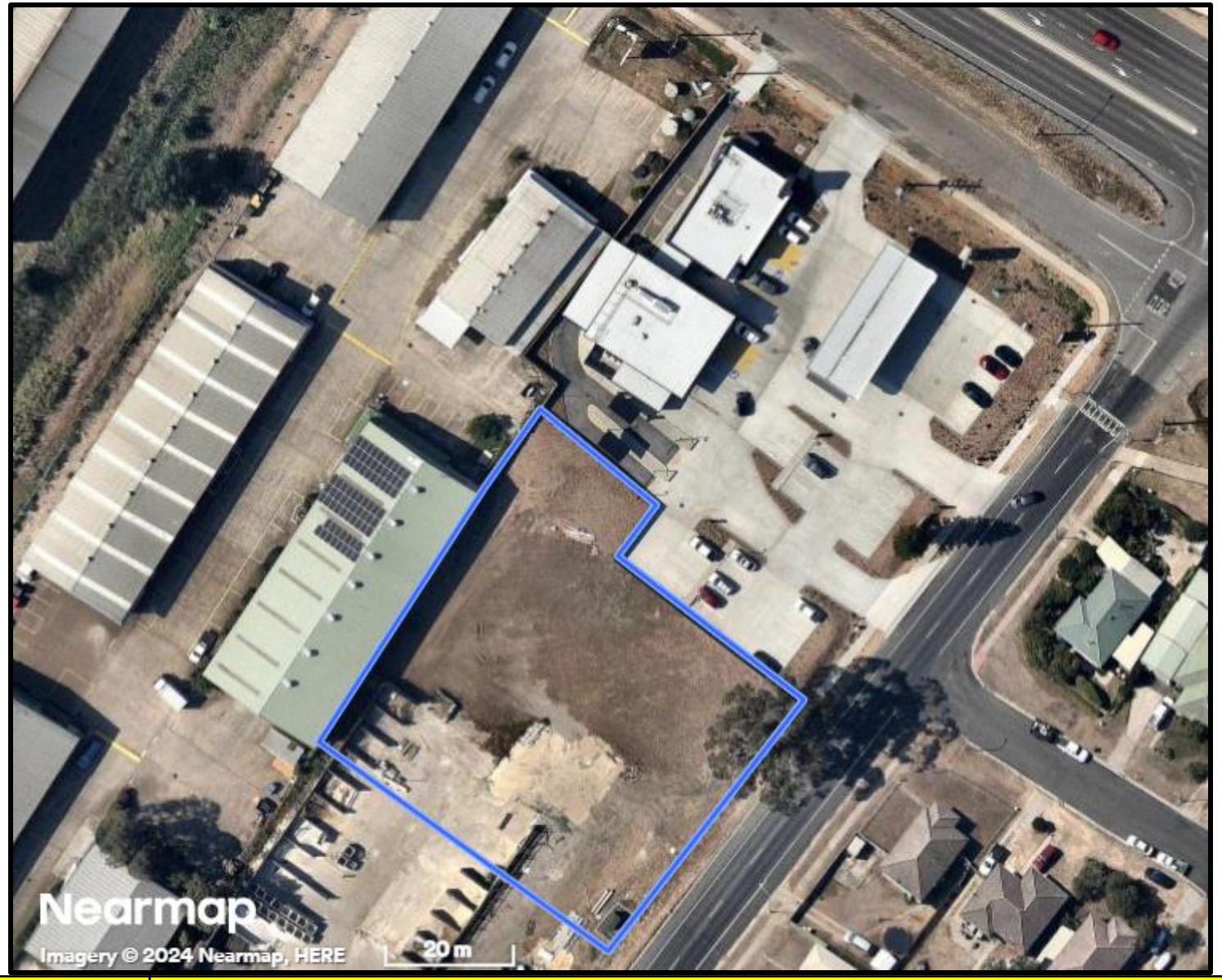


Figure 11	Aerial Images: December 2019
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

N

Figure 12. Aerial image of the site and surrounding area in April 2020. Concrete pits can be seen stored across the southern half of the site. The northern, unsealed portion of the site has become vegetated with grass.

Figure 12	Aerial Images: April 2020
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

N

Figure 13. Aerial image of the site and surrounding area in June 2020. No significant changes have occurred since the previous image was taken.

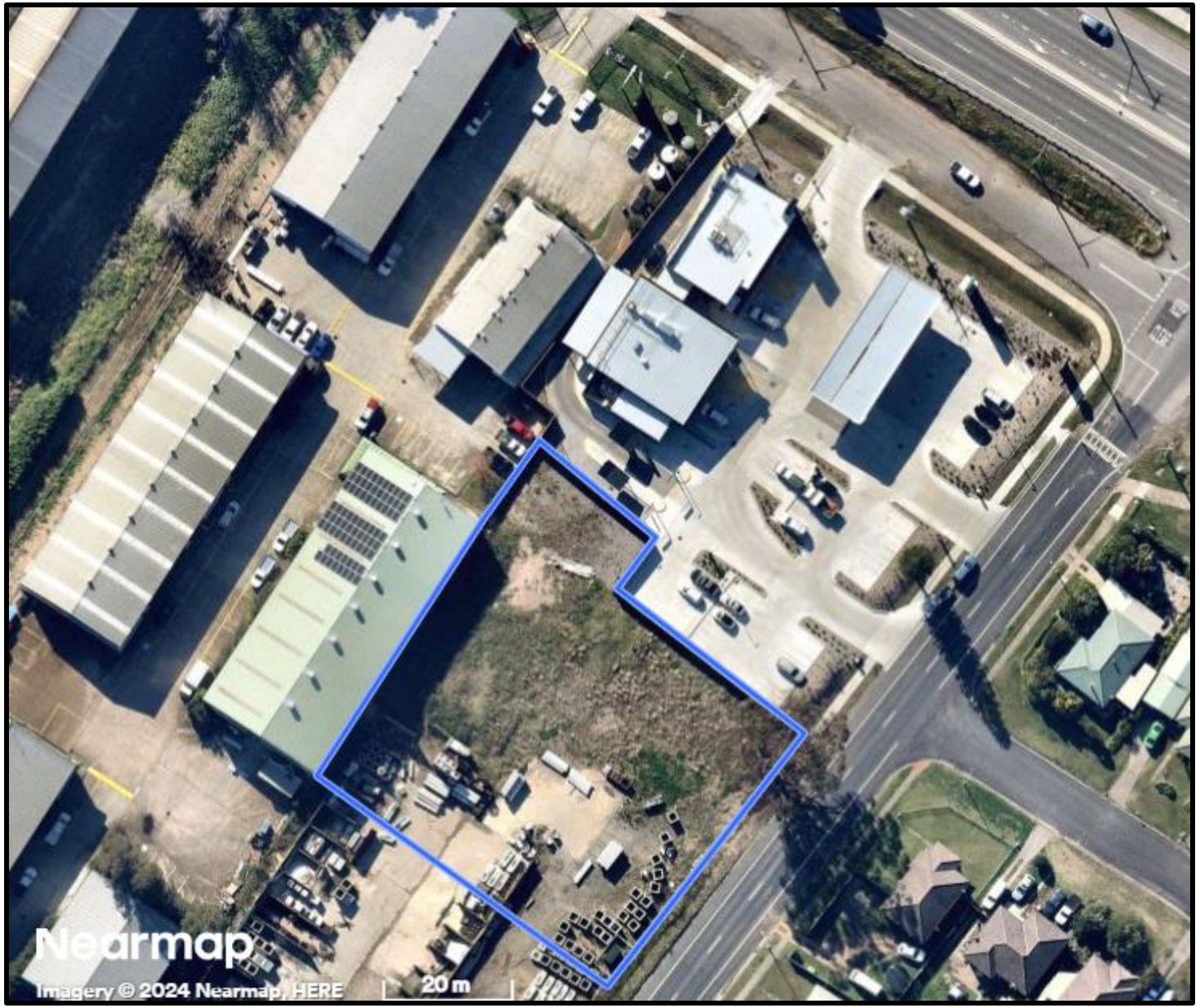


Figure 13	Aerial Images: June 2020
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

N

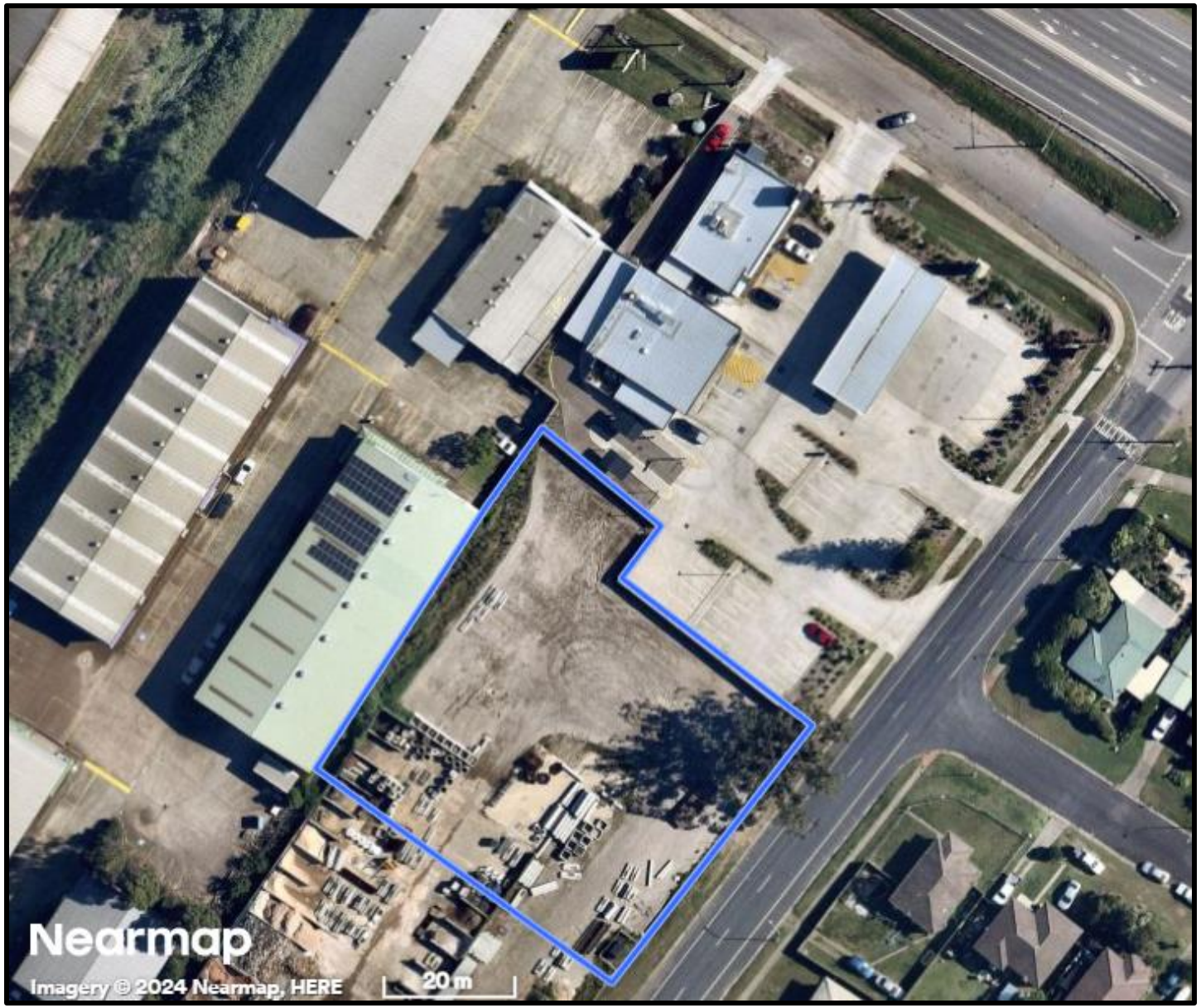
Figure 14. Aerial image of the site and surrounding area in August 2021. Further earthworks have been undertaken on the northern portion of the site. Potentially deposition, excavation or reworking of fill material.

Figure 14	Aerial Images: August 2021
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

N

Figure 15. Aerial image of the site and surrounding area in November 2021. Importation of further fill material has occurred over the northern portion of the site, likely the gravelly, sandy clay material found during onsite inspection.



Source: Nearmaps

Figure 15	Aerial Images: November 2021
Project	7 Regiment Road, Rutherford NSW 2320

N

Figure 16. Aerial image of the site and surrounding area in February 2022. Concrete pits can be seen stored across the northern portion of the site.

Figure 16	Aerial Images: February 2022
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

N

Figure 17. Aerial image of the site and surrounding area in June 2022. Further storage of miscellaneous industrial materials can be seen across the site.

Figure 17	Aerial Images: June 2022
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

N

Figure 18. Aerial image of the site and surrounding area in May 2023. Further storage of miscellaneous industrial materials can be seen across the site.

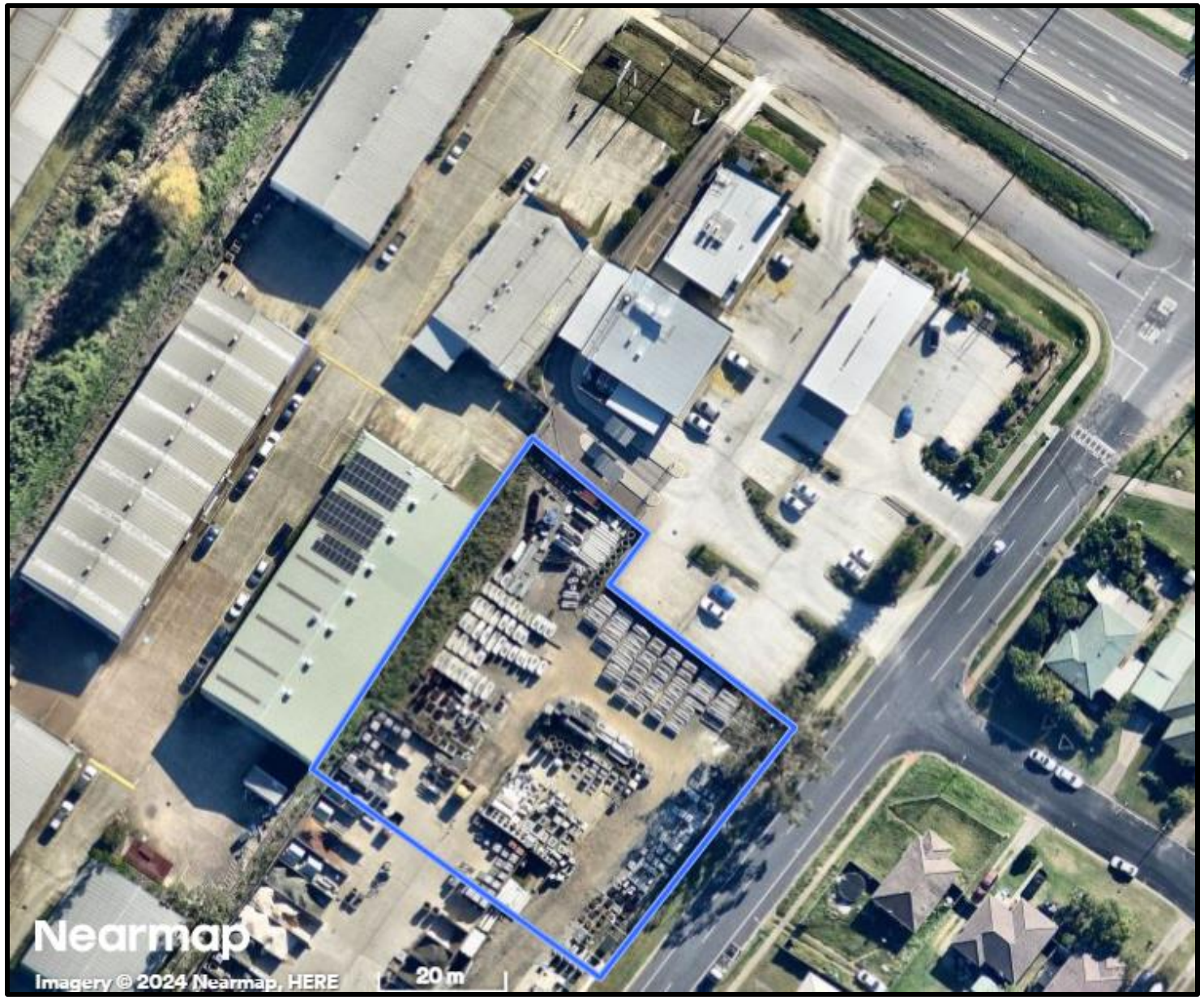


Figure 18	Aerial Images: May 2023
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

N

Figure 19. Aerial image of the site and surrounding area in March 2024 No significant changes have occurred since the previous image was taken.

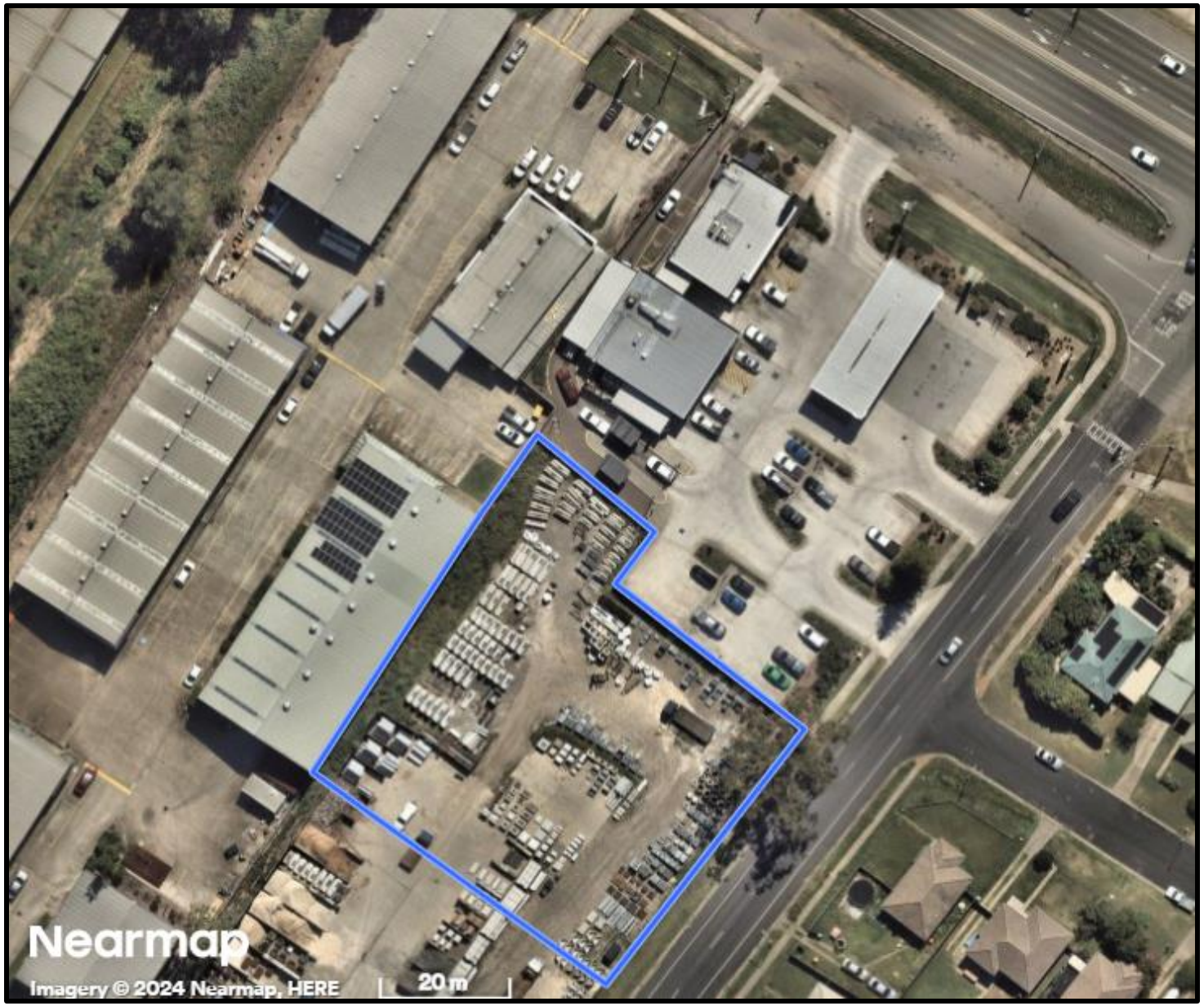


Figure 19	Aerial Images: March 2024
Project	7 Regiment Road, Rutherford NSW 2320

Source: Nearmaps

Figure 20. North-western site corner.

Figure 21. Central north-western site area.

Figure 22. Fill material identified in BH1.

Figure 23. Alluvial sand layer identified in BH1.

Figure 24. Fill layer encountered in BH2.

Figure 25. Moist sandy clay fill material in BH2.

Figure 26. Drilling of BH3.

Figure 27. Sandy gravelly clay identified in BH3.

Figure 28 & 29. Concrete piping and pits, as well as other construction materials stored onsite.

Figure 30 & 31. IBC marked “Diesel” identified near the northern site boundary.

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APPENDIX B

Analytical Results and Laboratory Reports

Table 19. Total Recoverable Hydrocarbon (TRH) analytical results. Values are presented as mg/kg. NL = Not Limiting. (N.A.= not analysed)

Assessment Criteria		TRH C_6-C_{10}	TRH C_6-C_{10} - BTEX (F1)	TRH >C_{10}-C_{16}	TRH >C_{10}-C_{16} - N (F2)	TRH >C_{16}-C_{34} (F3)	TRH >C_{34}-C_{40} (F4)
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg			50		280		
NEPM 2013 Soil Generic ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg		180		120		1300	5600
NEPM 2013 Management Limits for Residential, Parkland and Public Open Space, fine-grained soil, mg/kg		800		1000		3500	10 000
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1.1	0.15	<25	<25	<25	<25	<90	<120
BH1.2	4.0	<25	<25	<25	<25	<90	<120
BH2.1	0.15	<25	<25	<25	<25	<90	<120
BH2.2	5.7	<25	<25	<25	<25	<90	<120
BH3.1	0.15	<25	<25	<25	<25	**180**	**120**
BH3.2	4.0	<25	<25	<25	<25	<90	<120
BH4.1	0.15	<25	<25	<25	<25	<90	<120
BH5.1	0.15	<25	<25	<25	<25	<90	<120
BH6.1	0.15	<25	<25	<25	<25	<90	<120
BH7.1	0.15	<25	<25	<25	<25	<90	<120
BH8.1	0.15	<25	<25	<25	<25	<90	<120
BH9.1	0.15	<25	<25	<25	<25	**190**	**160**
BH10.1	0.15	<25	<25	<25	<25	**310**	**340**
D1	0.15	<25	<25	<25	<25	<90	<120
T1	0.15	<25	<25	<25	<25	<90	<120

Table 20. Benzene, Toluene, Ethylbenzene and Xylene (BTEX) analytical results. Values are presented as mg/kg. NL = Not Limiting. (N.A.= not analysed)

Assessment Criteria		Benzene	Toluene	Ethylbenzene	Xylenes
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		0.7	480	NL	110
NEPM 2013 Soil ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg		65	105	125	45
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg
BH1.1	0.15	<0.1	<0.1	<0.1	<0.3
BH1.2	4.0	<0.1	<0.1	<0.1	<0.3
BH2.1	0.15	<0.1	<0.1	<0.1	<0.3
BH2.2	5.7	<0.1	<0.1	<0.1	<0.3
BH3.1	0.15	<0.1	<0.1	<0.1	<0.3
BH3.2	4.0	<0.1	<0.1	<0.1	<0.3
BH4.1	0.15	<0.1	<0.1	<0.1	<0.3
BH5.1	0.15	<0.1	<0.1	<0.1	<0.3
BH6.1	0.15	<0.1	<0.1	<0.1	<0.3
BH7.1	0.15	<0.1	<0.1	<0.1	<0.3
BH8.1	0.15	<0.1	<0.1	<0.1	<0.3
BH9.1	0.15	<0.1	<0.1	<0.1	<0.3
BH10.1	0.15	<0.1	<0.1	<0.1	<0.3
D1	0.15	<0.1	<0.1	<0.1	<0.3
T1	0.15	<0.1	<0.1	<0.1	<0.3
TB	-	<0.1	<0.1	<0.1	<0.3
TS	-	[91%]	[105%]	[98%]	99%

Table 21. Polycyclic Aromatic Hydrocarbon (PAH) and polychlorinated biphenyls (PCBs) analytical results. (N.A.= not analysed)

Assessment Criteria		Naphthalene	Benzo(a)pyrene	Carcinogenic PAH (as BaP TEQ)	Total PAH (18)	Total PCBs
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		5				
CRC Care Residential Soil HSL-A for Direct Contact, mg/kg		1400				
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg		170				
Soil ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg			0.7			
NEPM 2013 Residential Soil HIL-A, mg/kg			1.00 TEF	3	300	1
Sample	Depth (m)	mg/kg	mg/kg	TEQ (mg/kg)	mg/kg	mg/kg
BH1.1	0.15	<0.1	**0.5**	**0.8**	**6.2**	<1
BH1.2	4.0	<0.1	<0.1	<0.3	<0.8	<1
BH2.1	0.15	<0.1	**0.3**	**0.5**	**3.3**	<1
BH2.2	5.7	<0.1	<0.1	<0.3	<0.8	<1
BH3.1	0.15	<0.1	**2.4**	**3.6**	**31**	<1
BH3.2	4.0	<0.1	<0.1	<0.3	<0.8	<1
BH4.1	0.15	<0.1	<0.1	<0.3	<0.8	<1
BH5.1	0.15	<0.1	**0.3**	**0.5**	**3.5**	<1
BH6.1	0.15	<0.1	<0.1	<0.3	<0.8	<1
BH7.1	0.15	<0.1	**0.2**	**0.4**	**2.4**	<1
BH8.1	0.15	<0.1	**0.8**	**1.2**	**8.7**	<1
BH9.1	0.15	<0.1	**3.1**	**4.7**	**37**	<1
BH10.1	0.15	<0.1	**3.2**	**4.9**	**36**	<1
D1	0.15	<0.1	<0.1	<0.3	<0.8	<1
T1	0.15	<0.1	<0.1	<0.3	<0.8	<1

Table 22. Heavy Metal analytical results. Values are presented as mg/kg. (N.A.= not analysed)

Assessment Criteria		Arsenic, As	Cadmium, Cd	Chromium, Cr	Copper, Cu	Lead, Pb	Nickel, Ni	Zinc, Zn	Mercury, Hg
NEPM 2013 Residential Soil HIL-A, mg/kg		100	20	100	6000	300	400	7400	40
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg		100				1100			
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1.1	0.15	**25**	<0.3	**11**	**11**	**20**	**9.6**	**57**	<0.05
BH1.2	4.0	**3**	<0.3	**9.2**	**3.3**	**7**	**3.7**	**10**	<0.05
BH2.1	0.15	**5**	<0.3	**20**	**9.5**	**13**	**9.2**	**28**	<0.05
BH2.2	5.7	**2**	<0.3	**8.2**	**3.9**	**4**	**2.4**	**5.6**	**0.06**
BH3.1	0.15	**8**	<0.3	**14**	**12**	**32**	**6.9**	**54**	<0.05
BH3.2	4.0	**1**	<0.3	**6.1**	**2.0**	**4**	**2.6**	**4.5**	<0.05
BH4.1	0.15	**3**	<0.3	**3.8**	**0.9**	**3**	**1.7**	**4.6**	<0.05
BH5.1	0.15	**4**	<0.3	**15**	**5.2**	**7**	**7.2**	**41**	<0.05
BH6.1	0.15	**2**	<0.3	**33**	**44**	**3**	**27**	**57**	<0.05
BH7.1	0.15	**15**	<0.3	**14**	**2.8**	**9**	**4.0**	**30**	<0.05
BH8.1	0.15	**6**	<0.3	**18**	**10**	**16**	**6.9**	**44**	<0.05
BH9.1	0.15	**7**	<0.3	**16**	**5.6**	**17**	**5.6**	**31**	<0.05
BH10.1	0.15	**3**	<0.3	**63**	**13**	**18**	**6.6**	**78**	<0.05
D1	0.15	**2**	<0.3	**33**	**33**	**3**	**23**	**49**	<0.05
T1	0.15	**2**	<0.3	**34**	**38**	**3**	**25**	**54**	<0.05

Table 23. Pesticides analytical results. Values are presented as mg/kg. (N.A.= not analysed)

Assessment Criteria		HCB	Heptachlor	Chlordane	Aldrin & Dieldrin	Endrin	DDT	DDD+DDE +DDT	Endosulfan	Methoxychlor	Mirex
NEPM 2013 Residential Soil HIL-A, mg/kg		10	6	50	6	10		240	270	300	10
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg							180				
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH1.2	4.0	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH2.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH2.2	5.7	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH3.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH3.2	4.0	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH4.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH5.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH6.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH7.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH8.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH9.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH10.1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
D1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
T1	0.15	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1

Table 24. Asbestos analytical results. (N.A.= not analysed)

Asbestos HSL-A		Detection	ACM 0.01	AF/FA 0.001
Sample	Depth (m)	Yes/No	%w/w	%w/w
BH1.1	0.15	No	No	N.A
BH1.2	4.0	No	N.A.	N.A
BH2.1	0.15	No	No	N.A
BH2.2	5.7	No	N.A.	N.A
BH3.1	0.15	No	No	N.A
BH3.2	4.0	No	N.A.	N.A
BH4.1	0.15	No	No	N.A
BH5.1	0.15	No	No	N.A
BH6.1	0.15	No	No	N.A
BH7.1	0.15	No	No	N.A
BH8.1	0.15	No	No	N.A
BH9.1	0.15	No	No	N.A
BH10.1	0.15	No	No	N.A
D1	0.15	No	N.A.	N.A
T1	0.15	No	N.A.	N.A

CHAIN OF CUSTODY & ANALYSIS REQUEST

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

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SGS EHS Sydney COC

SE274045

Company Name:	Neo Consulting Pty Ltd	Project Name/No:	N10155
Address:	186 Riverstone Parade	Purchase Order No:	QUOTE NUMER: 1655473 (306559v6)
	Riverstone NSW 2765	Results Required Date:	Next Day/3 day/**Standard**
		Telephone:	0416680375 Fax:
Contact Name:	Nick Caltabiano	Email Results and invoices to :	nick@neoconsulting, admin@neoconsulting, oskar@neoconsulting, sarah@neoconsulting, ehsan@neoconsulting isabella@neoconsulting
Quotation No:			

SG S ID	Client Sample ID	Sampling Date/ Time	Matrix (Tick as appropriate) Soil Sample	Water Sample	Other_Cartridge__	NO. OF CONTAINERS	ANALYSIS REQUESTED REST	ASBESTOS I.D.	CIDN									Additional Report Formats / Notes/Guidelines/LOR/ Special instructions
1	BH1.1	12/11/2024	x			1	X	X										☐ NEPM ☐ CSV ☐ ESDAT ☐ DQO ☐ GO, Guidelines --------- ☐ Others _____
2	BH1.2	12/11/2024	x			1	X											
3	BH2.1	12/11/2024	x			1	x	x										
4	BH2.2	12/11/2024	x			1	X											
5	BH3.1	12/11/2024	x			1	X	X										
6	BH3.2	12/11/2024	x			1	X											
7	BH4.1	12/11/2024	x			1	X	X										
8	BH5.1	12/11/2024	x			1	X	X										
9	BH6.1	12/11/2024	x			1	X	X										
10	BH7.1	12/11/2024	x			1	X	X										
11	BH8.1	12/11/2024	x			1	X	X										
12	BH9.1	12/11/2024	x			1	X	x										

Relinquished By: Oskar Lamperts	Date/Time: **13/11/2024**	Received By:	Date/Time: 13.11.24 @ 2:30
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: ~~Yes~~ / No	Temperature: 21.3 °C	Sample Security Sealed: ~~Yes~~ / No	Hazards: *e.g. may contain Asbestos*

CHAIN OF CUSTODY & ANALYSIS REQUEST

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

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

Company Name:	Neo Consulting Pty Ltd	Project Name/No:	N10155
Address:	186 Riverstone Parade	Purchase Order No:	**QUOTE NUMER: 1655473 (306559v6)**
	Riverstone NSW 2765	Results Required Date:	Next Day/3 day/**Standard**
		Telephone:	0416680375 Fax:
Contact Name:	Nick Caltabiano	Email Results and invoices to :	nick@neoconsulting, admin@neoconsulting, oskar@neoconsulting, sarah@neoconsulting, eshan@neoconsulting isabella@neoconsulting
Quotation No:			

SG S ID	Client Sample ID	Sampling Date/ Time	Matrix (Tick as appropriate) Soil Sample	Water Sample	Other_Cartridge__	NO. OF CONTAINERS	ANALYSIS REQUESTED REST	ASBESTOS I.D.	RESW	BTEX	ON HOLD
13	BH10.1	12/11/2024	x			1	x	x			
14	D1	12/11/2024	x			1	x				
15	T1	12/11/2024	x			1	x				
16	Rinsate	12/11/2024			x	5			x		
17	Trip Spike	12/11/2024	x			1				x	
18	Trip Blank	12/11/2024	x			1				X	

Additional Report Formats

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

Notes/Guidelines/LOR/ Special instructions

Bags provided for NEPM testing

Relinquished By: Oskar Lamperts	Date/Time: **13/11/2024**	Received By:	Date/Time: 13.11.24 @ 2:30
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: Yes / No	Temperature: 21.2 °C	Sample Security Sealed: Yes / No	Hazards: *e.g. may contain Asbestos*

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N10155**
Order Number	**N10155**
Samples	18

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	**SE274045 R1**
Date Received	13/11/2024
Date Reported	21/11/2024

COMMENTS

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

This report cancels and supersedes the report No. SE274045 R0 dated 20. 11.2024 due to addition of total PCB data.

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

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

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: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
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	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
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	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
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	Trip Spike SOIL - 12/11/2024 SE274045.017	Trip Blank SOIL - 12/11/2024 SE274045.018
Benzene	mg/kg	0.1	[91%]	<0.1
Toluene	mg/kg	0.1	[105%]	<0.1
Ethylbenzene	mg/kg	0.1	[98%]	<0.1
m/p-xylene	mg/kg	0.2	[99%]	<0.2
o-xylene	mg/kg	0.1	[99%]	<0.1
Total Xylenes*	mg/kg	0.3	-	<0.3
Total BTEX*	mg/kg	0.6	-	<0.6
Naphthalene (VOC)*	mg/kg	0.1	-	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
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	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
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

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	**55**	<45	<45	<45	**100**
TRH C29-C36	mg/kg	45	**45**	<45	<45	<45	**130**
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	**180**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	**120**
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	**230**
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	**300**

PARAMETER	UOM	LOR	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	**46**	**97**	**140**	<45	<45
TRH C29-C36	mg/kg	45	**45**	**160**	**300**	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	**210**	<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	**190**	**310**	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	**160**	**340**	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	**260**	**440**	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	**340**	**650**	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	**0.6**	<0.1	**0.2**	<0.1	**2.3**
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.5**
Fluoranthene	mg/kg	0.1	**1.3**	<0.1	**0.6**	<0.1	**6.9**
Pyrene	mg/kg	0.1	**1.2**	<0.1	**0.6**	<0.1	**5.8**
Benzo(a)anthracene	mg/kg	0.1	**0.4**	<0.1	**0.2**	<0.1	**2.4**
Chrysene	mg/kg	0.1	**0.5**	<0.1	**0.3**	<0.1	**2.3**
Benzo(b&j)fluoranthene	mg/kg	0.1	**0.4**	<0.1	**0.3**	<0.1	**2.4**
Benzo(k)fluoranthene	mg/kg	0.1	**0.5**	<0.1	**0.3**	<0.1	**2.0**
Benzo(a)pyrene	mg/kg	0.1	**0.5**	<0.1	**0.3**	<0.1	**2.4**
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	**0.4**	<0.1	**0.3**	<0.1	**1.8**
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.3**
Benzo(ghi)perylene	mg/kg	0.1	**0.4**	<0.1	**0.3**	<0.1	**1.6**
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	**0.7**	<0.2	**0.4**	<0.2	**3.6**
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	**0.8**	<0.3	**0.5**	<0.3	**3.6**
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	**0.8**	<0.2	**0.5**	<0.2	**3.6**
Total PAH (18)	mg/kg	0.8	**6.2**	<0.8	**3.3**	<0.8	**31**
Total PAH (NEPM/WHO 16)	mg/kg	0.8	**6.2**	<0.8	**3.3**	<0.8	**31**

PARAMETER	UOM	LOR	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	**0.1**	<0.1	**0.1**
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	**0.8**	<0.1	**0.4**
Pyrene	mg/kg	0.1	<0.1	<0.1	**0.7**	<0.1	**0.4**
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	**0.3**	<0.1	**0.2**
Chrysene	mg/kg	0.1	<0.1	<0.1	**0.3**	<0.1	**0.2**
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	**0.3**	<0.1	**0.2**
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	**0.3**	<0.1	**0.2**
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	**0.3**	<0.1	**0.2**
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	**0.2**	<0.1	**0.2**
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	**0.2**	<0.1	**0.2**
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	**0.4**	<0.2	**0.3**
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	**0.5**	<0.3	**0.4**
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	**0.5**	<0.2	**0.4**
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	**3.5**	<0.8	**2.4**
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	**3.5**	<0.8	**2.4**

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 14/11/2024 (continued)

PARAMETER	UOM	LOR	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
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	**0.7**	**2.0**	**1.2**	<0.1	<0.1
Anthracene	mg/kg	0.1	**0.1**	**0.4**	**0.3**	<0.1	<0.1
Fluoranthene	mg/kg	0.1	**1.8**	**7.5**	**6.3**	<0.1	<0.1
Pyrene	mg/kg	0.1	**1.5**	**7.1**	**8.1**	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	**0.6**	**3.1**	**3.3**	<0.1	<0.1
Chrysene	mg/kg	0.1	**0.7**	**3.0**	**2.9**	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	**0.6**	**3.0**	**3.1**	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	**0.7**	**2.7**	**2.8**	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	**0.8**	**3.1**	**3.2**	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	**0.6**	**2.4**	**2.5**	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	**0.4**	**0.4**	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	**0.6**	**2.1**	**2.2**	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	**1.1**	**4.7**	**4.9**	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	**1.2**	**4.7**	**4.9**	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	**1.1**	**4.7**	**4.9**	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	**8.7**	**37**	**36**	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	**8.7**	**37**	**36**	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
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
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
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
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
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	-	-	-	-	-
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
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
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
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
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
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	-	-	-	-	-
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 14/11/2024 (continued)

PARAMETER	UOM	LOR	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
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
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
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
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
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	-	-	-	-	-
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
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	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
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	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
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

PCBs in Soil [AN420] Tested: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
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
Sum of Positive PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
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
Sum of Positive PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
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
Sum of Positive PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
Arsenic, As	mg/kg	1	25	3	5	2	8
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	9.2	20	8.2	14
Copper, Cu	mg/kg	0.5	11	3.3	9.5	3.9	12
Lead, Pb	mg/kg	1	20	7	13	4	32
Nickel, Ni	mg/kg	0.5	9.6	3.7	9.2	2.4	6.9
Zinc, Zn	mg/kg	2	57	10	28	5.6	54

PARAMETER	UOM	LOR	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
Arsenic, As	mg/kg	1	1	3	4	2	15
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.1	3.8	15	33	14
Copper, Cu	mg/kg	0.5	2.0	0.9	5.2	44	2.8
Lead, Pb	mg/kg	1	4	3	7	3	9
Nickel, Ni	mg/kg	0.5	2.6	1.7	7.2	27	4.0
Zinc, Zn	mg/kg	2	4.5	4.6	41	57	30

PARAMETER	UOM	LOR	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
Arsenic, As	mg/kg	1	6	7	3	2	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	18	16	63	33	34
Copper, Cu	mg/kg	0.5	10	5.6	13	33	38
Lead, Pb	mg/kg	1	16	17	18	3	3
Nickel, Ni	mg/kg	0.5	6.9	5.6	6.6	23	25
Zinc, Zn	mg/kg	2	44	31	78	49	54

Mercury in Soil [AN312] Tested: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	**0.06**	<0.05

PARAMETER	UOM	LOR	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 14/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH1.2 SOIL - 12/11/2024 SE274045.002	BH2.1 SOIL - 12/11/2024 SE274045.003	BH2.2 SOIL - 12/11/2024 SE274045.004	BH3.1 SOIL - 12/11/2024 SE274045.005
% Moisture	%w/w	1	14.8	13.5	20.4	17.6	18.8

PARAMETER	UOM	LOR	BH3.2 SOIL - 12/11/2024 SE274045.006	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010
% Moisture	%w/w	1	16.8	15.3	14.3	10.1	13.3

PARAMETER	UOM	LOR	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013	D1 SOIL - 12/11/2024 SE274045.014	T1 SOIL - 12/11/2024 SE274045.015
% Moisture	%w/w	1	16.8	14.4	16.5	10.4	10.7

PARAMETER	UOM	LOR	Trip Blank SOIL - 12/11/2024 SE274045.018
% Moisture	%w/w	1	<1.0

Fibre Identification in soil [AS4964/AN602] Tested: 15/11/2024

PARAMETER	UOM	LOR	BH1.1 SOIL - 12/11/2024 SE274045.001	BH2.1 SOIL - 12/11/2024 SE274045.003	BH3.1 SOIL - 12/11/2024 SE274045.005	BH4.1 SOIL - 12/11/2024 SE274045.007	BH5.1 SOIL - 12/11/2024 SE274045.008
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	18/11/2024 00:00	18/11/2024 00:00	18/11/2024 00:00	18/11/2024 00:00	18/11/2024 00:00

PARAMETER	UOM	LOR	BH6.1 SOIL - 12/11/2024 SE274045.009	BH7.1 SOIL - 12/11/2024 SE274045.010	BH8.1 SOIL - 12/11/2024 SE274045.011	BH9.1 SOIL - 12/11/2024 SE274045.012	BH10.1 SOIL - 12/11/2024 SE274045.013
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Date Analysed*	No unit	-	18/11/2024 00:00	18/11/2024 00:00	18/11/2024 00:00	18/11/2024 00:00	18/11/2024 00:00

VOCs in Water [AN433] Tested: 15/11/2024

PARAMETER	UOM	LOR	Rinsate WATER - 12/11/2024 SE274045.016
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
Chloromethane	µg/L	5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
Chloroethane	µg/L	5	<5
Trichlorofluoromethane	µg/L	1	<1
1,1-dichloroethene	µg/L	0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	5	<5
Allyl chloride	µg/L	2	<2.0
trans-1,2-dichloroethene	µg/L	0.5	<0.5
1,1-dichloroethane	µg/L	0.5	<0.5
cis-1,2-dichloroethene	µg/L	0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5
Chloroform (THM)	µg/L	0.5	<0.5
2,2-dichloropropane	µg/L	0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
Bromodichloromethane (THM)	µg/L	0.5	<0.5
cis-1,3-dichloropropene	µg/L	0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	<0.5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1
Bromobenzene	µg/L	0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3
1,2-dichlorobenzene	µg/L	0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5
Iodomethane	µg/L	5	<5
Total Chlorinated Hydrocarbons	µg/L	10	<10

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 15/11/2024

PARAMETER	UOM	LOR	Rinsate WATER - 12/11/2024 SE274045.016
Naphthalene	µg/L	0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1
Fluorene	µg/L	0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1
Anthracene	µg/L	0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1
Pyrene	µg/L	0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1
Chrysene	µg/L	0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1
Total PAH (18)	µg/L	1	<1

OC Pesticides in Water [AN420] Tested: 15/11/2024

PARAMETER	UOM	LOR	Rinsate WATER - 12/11/2024 SE274045.016
Hexachlorobenzene (HCB)	µg/L	0.1	<0.1
Alpha BHC	µg/L	0.1	<0.1
Lindane (gamma BHC)	µg/L	0.1	<0.1
Heptachlor	µg/L	0.1	<0.1
Aldrin	µg/L	0.1	<0.1
Beta BHC	µg/L	0.1	<0.1
Delta BHC	µg/L	0.1	<0.1
Heptachlor epoxide	µg/L	0.1	<0.1
Alpha Endosulfan	µg/L	0.1	<0.1
Gamma Chlordane	µg/L	0.1	<0.1
Alpha Chlordane	µg/L	0.1	<0.1
p,p'-DDE	µg/L	0.1	<0.1
Dieldrin	µg/L	0.1	<0.1
Endrin	µg/L	0.1	<0.1
Beta Endosulfan	µg/L	0.1	<0.1
p,p'-DDD	µg/L	0.1	<0.1
p,p'-DDT	µg/L	0.1	<0.1
Endosulfan sulphate	µg/L	0.1	<0.1
Endrin aldehyde	µg/L	0.1	<0.1
Methoxychlor	µg/L	0.1	<0.1
Endrin ketone	µg/L	0.1	<0.1
Mirex	µg/L	0.1	<0.1
Total OC	µg/L	1	<1
Total OC	µg/L	1	<1

PCBs in Water [AN420] Tested: 15/11/2024

PARAMETER	UOM	LOR	Rinsate WATER - 12/11/2024 SE274045.016
Arochlor 1016	µg/L	1	<1
Arochlor 1221	µg/L	1	<1
Arochlor 1232	µg/L	1	<1
Arochlor 1242	µg/L	1	<1
Arochlor 1248	µg/L	1	<1
Arochlor 1254	µg/L	1	<1
Arochlor 1260	µg/L	1	<1
Total Arochlors*	µg/L	5	<5

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 18/11/2024

PARAMETER	UOM	LOR	Rinsate WATER - 12/11/2024 SE274045.016
Arsenic	µg/L	1	<1
Cadmium	µg/L	0.1	<0.1
Copper	µg/L	1	<1
Chromium	µg/L	1	<1
Nickel	µg/L	1	<1
Lead	µg/L	1	<1
Zinc	µg/L	5	<5

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 14/11/2024

PARAMETER	UOM	LOR	Rinsate WATER - 12/11/2024 SE274045.016
Mercury	mg/L	0.0001	<0.0001

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.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
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.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: 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.
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
AN318	Determination of elements at trace level in waters by ICP-MS technique,, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting .
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS /ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

AN602/AS4964	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

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

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

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

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

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

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

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

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

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

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N10155**
Order Number	**N10155**
Samples	10

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	**SE274045 R1**
Date Received	13 Nov 2024
Date Reported	21 Nov 2024

COMMENTS

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

This report cancels and supersedes the report No. SE274045 R0 dated 20. 11.2024 due to addition of total PCB data.

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

SIGNATORIES

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*
SE274045.001	BH1.1	Soil	70g Clay, Sand, Soil, Rocks	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE274045.003	BH2.1	Soil	126g Clay, Sand, Rocks	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE274045.005	BH3.1	Soil	108g Clay, Sand, Rocks	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE274045.007	BH4.1	Soil	88g Clay, Sand, Rocks	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE274045.008	BH5.1	Soil	88g Clay, Sand, Rocks	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE274045.009	BH6.1	Soil	105g Clay, Sand, Rocks	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE274045.010	BH7.1	Soil	87g Clay, Sand, Soil, Rocks	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE274045.011	BH8.1	Soil	180g Clay, Sand, Soil, Rocks	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE274045.012	BH9.1	Soil	104g Clay, Sand, Rocks	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE274045.013	BH10.1	Soil	136g Clay, Sand, Rocks, Bitumen	12 Nov 2024	18 Nov 2024	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD SUMMARY

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

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 .

STATEMENT OF QA/QC PERFORMANCE

SE274045 R1

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	**N10155**
Order Number	**N10155**
Samples	18

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	**SE274045 R1**
Date Received	13 Nov 2024
Date Reported	21 Nov 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:

Surrogate	OC Pesticides in Soil	15 items
	VOC's in Soil	2 items
	Volatile Petroleum Hydrocarbons in Soil	2 items
Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	3 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	3 items
LCS	PCBs in Soil	1 item
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Sample counts by matrix	17 Soil, 1 Water	Type of documentation received	COC
Date documentation received	13/11/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	21.3°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE274045 R1

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
BH1.1	SE274045.001	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024
BH2.1	SE274045.003	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024
BH3.1	SE274045.005	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024
BH4.1	SE274045.007	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024
BH5.1	SE274045.008	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024
BH6.1	SE274045.009	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024
BH7.1	SE274045.010	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024
BH8.1	SE274045.011	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024
BH9.1	SE274045.012	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024
BH10.1	SE274045.013	LB330063	12 Nov 2024	13 Nov 2024	12 Nov 2025	15 Nov 2024	12 Nov 2025	20 Nov 2024

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Rinsate	SE274045.016	LB329839	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	14 Nov 2024

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE274045.001	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH1.2	SE274045.002	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH2.1	SE274045.003	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH2.2	SE274045.004	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH3.1	SE274045.005	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH3.2	SE274045.006	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH4.1	SE274045.007	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH5.1	SE274045.008	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH6.1	SE274045.009	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH7.1	SE274045.010	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH8.1	SE274045.011	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH9.1	SE274045.012	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
BH10.1	SE274045.013	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
D1	SE274045.014	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024
T1	SE274045.015	LB329947	12 Nov 2024	13 Nov 2024	10 Dec 2024	14 Nov 2024	10 Dec 2024	19 Nov 2024

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE274045.001	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH1.2	SE274045.002	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH2.1	SE274045.003	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH2.2	SE274045.004	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH3.1	SE274045.005	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH3.2	SE274045.006	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH4.1	SE274045.007	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH5.1	SE274045.008	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH6.1	SE274045.009	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH7.1	SE274045.010	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH8.1	SE274045.011	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH9.1	SE274045.012	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
BH10.1	SE274045.013	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
D1	SE274045.014	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
T1	SE274045.015	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024
Trip Blank	SE274045.018	LB329950	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	19 Nov 2024	18 Nov 2024

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE274045.001	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH1.2	SE274045.002	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH2.1	SE274045.003	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH2.2	SE274045.004	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH3.1	SE274045.005	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH3.2	SE274045.006	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH4.1	SE274045.007	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024

HOLDING TIME SUMMARY

SE274045 R1

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

OC Pesticides in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH5.1	SE274045.008	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH6.1	SE274045.009	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH7.1	SE274045.010	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH8.1	SE274045.011	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH9.1	SE274045.012	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH10.1	SE274045.013	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
D1	SE274045.014	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
T1	SE274045.015	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024

OC Pesticides in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Rinsate	SE274045.016	LB329977	12 Nov 2024	13 Nov 2024	19 Nov 2024	15 Nov 2024	25 Dec 2024	19 Nov 2024

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE274045.001	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH1.2	SE274045.002	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH2.1	SE274045.003	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH2.2	SE274045.004	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH3.1	SE274045.005	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH3.2	SE274045.006	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH4.1	SE274045.007	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH5.1	SE274045.008	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH6.1	SE274045.009	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH7.1	SE274045.010	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH8.1	SE274045.011	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH9.1	SE274045.012	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH10.1	SE274045.013	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
D1	SE274045.014	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
T1	SE274045.015	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 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
BH1.1	SE274045.001	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH1.2	SE274045.002	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH2.1	SE274045.003	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH2.2	SE274045.004	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH3.1	SE274045.005	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH3.2	SE274045.006	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH4.1	SE274045.007	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH5.1	SE274045.008	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH6.1	SE274045.009	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH7.1	SE274045.010	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH8.1	SE274045.011	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH9.1	SE274045.012	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH10.1	SE274045.013	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
D1	SE274045.014	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
T1	SE274045.015	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Rinsate	SE274045.016	LB329977	12 Nov 2024	13 Nov 2024	19 Nov 2024	15 Nov 2024	25 Dec 2024	19 Nov 2024

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE274045.001	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH1.2	SE274045.002	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH2.1	SE274045.003	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH2.2	SE274045.004	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH3.1	SE274045.005	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024

HOLDING TIME SUMMARY

SE274045 R1

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 (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH3.2	SE274045.006	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH4.1	SE274045.007	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH5.1	SE274045.008	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH6.1	SE274045.009	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH7.1	SE274045.010	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH8.1	SE274045.011	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH9.1	SE274045.012	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
BH10.1	SE274045.013	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
D1	SE274045.014	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024
T1	SE274045.015	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	21 Nov 2024

PCBs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Rinsate	SE274045.016	LB329977	12 Nov 2024	13 Nov 2024	19 Nov 2024	15 Nov 2024	25 Dec 2024	19 Nov 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
BH1.1	SE274045.001	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH1.2	SE274045.002	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH2.1	SE274045.003	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH2.2	SE274045.004	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH3.1	SE274045.005	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH3.2	SE274045.006	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH4.1	SE274045.007	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH5.1	SE274045.008	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH6.1	SE274045.009	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH7.1	SE274045.010	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH8.1	SE274045.011	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH9.1	SE274045.012	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
BH10.1	SE274045.013	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
D1	SE274045.014	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024
T1	SE274045.015	LB329946	12 Nov 2024	13 Nov 2024	11 May 2025	14 Nov 2024	11 May 2025	18 Nov 2024

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Rinsate	SE274045.016	LB330133	12 Nov 2024	13 Nov 2024	11 May 2025	18 Nov 2024	11 May 2025	18 Nov 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
BH1.1	SE274045.001	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH1.2	SE274045.002	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH2.1	SE274045.003	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH2.2	SE274045.004	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH3.1	SE274045.005	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH3.2	SE274045.006	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH4.1	SE274045.007	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH5.1	SE274045.008	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH6.1	SE274045.009	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH7.1	SE274045.010	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH8.1	SE274045.011	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH9.1	SE274045.012	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
BH10.1	SE274045.013	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
D1	SE274045.014	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024
T1	SE274045.015	LB329942	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	24 Dec 2024	18 Nov 2024

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1.1	SE274045.001	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH1.2	SE274045.002	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH2.1	SE274045.003	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024

HOLDING TIME SUMMARY

SE274045 R1

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

VOC's in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2.2	SE274045.004	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH3.1	SE274045.005	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH3.2	SE274045.006	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH4.1	SE274045.007	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH5.1	SE274045.008	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH6.1	SE274045.009	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH7.1	SE274045.010	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH8.1	SE274045.011	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH9.1	SE274045.012	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH10.1	SE274045.013	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
D1	SE274045.014	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
T1	SE274045.015	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
Trip Spike	SE274045.017	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
Trip Blank	SE274045.018	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024

VOCs in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
Rinsate	SE274045.016	LB329991	12 Nov 2024	13 Nov 2024	26 Nov 2024	15 Nov 2024	26 Nov 2024	18 Nov 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
BH1.1	SE274045.001	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH1.2	SE274045.002	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH2.1	SE274045.003	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH2.2	SE274045.004	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH3.1	SE274045.005	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH3.2	SE274045.006	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH4.1	SE274045.007	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH5.1	SE274045.008	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH6.1	SE274045.009	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH7.1	SE274045.010	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH8.1	SE274045.011	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH9.1	SE274045.012	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
BH10.1	SE274045.013	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
D1	SE274045.014	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
T1	SE274045.015	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
Trip Spike	SE274045.017	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024
Trip Blank	SE274045.018	LB329943	12 Nov 2024	13 Nov 2024	26 Nov 2024	14 Nov 2024	26 Nov 2024	18 Nov 2024

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

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

OC Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	30 †
	BH1.2	SE274045.002	%	60 - 130%	29 †
	BH2.1	SE274045.003	%	60 - 130%	29 †
	BH2.2	SE274045.004	%	60 - 130%	30 †
	BH3.1	SE274045.005	%	60 - 130%	28 †
	BH3.2	SE274045.006	%	60 - 130%	30 †
	BH4.1	SE274045.007	%	60 - 130%	29 †
	BH5.1	SE274045.008	%	60 - 130%	29 †
	BH6.1	SE274045.009	%	60 - 130%	29 †
	BH7.1	SE274045.010	%	60 - 130%	30 †
	BH8.1	SE274045.011	%	60 - 130%	30 †
	BH9.1	SE274045.012	%	60 - 130%	29 †
	BH10.1	SE274045.013	%	60 - 130%	29 †
	D1	SE274045.014	%	60 - 130%	28 †
	T1	SE274045.015	%	60 - 130%	28 †

OC Pesticides in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	Rinsate	SE274045.016	%	40 - 130%	94

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	100
	BH1.2	SE274045.002	%	60 - 130%	98
	BH2.1	SE274045.003	%	60 - 130%	99
	BH2.2	SE274045.004	%	60 - 130%	91
	BH3.1	SE274045.005	%	60 - 130%	96
	BH3.2	SE274045.006	%	60 - 130%	98
	BH4.1	SE274045.007	%	60 - 130%	98
	BH5.1	SE274045.008	%	60 - 130%	98
	BH6.1	SE274045.009	%	60 - 130%	99
	BH7.1	SE274045.010	%	60 - 130%	100
	BH8.1	SE274045.011	%	60 - 130%	95
	BH9.1	SE274045.012	%	60 - 130%	96
	BH10.1	SE274045.013	%	60 - 130%	97
	D1	SE274045.014	%	60 - 130%	97
	T1	SE274045.015	%	60 - 130%	97
d14-p-terphenyl (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	97
	BH1.2	SE274045.002	%	60 - 130%	95
	BH2.1	SE274045.003	%	60 - 130%	92
	BH2.2	SE274045.004	%	60 - 130%	97
	BH3.1	SE274045.005	%	60 - 130%	92
	BH3.2	SE274045.006	%	60 - 130%	95
	BH4.1	SE274045.007	%	60 - 130%	95
	BH5.1	SE274045.008	%	60 - 130%	94
	BH6.1	SE274045.009	%	60 - 130%	94
	BH7.1	SE274045.010	%	60 - 130%	98
	BH8.1	SE274045.011	%	60 - 130%	96
	BH9.1	SE274045.012	%	60 - 130%	93
	BH10.1	SE274045.013	%	60 - 130%	93
	D1	SE274045.014	%	60 - 130%	92
	T1	SE274045.015	%	60 - 130%	95

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1.1	SE274045.001	%	70 - 130%	100
	BH1.2	SE274045.002	%	70 - 130%	98
	BH2.1	SE274045.003	%	70 - 130%	99
	BH2.2	SE274045.004	%	70 - 130%	91
	BH3.1	SE274045.005	%	70 - 130%	96
	BH3.2	SE274045.006	%	70 - 130%	98

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH4.1	SE274045.007	%	70 - 130%	98
	BH5.1	SE274045.008	%	70 - 130%	98
	BH6.1	SE274045.009	%	70 - 130%	99
	BH7.1	SE274045.010	%	70 - 130%	100
	BH8.1	SE274045.011	%	70 - 130%	95
	BH9.1	SE274045.012	%	70 - 130%	96
	BH10.1	SE274045.013	%	70 - 130%	97
	D1	SE274045.014	%	70 - 130%	97
	T1	SE274045.015	%	70 - 130%	97
d14-p-terphenyl (Surrogate)	BH1.1	SE274045.001	%	70 - 130%	97
	BH1.2	SE274045.002	%	70 - 130%	95
	BH2.1	SE274045.003	%	70 - 130%	92
	BH2.2	SE274045.004	%	70 - 130%	97
	BH3.1	SE274045.005	%	70 - 130%	92
	BH3.2	SE274045.006	%	70 - 130%	95
	BH4.1	SE274045.007	%	70 - 130%	95
	BH5.1	SE274045.008	%	70 - 130%	94
	BH6.1	SE274045.009	%	70 - 130%	94
	BH7.1	SE274045.010	%	70 - 130%	98
	BH8.1	SE274045.011	%	70 - 130%	96
	BH9.1	SE274045.012	%	70 - 130%	93
	BH10.1	SE274045.013	%	70 - 130%	93
	D1	SE274045.014	%	70 - 130%	92
	T1	SE274045.015	%	70 - 130%	95
d5-nitrobenzene (Surrogate)	BH1.1	SE274045.001	%	70 - 130%	88
	BH1.2	SE274045.002	%	70 - 130%	93
	BH2.1	SE274045.003	%	70 - 130%	90
	BH2.2	SE274045.004	%	70 - 130%	85
	BH3.1	SE274045.005	%	70 - 130%	90
	BH3.2	SE274045.006	%	70 - 130%	92
	BH4.1	SE274045.007	%	70 - 130%	87
	BH5.1	SE274045.008	%	70 - 130%	92
	BH6.1	SE274045.009	%	70 - 130%	91
	BH7.1	SE274045.010	%	70 - 130%	93
	BH8.1	SE274045.011	%	70 - 130%	85
	BH9.1	SE274045.012	%	70 - 130%	86
	BH10.1	SE274045.013	%	70 - 130%	92
	D1	SE274045.014	%	70 - 130%	95
	T1	SE274045.015	%	70 - 130%	95

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	Rinsate	SE274045.016	%	40 - 130%	66
d14-p-terphenyl (Surrogate)	Rinsate	SE274045.016	%	40 - 130%	74
d5-nitrobenzene (Surrogate)	Rinsate	SE274045.016	%	40 - 130%	74

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	99
	BH1.2	SE274045.002	%	60 - 130%	96
	BH2.1	SE274045.003	%	60 - 130%	96
	BH2.2	SE274045.004	%	60 - 130%	101
	BH3.1	SE274045.005	%	60 - 130%	95
	BH3.2	SE274045.006	%	60 - 130%	98
	BH4.1	SE274045.007	%	60 - 130%	98
	BH5.1	SE274045.008	%	60 - 130%	97
	BH6.1	SE274045.009	%	60 - 130%	98
	BH7.1	SE274045.010	%	60 - 130%	99
	BH8.1	SE274045.011	%	60 - 130%	100
	BH9.1	SE274045.012	%	60 - 130%	98
	BH10.1	SE274045.013	%	60 - 130%	97
	D1	SE274045.014	%	60 - 130%	94

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

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

PCBs in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	T1	SE274045.015	%	60 - 130%	94

PCBs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	Rinsate	SE274045.016	%	40 - 130%	92

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	95
	BH1.2	SE274045.002	%	60 - 130%	96
	BH2.1	SE274045.003	%	60 - 130%	97
	BH2.2	SE274045.004	%	60 - 130%	97
	BH3.1	SE274045.005	%	60 - 130%	94
	BH3.2	SE274045.006	%	60 - 130%	102
	BH4.1	SE274045.007	%	60 - 130%	94
	BH5.1	SE274045.008	%	60 - 130%	92
	BH6.1	SE274045.009	%	60 - 130%	97
	BH7.1	SE274045.010	%	60 - 130%	93
	BH8.1	SE274045.011	%	60 - 130%	92
	BH9.1	SE274045.012	%	60 - 130%	92
	BH10.1	SE274045.013	%	60 - 130%	96
	D1	SE274045.014	%	60 - 130%	97
	T1	SE274045.015	%	60 - 130%	99
	Trip Spike	SE274045.017	%	60 - 130%	101
	Trip Blank	SE274045.018	%	60 - 130%	99
d4-1,2-dichloroethane (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	108
	BH1.2	SE274045.002	%	60 - 130%	109
	BH2.1	SE274045.003	%	60 - 130%	114
	BH2.2	SE274045.004	%	60 - 130%	114
	BH3.1	SE274045.005	%	60 - 130%	120
	BH3.2	SE274045.006	%	60 - 130%	114
	BH4.1	SE274045.007	%	60 - 130%	110
	BH5.1	SE274045.008	%	60 - 130%	104
	BH6.1	SE274045.009	%	60 - 130%	110
	BH7.1	SE274045.010	%	60 - 130%	109
	BH8.1	SE274045.011	%	60 - 130%	108
	BH9.1	SE274045.012	%	60 - 130%	109
	BH10.1	SE274045.013	%	60 - 130%	116
	D1	SE274045.014	%	60 - 130%	117
	T1	SE274045.015	%	60 - 130%	107
	Trip Spike	SE274045.017	%	60 - 130%	110
	Trip Blank	SE274045.018	%	60 - 130%	112
d8-toluene (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	112
	BH1.2	SE274045.002	%	60 - 130%	118
	BH2.1	SE274045.003	%	60 - 130%	117
	BH2.2	SE274045.004	%	60 - 130%	123
	BH3.1	SE274045.005	%	60 - 130%	123
	BH3.2	SE274045.006	%	60 - 130%	134 ①
	BH4.1	SE274045.007	%	60 - 130%	117
	BH5.1	SE274045.008	%	60 - 130%	122
	BH6.1	SE274045.009	%	60 - 130%	124
	BH7.1	SE274045.010	%	60 - 130%	116
	BH8.1	SE274045.011	%	60 - 130%	117
	BH9.1	SE274045.012	%	60 - 130%	117
	BH10.1	SE274045.013	%	60 - 130%	123
	D1	SE274045.014	%	60 - 130%	126
	T1	SE274045.015	%	60 - 130%	131 ①
	Trip Spike	SE274045.017	%	60 - 130%	130
	Trip Blank	SE274045.018	%	60 - 130%	130

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

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

VOCs in Water

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	Rinsate	SE274045.016	%	40 - 130%	103
d4-1,2-dichloroethane (Surrogate)	Rinsate	SE274045.016	%	40 - 130%	86
d8-toluene (Surrogate)	Rinsate	SE274045.016	%	40 - 130%	85

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	95
	BH1.2	SE274045.002	%	60 - 130%	96
	BH2.1	SE274045.003	%	60 - 130%	97
	BH2.2	SE274045.004	%	60 - 130%	97
	BH3.1	SE274045.005	%	60 - 130%	94
	BH3.2	SE274045.006	%	60 - 130%	102
	BH4.1	SE274045.007	%	60 - 130%	94
	BH5.1	SE274045.008	%	60 - 130%	92
	BH6.1	SE274045.009	%	60 - 130%	97
	BH7.1	SE274045.010	%	60 - 130%	93
	BH8.1	SE274045.011	%	60 - 130%	92
	BH9.1	SE274045.012	%	60 - 130%	92
	BH10.1	SE274045.013	%	60 - 130%	96
	D1	SE274045.014	%	60 - 130%	97
	T1	SE274045.015	%	60 - 130%	99
d4-1,2-dichloroethane (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	108
	BH1.2	SE274045.002	%	60 - 130%	109
	BH2.1	SE274045.003	%	60 - 130%	114
	BH2.2	SE274045.004	%	60 - 130%	114
	BH3.1	SE274045.005	%	60 - 130%	120
	BH3.2	SE274045.006	%	60 - 130%	114
	BH4.1	SE274045.007	%	60 - 130%	110
	BH5.1	SE274045.008	%	60 - 130%	104
	BH6.1	SE274045.009	%	60 - 130%	110
	BH7.1	SE274045.010	%	60 - 130%	109
	BH8.1	SE274045.011	%	60 - 130%	108
	BH9.1	SE274045.012	%	60 - 130%	109
	BH10.1	SE274045.013	%	60 - 130%	116
	D1	SE274045.014	%	60 - 130%	117
	T1	SE274045.015	%	60 - 130%	107
d8-toluene (Surrogate)	BH1.1	SE274045.001	%	60 - 130%	112
	BH1.2	SE274045.002	%	60 - 130%	118
	BH2.1	SE274045.003	%	60 - 130%	117
	BH2.2	SE274045.004	%	60 - 130%	123
	BH3.1	SE274045.005	%	60 - 130%	123
	BH3.2	SE274045.006	%	60 - 130%	134 ⓘ
	BH4.1	SE274045.007	%	60 - 130%	117
	BH5.1	SE274045.008	%	60 - 130%	122
	BH6.1	SE274045.009	%	60 - 130%	124
	BH7.1	SE274045.010	%	60 - 130%	116
	BH8.1	SE274045.011	%	60 - 130%	117
	BH9.1	SE274045.012	%	60 - 130%	117
	BH10.1	SE274045.013	%	60 - 130%	123
	D1	SE274045.014	%	60 - 130%	126
	T1	SE274045.015	%	60 - 130%	131 ⓘ

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 (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB329839.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB329947.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB329942.001		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
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	98

OC Pesticides in Water

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

Sample Number		Parameter	Units	LOR	Result
LB329977.001		Alpha BHC	µg/L	0.1	<0.1
		Hexachlorobenzene (HCB)	µg/L	0.1	<0.1
		Beta BHC	µg/L	0.1	<0.1
		Lindane (gamma BHC)	µg/L	0.1	<0.1
		Delta BHC	µg/L	0.1	<0.1
		Heptachlor	µg/L	0.1	<0.1
		Aldrin	µg/L	0.1	<0.1
		Heptachlor epoxide	µg/L	0.1	<0.1
		Gamma Chlordane	µg/L	0.1	<0.1
		Alpha Chlordane	µg/L	0.1	<0.1
		Alpha Endosulfan	µg/L	0.1	<0.1
		p,p'-DDE	µg/L	0.1	<0.1
		Dieldrin	µg/L	0.1	<0.1
		Endrin	µg/L	0.1	<0.1
		Beta Endosulfan	µg/L	0.1	<0.1
		p,p'-DDD	µg/L	0.1	<0.1
		Endrin aldehyde	µg/L	0.1	<0.1
		Endosulfan sulphate	µg/L	0.1	<0.1
		p,p'-DDT	µg/L	0.1	<0.1
		Endrin ketone	µg/L	0.1	<0.1
		Methoxychlor	µg/L	0.1	<0.1
		Mirex	µg/L	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	94

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.

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB329942.001		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	100
		d14-p-terphenyl (Surrogate)	%	-	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB329942.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	91
		2-fluorobiphenyl (Surrogate)	%	-	100
		d14-p-terphenyl (Surrogate)	%	-	94

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result
LB329977.001		Naphthalene	µg/L	0.1	<0.1
		2-methylnaphthalene	µg/L	0.1	<0.1
		1-methylnaphthalene	µg/L	0.1	<0.1
		Acenaphthylene	µg/L	0.1	<0.1
		Acenaphthene	µg/L	0.1	<0.1
		Fluorene	µg/L	0.1	<0.1
		Phenanthrene	µg/L	0.1	<0.1
		Anthracene	µg/L	0.1	<0.1
		Fluoranthene	µg/L	0.1	<0.1
		Pyrene	µg/L	0.1	<0.1
		Benzo(a)anthracene	µg/L	0.1	<0.1
		Chrysene	µg/L	0.1	<0.1
		Benzo(a)pyrene	µg/L	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
		Dibenzo(ah)anthracene	µg/L	0.1	<0.1
		Benzo(ghi)perylene	µg/L	0.1	<0.1
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	100
		2-fluorobiphenyl (Surrogate)	%	-	100
		d14-p-terphenyl (Surrogate)	%	-	100

PCBs in Soil

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

Sample Number	Parameter	Units	LOR

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.

PCBs in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB329942.001		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
		Sum of Positive PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	TCMX (Surrogate)	%	-	99

PCBs in Water

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

Sample Number		Parameter	Units	LOR	Result
LB329977.001		Arochlor 1016	µg/L	1	<1
		Arochlor 1221	µg/L	1	<1
		Arochlor 1232	µg/L	1	<1
		Arochlor 1242	µg/L	1	<1
		Arochlor 1248	µg/L	1	<1
		Arochlor 1254	µg/L	1	<1
		Arochlor 1260	µg/L	1	<1

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

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

Sample Number		Parameter	Units	LOR	Result
LB329946.001		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

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number		Parameter	Units	LOR	Result
LB330133.001		Arsenic	µg/L	1	<1
		Cadmium	µg/L	0.1	<0.1
		Chromium	µg/L	1	<1
		Copper	µg/L	1	<1
		Lead	µg/L	1	<1
		Nickel	µg/L	1	<1
		Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB329942.001		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
LB329943.001	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)	%	-	112
		d8-toluene (Surrogate)	%	-	110
		Bromofluorobenzene (Surrogate)	%	-	98
	Totals	Total BTEX*	mg/kg	0.6	<0.6

VOCs in Water

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

Sample Number	Parameter	Units	LOR

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.

VOCs in Water (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB329991.001	Fumigants	2,2-dichloropropane	µg/L	0.5	<0.5
		1,2-dichloropropane	µg/L	0.5	<0.5
		cis-1,3-dichloropropene	µg/L	0.5	<0.5
		trans-1,3-dichloropropene	µg/L	0.5	<0.5
		1,2-dibromoethane (EDB)	µg/L	0.5	<0.5
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	µg/L	5	<5
		Chloromethane	µg/L	5	<5
		Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3
		Chloroethane	µg/L	5	<5
		Trichlorofluoromethane	µg/L	1	<1
		1,1-dichloroethene	µg/L	0.5	<0.5
		Iodomethane	µg/L	5	<5
		Dichloromethane (Methylene chloride)	µg/L	5	<5
		Allyl chloride	µg/L	2	<2.0
		trans-1,2-dichloroethene	µg/L	0.5	<0.5
		1,1-dichloroethane	µg/L	0.5	<0.5
		cis-1,2-dichloroethene	µg/L	0.5	<0.5
		Bromochloromethane	µg/L	0.5	<0.5
		1,2-dichloroethane	µg/L	0.5	<0.5
		1,1,1-trichloroethane	µg/L	0.5	<0.5
		1,1-dichloropropene	µg/L	0.5	<0.5
		Carbon tetrachloride	µg/L	0.5	<0.5
		Dibromomethane	µg/L	0.5	<0.5
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5
		1,1,2-trichloroethane	µg/L	0.5	<0.5
		1,3-dichloropropane	µg/L	0.5	<0.5
		Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5
		1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5
		1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5
		1,2,3-trichloropropane	µg/L	0.5	<0.5
		trans-1,4-dichloro-2-butene	µg/L	1	<1
		1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5
		Hexachlorobutadiene	µg/L	0.5	<0.5
	Halogenated Aromatics	Chlorobenzene	µg/L	0.5	<0.5
		Bromobenzene	µg/L	0.5	<0.5
		2-chlorotoluene	µg/L	0.5	<0.5
		4-chlorotoluene	µg/L	0.5	<0.5
		1,3-dichlorobenzene	µg/L	0.5	<0.5
		1,4-dichlorobenzene	µg/L	0.3	<0.3
		1,2-dichlorobenzene	µg/L	0.5	<0.5
		1,2,4-trichlorobenzene	µg/L	0.5	<0.5
		1,2,3-trichlorobenzene	µg/L	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	86
		d8-toluene (Surrogate)	%	-	84
		Bromofluorobenzene (Surrogate)	%	-	96
	Trihalomethanes	Chloroform (THM)	µg/L	0.5	<0.5
		Bromodichloromethane (THM)	µg/L	0.5	<0.5
		Dibromochloromethane (THM)	µg/L	0.5	<0.5
		Bromoform (THM)	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB329943.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	112

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

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

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

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

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

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274044.001	LB329839.014	Mercury	µg/L	0.0001	<0.0001	<0.0001	167	0
SE274049.005	LB329839.024	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	0

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329947.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE274099.004	LB329947.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329950.011	% Moisture	%w/w	1	13.3	13.8	37	4
SE274099.004	LB329950.022	% Moisture	%w/w	1	28.8	28.6	33	1

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329942.014		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			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
			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
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.14	30	3
SE274045.015	LB329942.026		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
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			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
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

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

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

OC Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.015	LB329942.026		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
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	30	3

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329942.014		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
SE274045.015	LB329942.026		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329942.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	0.1	<0.1	146	30
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	0.4	0.1	66	114 ②
			Pyrene	mg/kg	0.1	0.4	0.1	70	112 ②
			Benzo(a)anthracene	mg/kg	0.1	0.2	<0.1	113	64
			Chrysene	mg/kg	0.1	0.2	<0.1	106	69
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	<0.1	103	72
			Benzo(k)fluoranthene	mg/kg	0.1	0.2	<0.1	103	73
			Benzo(a)pyrene	mg/kg	0.1	0.2	<0.1	93	86
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.2	<0.1	104	70
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.2	<0.1	108	65
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	0.3	<0.2	129	51
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	0.4	<0.2	89	64
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	0.4	<0.3	98	37
			Total PAH (18)	mg/kg	0.8	2.4	<0.8	38	166 ②
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	2

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

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

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329942.014	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
SE274045.015	LB329942.026		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	1
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329942.014		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
			Sum of Positive PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	30	3
SE274045.015	LB329942.026		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
			Sum of Positive PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	30	3

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329946.014	Arsenic, As	mg/kg	1	15	6	40	84 ⑧
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	14	14	34	2
		Copper, Cu	mg/kg	0.5	2.8	1.7	52	48
		Nickel, Ni	mg/kg	0.5	4.0	3.5	43	13
		Lead, Pb	mg/kg	1	9	7	43	20
		Zinc, Zn	mg/kg	2	30	20	38	42 ⑧
SE274099.004	LB329946.024	Arsenic, As	mg/kg	1	5	5	51	10
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	16	11	34	36 ②
		Copper, Cu	mg/kg	0.5	17	20	33	16

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

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

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

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

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

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274099.004	LB329946.024	Nickel, Ni	mg/kg	0.5	7.3	7.7	37	5
		Lead, Pb	mg/kg	1	20	17	35	19
		Zinc, Zn	mg/kg	2	53	53	34	1

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274197.001	LB330133.027	Arsenic	µg/L	1	7	7	30	1
		Cadmium	µg/L	0.1	<0.1	<0.1	200	0
		Chromium	µg/L	1	<1	<1	132	0
		Copper	µg/L	1	11	10	24	4
		Lead	µg/L	1	<1	<1	136	0
		Nickel	µg/L	1	<1	<1	200	0
		Zinc	µg/L	5	45	42	27	7

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329942.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE274045.015	LB329942.026		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329943.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.9	11.5	50	5
			d8-toluene (Surrogate)	mg/kg	-	11.6	12.5	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	9.3	50	0
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE274099.003	LB329943.025	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.9	11.1	50	12
			d8-toluene (Surrogate)	mg/kg	-	11.5	12.3	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	9.4	50	4
		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

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

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

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

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

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

VOCs in Water

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE273878.001	LB329991.027	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.6	8.4	30	2
			d8-toluene (Surrogate)	µg/L	-	8.4	8.6	30	2
			Bromofluorobenzene (Surrogate)	µg/L	-	10.2	10.0	30	3

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE274045.010	LB329943.014		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	-	10.9	11.5	50	5
			d8-toluene (Surrogate)	mg/kg	-	11.6	12.5	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	9.3	50	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE274099.003	LB329943.025		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	-	9.9	11.1	50	12
			d8-toluene (Surrogate)	mg/kg	-	11.5	12.3	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	9.4	50	4
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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 %
LB329947.002	Mercury	mg/kg	0.05	0.19	0.2	80 - 120	94

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329942.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	99
		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	98
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	100
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	111
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	110
		p,p'-DDT	mg/kg	0.1	0.1	0.2	60 - 140	73
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.49	0.5	40 - 130	97

OC Pesticides in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329977.002		Delta BHC	µg/L	0.1	0.2	0.2	60 - 140	95
		Heptachlor	µg/L	0.1	0.2	0.2	60 - 140	94
		Aldrin	µg/L	0.1	0.2	0.2	60 - 140	95
		Dieldrin	µg/L	0.1	0.2	0.2	60 - 140	95
		Endrin	µg/L	0.1	0.2	0.2	60 - 140	95
		p,p'-DDT	µg/L	0.1	0.2	0.2	60 - 140	91
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	µg/L	-	0.14	0.15	40 - 130	91

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329942.002		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	94
		Diazinon (Dimpylate)	mg/kg	0.5	2.1	2	60 - 140	104
		Dichlorvos	mg/kg	0.5	1.8	2	60 - 140	89
		Ethion	mg/kg	0.2	1.7	2	60 - 140	84
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	100
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329942.002		Naphthalene	mg/kg	0.1	3.9	4	60 - 140	98
		Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	101
		Acenaphthene	mg/kg	0.1	4.0	4	60 - 140	101
		Phenanthrene	mg/kg	0.1	4.6	4	60 - 140	114
		Anthracene	mg/kg	0.1	4.3	4	60 - 140	107
		Fluoranthene	mg/kg	0.1	4.6	4	60 - 140	114
		Pyrene	mg/kg	0.1	4.9	4	60 - 140	122
		Benzo(a)pyrene	mg/kg	0.1	4.9	4	60 - 140	122
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	92
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	100
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	70 - 130	98

PAH (Polynuclear Aromatic Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329977.002		Naphthalene	µg/L	0.1	36	40	60 - 140	89
		Acenaphthylene	µg/L	0.1	39	40	60 - 140	99
		Acenaphthene	µg/L	0.1	38	40	60 - 140	95
		Phenanthrene	µg/L	0.1	37	40	60 - 140	91
		Anthracene	µg/L	0.1	34	40	60 - 140	84
		Fluoranthene	µg/L	0.1	35	40	60 - 140	88
		Pyrene	µg/L	0.1	34	40	60 - 140	85
		Benzo(a)pyrene	µg/L	0.1	40	40	60 - 140	101
	Surrogates	d5-nitrobenzene (Surrogate)	µg/L	-	0.5	0.5	40 - 130	106
		2-fluorobiphenyl (Surrogate)	µg/L	-	0.6	0.5	40 - 130	114
		d14-p-terphenyl (Surrogate)	µg/L	-	0.5	0.5	40 - 130	90

PCBs in Soil

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

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.

PCBs in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329942.002		Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	99
	Surrogates	TCMX (Surrogate)	mg/kg	-	0	0.5	40 - 130	97†

PCBs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329977.002		Arochlor 1260	µg/L	1	<1	0.4	60 - 140	105

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 %
LB329946.002		Arsenic, As	mg/kg	1	340	318.22	80 - 120	106
		Cadmium, Cd	mg/kg	0.3	3.7	4.81	70 - 130	76
		Chromium, Cr	mg/kg	0.5	37	38.31	80 - 120	97
		Copper, Cu	mg/kg	0.5	310	290	80 - 120	106
		Nickel, Ni	mg/kg	0.5	180	187	80 - 120	98
		Lead, Pb	mg/kg	1	91	89.9	80 - 120	101
		Zinc, Zn	mg/kg	2	260	273	80 - 120	96

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB330133.002		Arsenic	µg/L	1	20	20	80 - 120	100
		Cadmium	µg/L	0.1	21	20	80 - 120	106
		Chromium	µg/L	1	22	20	80 - 120	108
		Copper	µg/L	1	22	20	80 - 120	108
		Lead	µg/L	1	21	20	80 - 120	106
		Nickel	µg/L	1	20	20	80 - 120	101
		Zinc	µg/L	5	21	20	80 - 120	104

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329942.002		TRH C10-C14	mg/kg	20	39	40	60 - 140	98
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	92
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	89
	TRH F Bands	TRH >C10-C16	mg/kg	25	39	40	60 - 140	98
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	90
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	91

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329943.002	Monocyclic	Benzene	mg/kg	0.1	5.2	5	60 - 140	103
	Aromatic	Toluene	mg/kg	0.1	5.4	5	60 - 140	108
		Ethylbenzene	mg/kg	0.1	4.8	5	60 - 140	96
		m/p-xylene	mg/kg	0.2	9.5	10	60 - 140	95
		o-xylene	mg/kg	0.1	5.1	5	60 - 140	101

VOCs in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329991.002	Halogenated	1,1-dichloroethene	µg/L	0.5	44	45.45	60 - 140	97
	Aliphatics	1,2-dichloroethane	µg/L	0.5	44	45.45	60 - 140	97
		Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	42	45.45	60 - 140	92
	Halogenated	Chlorobenzene	µg/L	0.5	58	45.45	60 - 140	128
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.0	10	60 - 140	100
		d8-toluene (Surrogate)	µg/L	-	10.0	10	70 - 130	100
		Bromofluorobenzene (Surrogate)	µg/L	-	10.4	10	70 - 130	104
	Trihalomethan	Chloroform (THM)	µg/L	0.5	44	45.45	60 - 140	97

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB329943.002		TRH C6-C10	mg/kg	25	70	92.5	60 - 140	76
		TRH C6-C9	mg/kg	20	63	80	60 - 140	78
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	40	62.5	60 - 140	64

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

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

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE273998.010	LB329839.004	Mercury	mg/L	0.0001	0.0023	<0.0001	0.008	118

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE274045.001	LB329947.004	Mercury	mg/kg	0.05	0.23	<0.05	0.2	102

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE274045.001	LB329942.004		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	102
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	104
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	104
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	108
			Endrin	mg/kg	0.2	0.2	<0.2	0.2	108
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			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	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	85
			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	-	-
			Total OC VIC EPA	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	-	29

OP Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE274045.001	LB329942.004		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	<0.2	2	100
			Diazinon (Dimpylate)	mg/kg	0.5	2.1	<0.5	2	106
			Dichlorvos	mg/kg	0.5	1.8	<0.5	2	91
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	2.1	<0.2	2	107
			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	8.1	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	98
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE274045.001	LB329942.004	Naphthalene	mg/kg	0.1	3.9	<0.1	4	96
		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	4.0	<0.1	4	99
		Acenaphthene	mg/kg	0.1	3.9	<0.1	4	97
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE274045.001	LB329942.004		Phenanthrene	mg/kg	0.1	4.7	0.6	4	104
			Anthracene	mg/kg	0.1	4.0	<0.1	4	99
			Fluoranthene	mg/kg	0.1	5.2	1.3	4	95
			Pyrene	mg/kg	0.1	5.3	1.2	4	101
			Benzo(a)anthracene	mg/kg	0.1	0.3	0.4	-	-
			Chrysene	mg/kg	0.1	0.4	0.5	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.4	0.4	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0.3	0.5	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.6	0.5	4	101
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	0.4	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	0.3	0.4	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.7	0.7	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.8	0.8	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.8	0.8	-	-
			Total PAH (18)	mg/kg	0.8	37	6.2	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	-	92
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	98
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	96

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE274045.001	LB329942.004		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	0.4	<0.2	0.4	102
			Sum of Positive PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	-	98

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%
SE274045.001	LB329946.004	Arsenic, As	mg/kg	1	66	25	50	82
		Cadmium, Cd	mg/kg	0.3	43	<0.3	50	85
		Chromium, Cr	mg/kg	0.5	51	11	50	81
		Copper, Cu	mg/kg	0.5	55	11	50	88
		Nickel, Ni	mg/kg	0.5	51	9.6	50	84
		Lead, Pb	mg/kg	1	73	20	50	108
		Zinc, Zn	mg/kg	2	91	57	50	67 ④

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE273998.010	LB330133.004	Arsenic	µg/L	1	20	<1	20	102
		Cadmium	µg/L	0.1	22	<0.1	20	110
		Chromium	µg/L	1	22	<1	20	111
		Copper	µg/L	1	23	<1	20	113
		Lead	µg/L	1	22	<1	20	108
		Nickel	µg/L	1	21	<1	20	107
		Zinc	µg/L	5	22	<5	20	100

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE274045.001	LB329942.004		TRH C10-C14	mg/kg	20	45	<20	40	103
			TRH C15-C28	mg/kg	45	90	55	40	89
			TRH C29-C36	mg/kg	45	84	45	40	97
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	220	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	47	<25	40	102
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	47	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	120	<90	40	86

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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE274045.001	LB329942.004	TRH F	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%
SE274045.001	LB329943.004	Monocyclic	Benzene	mg/kg	0.1	5.5	<0.1	5	109
		Aromatic	Toluene	mg/kg	0.1	6.2	<0.1	5	123
			Ethylbenzene	mg/kg	0.1	5.4	<0.1	5	108
			m/p-xylene	mg/kg	0.2	11	<0.2	10	106
			o-xylene	mg/kg	0.1	5.6	<0.1	5	112
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	10.8	-	110
			d8-toluene (Surrogate)	mg/kg	-	12.0	11.2	-	120
			Bromofluorobenzene (Surrogate)	mg/kg	-	11.3	9.5	-	113
		Totals	Total BTEX*	mg/kg	0.6	33	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	16	<0.3	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE274045.001	LB329943.004		TRH C6-C10	mg/kg	25	74	<25	92.5	79
			TRH C6-C9	mg/kg	20	68	<20	80	85
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	10.8	-	110
			d8-toluene (Surrogate)	mg/kg	-	12.0	11.2	-	120
			Bromofluorobenzene (Surrogate)	mg/kg	-	11.3	9.5	-	113
		VPH F	Benzene (F0)	mg/kg	0.1	5.5	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	41	<25	62.5	64

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

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

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

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

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

No matrix spike duplicates were required for this job.

id samples expressed on a dry weight basis.

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

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

NEO CONSULTING

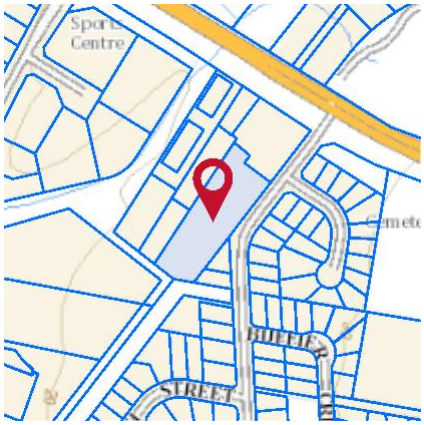
APPENDIX C

Property Report and Relevant Site Data

NEO CONSULTING

Property Report

7 REGIMENT ROAD RUTHERFORD 2320



Property Details

Address:	7 REGIMENT ROAD RUTHERFORD 2320
Lot/Section /Plan No:	2/-/DP1260460
Council:	MAITLAND 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	Maitland Local Environmental Plan 2011 (pub. 16-12-2011)
Land Zoning	E3 - Productivity Support: (pub. 21-4-2023)
Height Of Building	NA
Floor Space Ratio	NA
Minimum Lot Size	NA
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA
Acid Sulfate Soils	Class 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.

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Allowable Clearing Area (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (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)

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

Housing and Productivity Contribution	Lower Hunter - Base HPC
Local Aboriginal Land Council	MINDARIBBA
Regional Plan Boundary	Hunter

DEVELOPMENT APPLICATION
NEW CHILDCARE CENTRE
LOT 700 DP 592547
7 REGIMENT ROAD, RUTHERFORD

SHEET LIST		
Sheet Number	Sheet Name	Current Rev
00	TITLE	2
01	SUBDIVISION PLAN	2
02	SITE ANALYSIS & DEMOLITION PLAN	2
03	SITE PLAN	2
04	FLOOR PLAN	2
05	ROOF PLAN & VEHICLE SWEEP PATH	2
07	ELEVATIONS	2

GENERAL NOTES:

1. BUILDING SHELL DESIGN INTENT SHOWN.CONTRACTOR TO PROPOSE DETAILED DESIGN FOR CONSTRUCTION, INCLUDING ALL SITE RELATED WORKS, STRUCTURAL, CIVIL WORKS & BUILDING SERVICES.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING IN-GROUND AND ABOVE-GROUND SERVICES WITHIN THE SCOPE OF WORKS BEFORE COMMENCING CONSTRUCTION/DEMOLITION.
3. ANY 3D DRAWINGS ARE INDICATIVE ONLY, AND ARE TO BE READ IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
4. ALL ACCESSIBILITY AND MOBILITY DESIGN (DDA) ITEMS TO COMPLY WITH A.S. 1428.1 2009
5. THIS DRAWINGS SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, SCHEDULES AND DRAWINGS INCLUDING CIVIL, STRUCTURAL, HYDRAULIC
6. DIMENSIONS:

   CONTRACTOR AND SUB-CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF THIS DRAWING AND SITE CONDITIONS PRIOR TO ANY WORK COMMENCING.
   FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS (UNLESS NOTED OTHERWISE).
   FIGURED DIMENSIONS ARE:
   - WALL / PARTITIONS SETOUT TO CENTRE LINE WHERE NOTED
   - ALL OTHER WALL/PARTITION DIMENSIONS ARE TO FINISHED FACE OF PARTITION.
   - CEILINGS: FINISHED UNDERSIDE OF CEILINGS - CEILING HEIGHT IS MEASURED FROM FINISH FLOOR LEVEL.
   - FITTINGS AND FIXTURES: - DIMENSIONS TO FIXTURES AND FITTINGS ARE SETOUT FROM "FINISH" WALL FACE / FINISH FLOOR LEVEL.

PLANS TO BE READ IN CONJUNCTION WITH:

- BUILDING CODE OF AUSTRALIA
- RELEVANT AUSTRALIAN STANDARDS
- HYDRAULIC DRAWING SET
- CIVIL DRAWING SET
- STRUCTURAL DRAWING SET
- LANDSCAPE DRAWING SET

IF NO INTERNAL FITOUT FINISHES & PLANS ARE PRESENT, CLIENT SELECTIONS & DETAILS ARE TO TAKE PRECEDENCE.

PLEASE NOTE:
DETAILS SHOWN ON THIS PLAN ARE INTENDED TO BE ACCURATE, HOWEVER INFORMATION WRITTEN INTO INDIVIDUAL CONTRACTS

LIST OF CLAUSES:

- **Clause B1.4 – Materials & Forms Constructions**
- **Spec. C1.1- Fire Resisting Construction**
- **Spec. C1.10 – Fire Hazard Properties**
- **Spec. C1.11 – Performance of External Walls in a Fire**
- **Clause C2.6 – Vertical Separation of Openings in External Walls**
- **Clause C2.12 – Separation of Equipment**
- **Clause C2.13 – Electricity Supply System**
- **Clause C3.4 – Acceptable Methods of Protection (of openings)**
- **Clause C3.8 – Opening in Fire Isolated Exits**
- **Clause C3.15 – Openings for Service Installations**
- **Clause D1.10 – Discharge from Exits**
- **Clause D2.7 – Installations in Exits and Paths of Travel**

***- Clause D2.13 – Goings and Risers** Treads which have:-
a. A surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586 **or**
(b) A nosing strip with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586.

***- Clause D2.14 – Landings** which have: -
a. A surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586 **or**
(b) A strip at the edge of the landing with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586, where the edge leads to a flight below.

- **Clause D2.15 – Thresholds**

***- Clause D2.16 – Balustrades**

***- Clause D2.17 – Handrails**

- **Clause D2.21 – Operation of Latch**
- **Clause D2.23 – Sign on Doors**
- **Clause D3.2 – General Building Access Requirements**
- **Clause D3.3 – Parts of Building to be Accessible**
- **Clause D3.6 – Identification of Accessible Facilities, Services and Features**
- **Clause D3.8 – Tactile Indicators**
- **Clause F1.7 – Waterproofing of Wet Areas**
- **Clause F1.9/ F1.10 – Damp Proofing**
- **Clause F2.5 – Construction of Sanitary Compartments**
- **Part F4 – Lighting and Ventilation**
- **Clause F5.4 – Sound Insulation of Floors**
- **Clause F5.5 – Sound Insulation of Walls**
- **Clause F5.6 – Sound Insulation of Services**
- **Clause F5.7 – Sound Insulation of Pumps**

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2 Elwell Close
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East Maitland NSW 2323
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Rev.	Description	Date	Issued by
1	PRELIM. DA SET	26.09.24	B.SIVA
2	DRAFT DA SET	17.10.24	B.SIVA

0 1 2 4 6m

NOTES:
1. All dimensions, levels, and setouts are to be verified on site prior to fabrication or construction.
2. Written dimensions take precedence over scaled ones

Project: CHILDCARE CENTRE
Sheet Title: TITLE
Project No: BC0543
Lot: 700 **DP:** 592547 **No:** 7 **Street:** REGIMENT ROAD **Suburb:** RUTHERFORD
Client: KOBY GROUP
Project Status: CONSTRUCTION CERTIFICATE
Scale: 1 : 50 on A1
Revision: 2
DWG No: 00

Rev	Description	Date	Issued by
2	DRAFT DA SET	17.10.24	B.SIVA

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PO Box 596
East Maitland NSW 2323
Ph: (02)4966 0218

Client

KOBY GROUP

Project

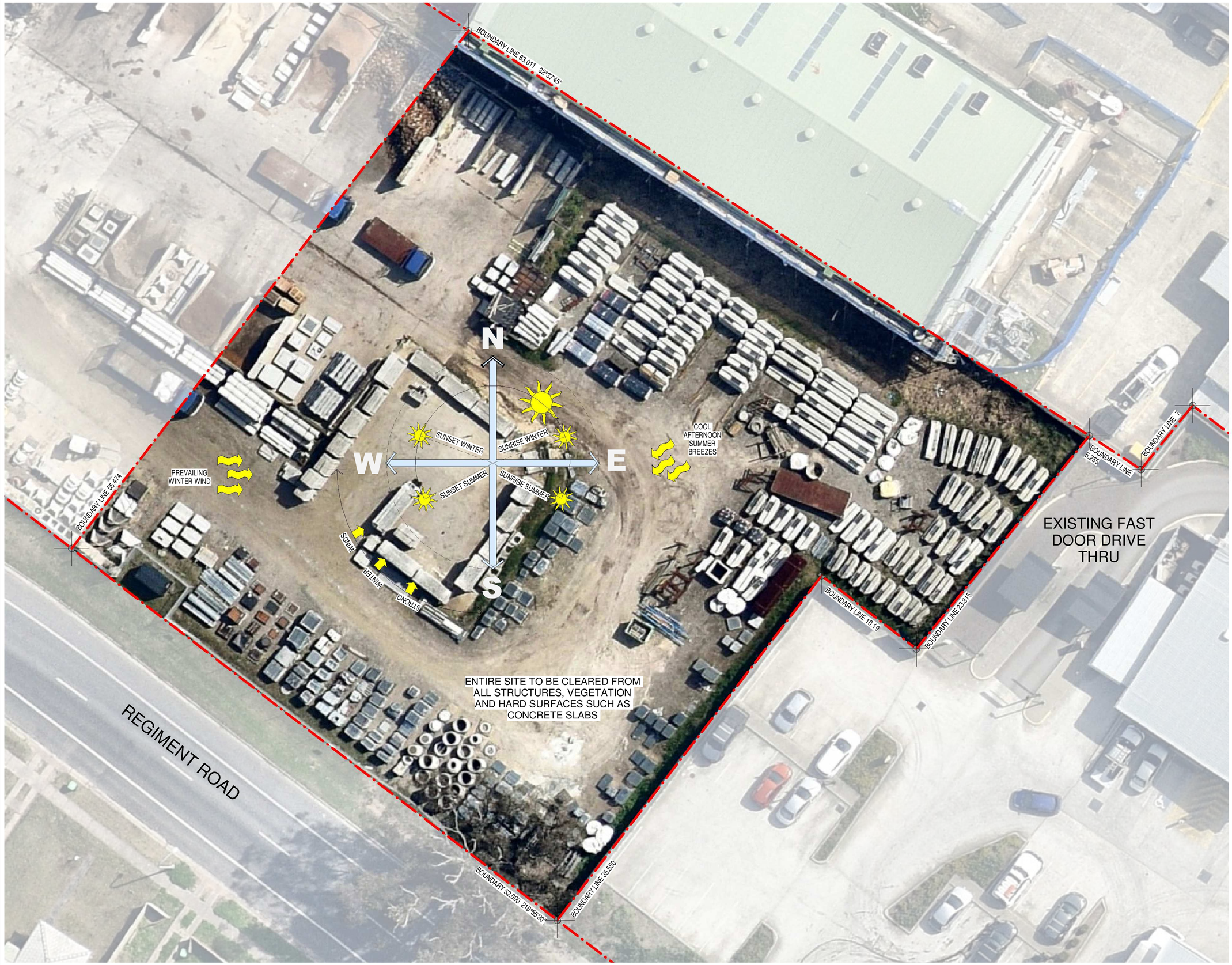
CHILDCARE CENTRE

Location:	
Lot:	700
No:	7
Street:	REGIMENT ROAD
Suburb:	RUTHERFORD
DP:	592547
Scale	1 : 400
Drawn by	B.SIVA
Checked by	B.YOUNG
Sheet Size	A1

Drawing

SUBDIVISION PLAN

Job No:	Issue:	No:
BC0543	2	01



Rev	Description	Date	Issued by
2	DRAFT DA SET	17.10.24	B.SIVA

2 Elwell Close
Beresfield, NSW 2322
PO Box 596
East Maitland NSW 2323
Ph: (02)4966 0218
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Client

KOBY GROUP

Project

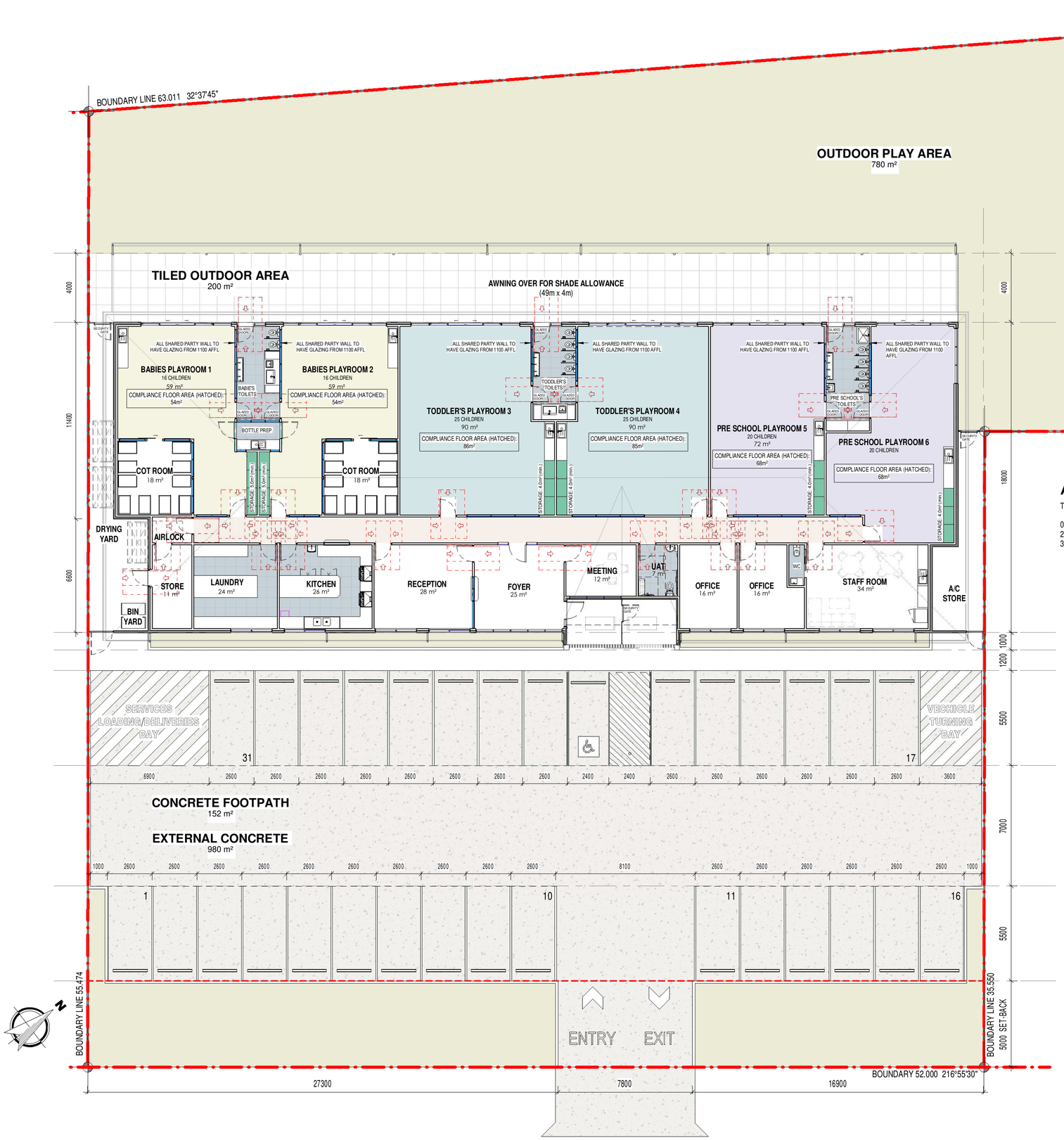
CHILDCARE CENTRE

Location:	
Lot:	700
No:	7
Street:	REGIMENT ROAD
Suburb:	RUTHERFORD
DP:	592547
Scale	As indicated
Drawn by	B.SIVA
Checked by	B.YOUNG
Sheet Size	A1

Drawing

SITE ANALYSIS & DEMOLITION PLAN

Job No:	Issue:	No:
BC0543	2	02



AREA COMPLIANCE SUMMARY

TOTAL NUMBER OF CHILDREN 122

0 - 2 YEARS BABIES	32
2 - 3 YEARS TODDLERS	50
3 - 5 YEARS PRE SCHOOL	40

BABIES 0 - 2 YEARS UNENCUMBERED INDOOR AREA

PLAY ROOM 01	16 CHILDREN	54m²	[52m² REQ]
PLAY ROOM 02	16 CHILDREN	54m²	[52m² REQ]

TODDLERS 2 - 3 YEARS UNENCUMBERED INDOOR AREA

PLAY ROOM 03	25 CHILDREN	86m²	[81.25m² REQ]
PLAY ROOM 04	25 CHILDREN	85m²	[81.25m² REQ]

PRE SCHOOL 3 -5 YEARS UNENCUMBERED INDOOR AREA

PLAY ROOM 05	20 CHILDREN	68m²	[65m² REQ]
PLAY ROOM 06	20 CHILDREN	68m²	[65m² REQ]

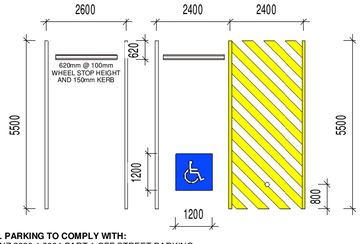
EXTERNAL UNENCUMBERED PLAY AREA

PLAY AREA 122 CHILDREN 980m² [854m² REQ]
INCLUDING 200m² UNDERCOVER PLAY AREA

GROSS BUILDING AREA = 850m²
GROSS FLOOR AREA = 837m²

TOTAL INTERNAL STORAGE 24.4m³
TOTAL EXTERNAL STORAGE 50m³

PARKING DETAILS



ALL PARKING TO COMPLY WITH:
AS/NZ 2890.1:2004 PART 1 OFF STREET PARKING
AS/NZ 2890.6:2009 PART 6 OFF-STREET PARKING FOR PEOPLE WITH DISABILITIES

Rev	Description	Date	Issued by
2	DRAFT DA SET	17.10.24	B.SIVA
1	PRELIM. DA SET	26.09.24	B.SIVA

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Beresfield, NSW 2322
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Ph: (02)4966 0218
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Client

KOBY GROUP

Project

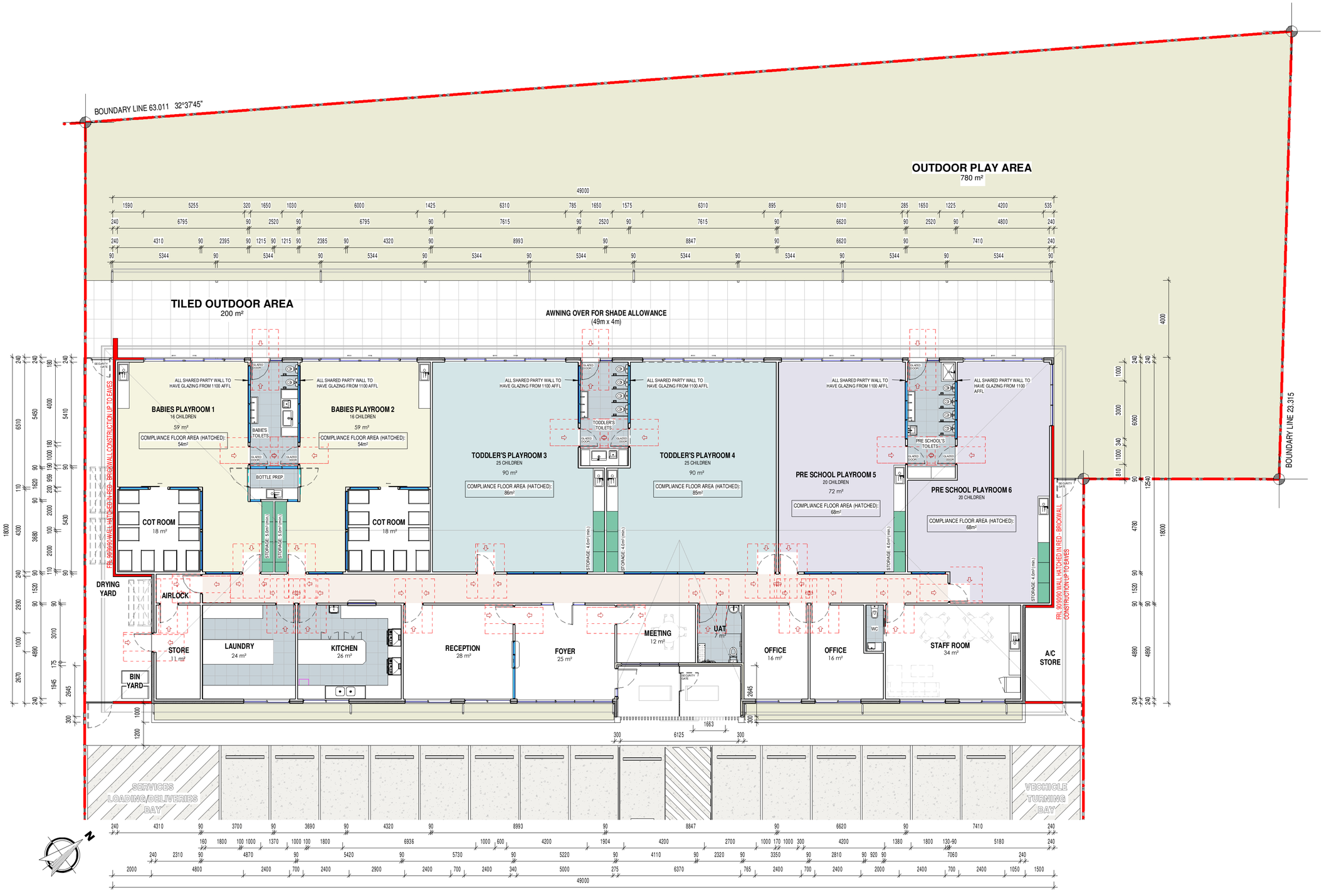
CHILDCARE CENTRE

Location:	
Lot:	700
No:	7
Street:	REGIMENT ROAD
Suburb:	RUTHERFORD
DP:	592547
Scale	As indicated
Drawn by	B.SIVA
Checked by	B.YOUNG
Sheet Size	A1

Drawing

SITE PLAN

Job No:	Issue:	No:
BC0543	2	03



Rev	Description	Date	Issued by
2	DRAFT DA SET	17.10.24	B.SIVA
1	PRELIM. DA SET	26.09.24	B.SIVA

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PO Box 596
East Maitland NSW 2323
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Client

KOBY GROUP

Project

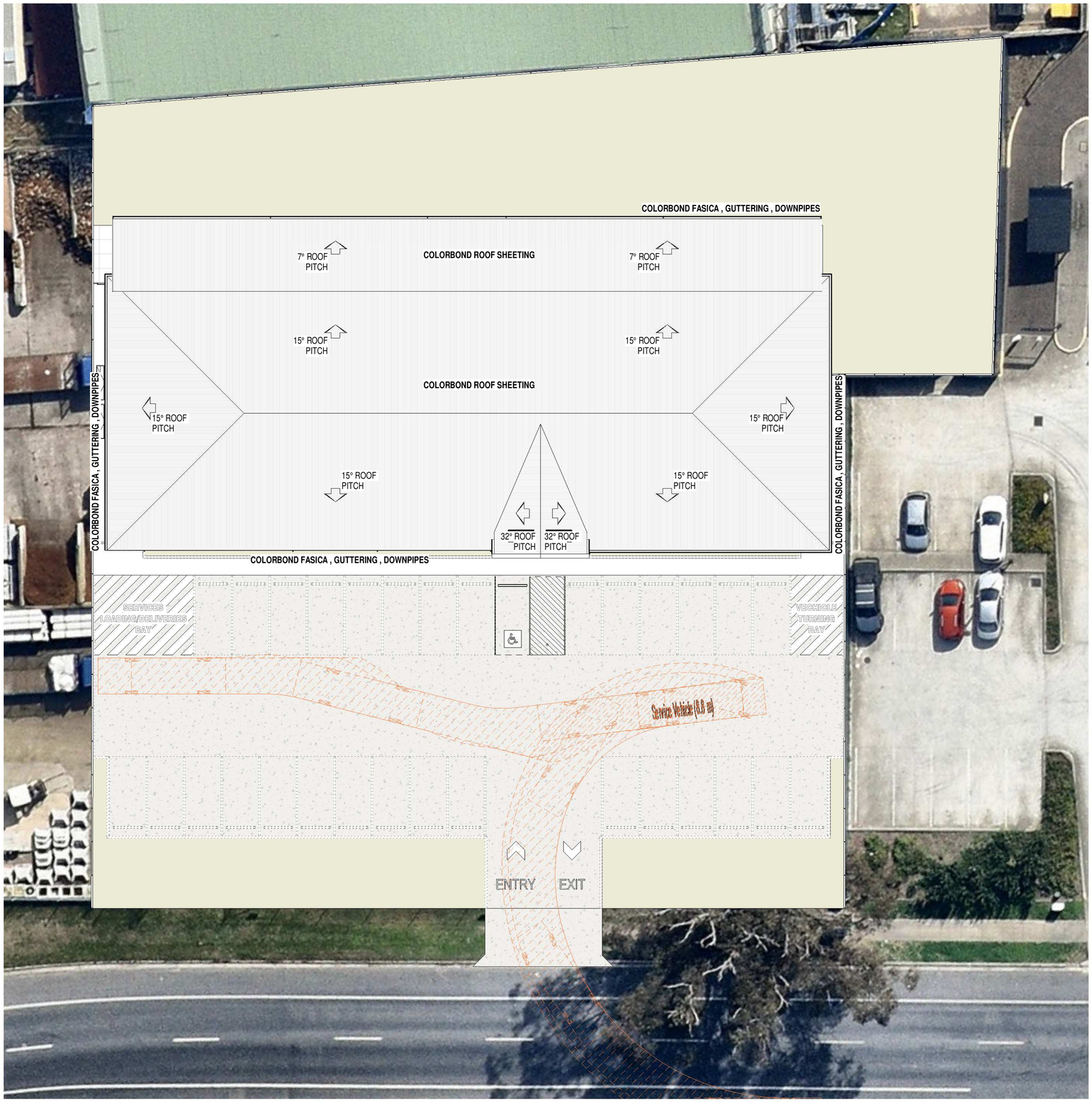
CHILDCARE CENTRE

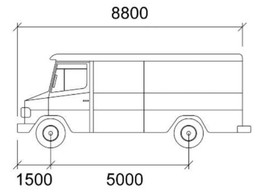
Location:	
Lot:	700
No:	7
Street:	REGIMENT ROAD
Suburb:	RUTHERFORD
DP:	592547
Scale	1 : 100
Drawn by	B.SIVA
Checked by	B.YOUNG
Sheet Size	A1

Drawing

FLOOR PLAN

Job No:	Issue:	No:
BC0543	2	04





SERVICE VEHICLE

Width	:	2500mm
Track	:	2500
Lock to Lock Time	:	6.0
Steering Angle	:	38.7

Rev	Description	Date	Issued by
2	DRAFT DA SET	17.10.24	B.SIVA
1	PRELIM. DA SET	26.09.24	B.SIVA

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www.brownbuild.com.au
2 Elwell Close
Beresfield, NSW 2322
PO Box 516
East Maitland NSW 2323
Ph: (02)4966 0218

Client

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Project

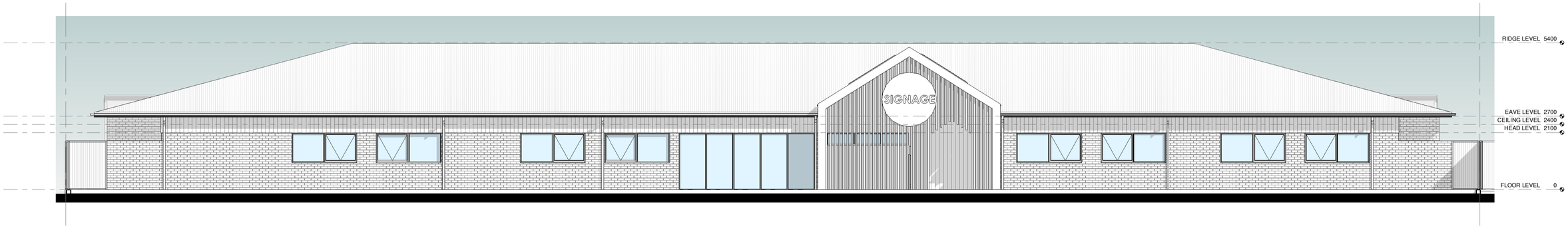
CHILDCARE CENTRE

Location:	
Lot:	700
No:	7
Street:	REGIMENT ROAD
Suburb:	RUTHERFORD
DP:	592547
Scale	1 : 150
Drawn by	B.SIVA
Checked by	B.YOUNG
Sheet Size	A1

Drawing

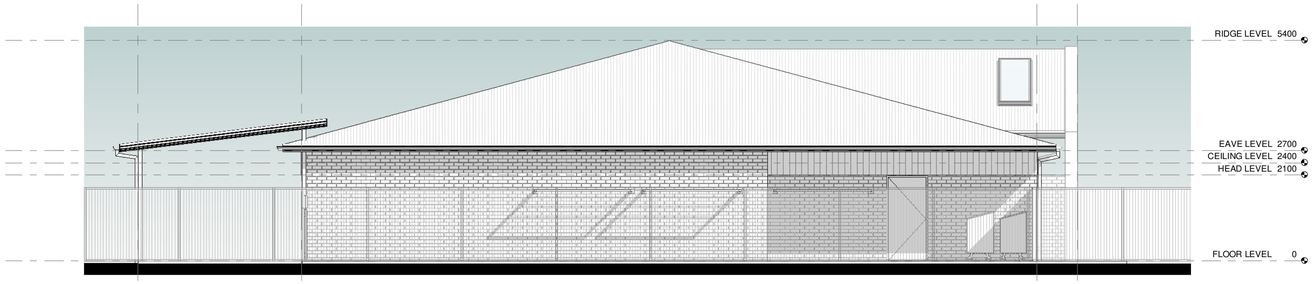
ROOF PLAN & VEHICLE SWEEP PATH

Job No:	Issue:	No:
BC0543	2	05



1 SOUTH EAST Elevation

1 : 75

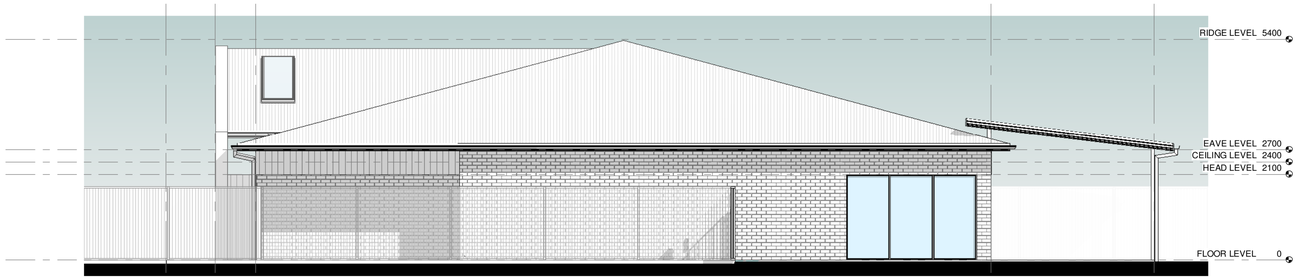


2 SOUTH WEST Elevation

1 : 75

3 NORTH WEST Elevation

1 : 75



4 NORTH EAST Elevation

1 : 75

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Rev.	Description	Date	Issued by
1	PRELIM. DA SET	26.09.24	B.SIVA
2	DRAFT DA SET	17.10.24	B.SIVA

0 1 2 4 6m

NOTES:
1. All dimensions, levels, and setouts are to be verified on site prior to fabrication or construction.
2. Written dimensions take precedence over scaled ones

Project: CHILDCARE CENTRE

Sheet Title: ELEVATIONS

Project No: BC0543

Lot: 700 **DP:** 592547 **No:** 7 **Street:** REGIMENT ROAD **Suburb:** RUTHERFORD

Client: KOBY GROUP

Project Status: CONSTRUCTION CERTIFICATE

Scale: 1 : 75 on A1

Revision: 2

DWG No: 07

APPENDIX D

Bore logs

NEO Consulting

186 Riverstone Parade, Riverstone NSW 2765, Australia

Phone: 61 455 485 502

Geotechnical Log - Borehole

BH1

UTM	**: 56H**	**Drill Rig**	**:**	**Job Number**	**: N10155**
Easting (m)	**: 361,180.23**	**Driller Supplier**	**:**	**Client**	**:**
Northing (m)	**: 6,379,550.01**	**Logged By**	**: Oskar Lamperts**	**Project**	**: Rutherford DSI**
Ground Elevation	**: 24.56 (m)**	**Reviewed By**	**:**	**Location**	**: 7 Regiment Road, Rutherford NSW 2320**
Total Depth	**: 9 m BGL**	**Date**	**: 12/11/2024**	**Loc Comment**	**:**

Well Diagram	Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	PID
		0	Fill		ML		Fill Clayey SILT ML: medium plasticity clay, low plasticity, firm, brown and black, with medium to coarse sized gravel, trace fine grained sand, moist.	M	F	
		1								
			Alluvial		SP		Alluvial SAND SP: loose, white and yellow, fine grained, moist.		L	
		2.5								
			Natural		CL		Natural Sandy CLAY CL: firm, low plasticity, light brown, fine grained sand, with medium sized gravel, organic, dry.	D	F	
		6								
			Natural		CL		As above, but increase in clay content..			

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Geotechnical Log - Borehole

BH1

UTM	**: 56H**	**Drill Rig**	**:**	**Job Number**	**: N10155**
Easting (m)	**: 361,180.23**	**Driller Supplier**	**:**	**Client**	**:**
Northing (m)	**: 6,379,550.01**	**Logged By**	**: Oskar Lamperts**	**Project**	**: Rutherford DSI**
Ground Elevation	**: 24.56 (m)**	**Reviewed By**	**:**	**Location**	**: 7 Regiment Road, Rutherford NSW 2320**
Total Depth	**: 9 m BGL**	**Date**	**: 12/11/2024**	**Loc Comment**	**:**

Well Diagram	Water	Depth (m)	Soil Origin	Graphic Log	Classification Code	Weathering	Material Description	Moisture	Consistency/Density	PID
			Natural		CL		As above, but increase in clay content..			
							BH1 Terminated at 9m			

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Geotechnical Log - Borehole

BH2

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N10155
Easting (m)	: 361,125.17	**Driller Supplier**	:	**Client**	:
Northing (m)	: 6,379,504.89	**Logged By**	: Oskar Lamperts	**Project**	: Rutherford DSI
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 7 Regiment Road, Rutherford NSW 2320
Total Depth	: 7.5 m BGL	**Date**	: 17/11/2024	**Loc Comment**	:

Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Samples	Well Diagram	PID
	Fill		CI	Fill Sandy to silty CLAY CI: medium plasticity, very soft to soft, grey, fine to medium grained sand, inorganic, moist.	M			
0.5	Fill		CI	As above, but firm, grey, increase in clay content..				
5.5	Natural		CI	Natural Sandy CLAY CI: firm, medium plasticity, brown, fine grained sand, organic, moist.				
				BH2 Terminated at 7.5m				

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Geotechnical Log - Borehole

BH3

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N10155
Easting (m)	: 361,125.17	**Driller Supplier**	:	**Client**	:
Northing (m)	: 6,379,504.89	**Logged By**	: Oskar Lamperts	**Project**	: Rutherford DSI
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 7 Regiment Road, Rutherford NSW 2320
Total Depth	: 7.5 m BGL	**Date**	: 17/11/2024	**Loc Comment**	:

Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Samples	Well Diagram	PID
0	Fill		CL	Fill Sandy CLAY CL: low plasticity, soft, grey, fine grained sand, with medium sized gravel, trace low plasticity silt, inorganic, moist.	M			
0.5	Natural		CI	Natural Sandy CLAY CI: firm, medium plasticity, brown and grey, fine to medium grained sand, organic, moist.				
4	Natural		CI	As above, but increase in moisture.				
				BH3 Terminated at 7.5m				

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Geotechnical Log - Borehole

BH4

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N10155
Easting (m)	: 361,125.17	**Driller Supplier**	:	**Client**	:
Northing (m)	: 6,379,504.89	**Logged By**	: Oskar Lamperts	**Project**	: Rutherford DSI
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 7 Regiment Road, Rutherford NSW 2320
Total Depth	: 0.5 m BGL	**Date**	: 17/11/2024	**Loc Comment**	:

Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Samples	Well Diagram	PID
0.2	Fill		CL	Fill Gravelly to sandy CLAY CL: low plasticity, firm, grey, medium sized gravel, fine to medium grained sand, trace low plasticity silt, inorganic, moist.	M			
0.3	Non-Soil		CCT	Concrete Concrete slurry? Concrete slurry was observed elsewhere on the site surface.	M			
	Natural		CI	Natural Sandy CLAY CI: firm, medium plasticity, grey, fine grained sand, inorganic, moist.				
				BH4 Terminated at 0.5m				

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Geotechnical Log - Borehole

BH5

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N10155
Easting (m)	: 361,125.17	**Driller Supplier**	:	**Client**	:
Northing (m)	: 6,379,504.89	**Logged By**	: Oskar Lamperts	**Project**	: Rutherford DSI
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 7 Regiment Road, Rutherford NSW 2320
Total Depth	: 0.3 m BGL	**Date**	: 17/11/2024	**Loc Comment**	:

Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Samples	Well Diagram	PID
	Fill		CL	Fill Gravelly to sandy CLAY CL: low plasticity, soft to firm, grey and brown, medium sized gravel, fine to medium grained sand, trace low plasticity silt, organic, moist.	M			
				BH5 Terminated at 0.3m				
1								
2								
3								
4								
5								
6								
7								

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Geotechnical Log - Borehole

BH6

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N10155
Easting (m)	: 361,125.17	**Driller Supplier**	:	**Client**	:
Northing (m)	: 6,379,504.89	**Logged By**	: Oskar Lamperts	**Project**	: Rutherford DSI
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 7 Regiment Road, Rutherford NSW 2320
Total Depth	: 0.2 m BGL	**Date**	: 17/11/2024	**Loc Comment**	:

Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Samples	Well Diagram	PID
	Fill		CL	Fill Sandy CLAY CL: low plasticity, firm, brown and grey, fine to medium grained sand, with medium sized gravel, trace low plasticity silt, organic, moist.	M			
				BH6 Terminated at 0.2m				

1
2
3
4
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6
7

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Geotechnical Log - Borehole

BH7

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N10155
Easting (m)	: 361,125.17	**Driller Supplier**	:	**Client**	:
Northing (m)	: 6,379,504.89	**Logged By**	: Oskar Lamperts	**Project**	: Rutherford DSI
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 7 Regiment Road, Rutherford NSW 2320
Total Depth	: 0.4 m BGL	**Date**	: 17/11/2024	**Loc Comment**	:

Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Samples	Well Diagram	PID
	Fill		CL	Fill Gravelly to sandy CLAY CL: low plasticity, soft, light brown, medium sized gravel, fine grained sand, trace low plasticity silt, organic, moist.	M			
				BH7 Terminated at 0.4m				

1
2
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7

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Geotechnical Log - Borehole

BH8

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N10155
Easting (m)	: 361,125.17	**Driller Supplier**	:	**Client**	:
Northing (m)	: 6,379,504.89	**Logged By**	: Oskar Lamperts	**Project**	: Rutherford DSI
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 7 Regiment Road, Rutherford NSW 2320
Total Depth	: 0.6 m BGL	**Date**	: 17/11/2024	**Loc Comment**	:

Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Samples	Well Diagram	PID
0.2	Fill		CL-CI	Fill Sandy CLAY CL-CI: low to medium plasticity, soft to firm, light brown and dark brown, fine grained sand, with fine to medium sized gravel, trace low plasticity silt, organic, moist.	M			
	Natural		CL-CI	Natural Sandy CLAY CL-CI: firm, low to medium plasticity, grey and black, fine to medium grained sand, trace low plasticity silt, inorganic, moist.				
				BH8 Terminated at 0.6m				

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Geotechnical Log - Borehole

BH9

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N10155
Easting (m)	: 361,125.17	**Driller Supplier**	:	**Client**	:
Northing (m)	: 6,379,504.89	**Logged By**	: Oskar Lamperts	**Project**	: Rutherford DSI
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 7 Regiment Road, Rutherford NSW 2320
Total Depth	: 0.6 m BGL	**Date**	: 17/11/2024	**Loc Comment**	:

Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Samples	Well Diagram	PID
0.2	Fill		CL-CI	Fill Sandy CLAY CL-CI: low to medium plasticity, soft to firm, light brown and dark brown, fine grained sand, with fine to medium sized gravel, trace low plasticity silt, organic, moist.	M			
	Natural		CL-CI	Natural Sandy CLAY CL-CI: firm, low to medium plasticity, grey and black, fine to medium grained sand, trace low plasticity silt, inorganic, moist.				
				BH9 Terminated at 0.6m				

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Geotechnical Log - Borehole

BH10

UTM	: 56H	**Drill Rig**	: D-Max	**Job Number**	: N10155
Easting (m)	: 361,125.17	**Driller Supplier**	:	**Client**	:
Northing (m)	: 6,379,504.89	**Logged By**	: Oskar Lamperts	**Project**	: Rutherford DSI
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 7 Regiment Road, Rutherford NSW 2320
Total Depth	: 0.6 m BGL	**Date**	: 17/11/2024	**Loc Comment**	:

Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Samples	Well Diagram	PID
0.2	Fill		CL-CI	Fill Sandy CLAY CL-CI: low to medium plasticity, soft to firm, light brown and dark brown, fine grained sand, with fine to medium sized gravel, trace low plasticity silt, organic, moist.	M			
	Natural		CL-CI	Natural Sandy CLAY CL-CI: firm, low to medium plasticity, grey and black, fine to medium grained sand, trace low plasticity silt, inorganic, moist.				
				BH10 Terminated at 0.6m				