GCA

Geotechnical Consultants Australia

Anrite Manmark & Chrisyl Holdings Pty Ltd

Preliminary Site Investigation

Proposed Development at:

187-189 Adelaide Street

St Marys NSW 2760

Lot 1 / - / DP567556

E21256-1

6th December 2021

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Report Distribution

Preliminary Site Investigation

Address: 187-189 Adelaide Street St Marys NSW 2760

GCA Report No.: E21256-1

Date: 6th December 2021

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Version	Prepared By	Reviewed By	Date Issue
Draft	**Luke Breva** *Environmental Consultant*	**Nick Caltabiano** *Project Manager*	2nd December 2021
FINAL	**Luke Breva** *Environmental Consultant*	**Nick Caltabiano** *Project Manager*	6th December 2021

Report Revision	Details	Report No.	Date	Amended By
0	FINAL Report	E21256-1	6th December 2021	-

Issued By:

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Executive Summary

Geotechnical Consultants Australia Pty Ltd (GCA) were commissioned by Anrite Manmark & Chrisyl Holdings Pty Ltd (the client) to undertake a Preliminary Site Investigation (PSI) for the property located at nos. 187-189 Adelaide Street St Marys NSW 2760 (the site). The site is legally identified as Lot 1 / - / DP567556 and has an area of approximately 1,130.16m^2. The site is currently zoned as R3 - Medium Density Residential.

GCA understand that the proposed development for this site includes:

1) Demolition of existing onsite structures;
2) Excavation and construction of basement level carpark; and
3) Construction of a childcare centre.

The objectives of this PSI were to provide a preliminary assessment of potentially contaminating activities that may have impacted the site. The scope of work undertaken includes:

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

A site investigation was undertaken on the 24th November 2021 by qualified environmental consultants. During the site inspection, a soil investigation program was undertaken with a judgemental approach in accessing locations across the site to identify areas of contamination.

Four (4) soil samples were submitted to a National Association of Testing Authorities, Australia (NATA) accredited laboratory for analysis of Chemicals of Potential Concern (CoPC) that may have impacted the site during historical or present activities. The samples were taken from a depth of approximately 0.5m (fill layer) beneath the site.

Based on the site investigation and analytical results, GCA considers that the potential for significant contamination of the soil beneath the site to be low. All analytes were below the NEPM Health and Ecological Assessment Criteria for the proposed development.

Therefore, GCA finds that the site is suitable for the proposed development and land use, providing the recommendations within Section 14 of this report are undertaken.

1. Introduction

Geotechnical Consultants Australia Pty Ltd (GCA) were commissioned by Anrite Manmark & Chrisyl Holdings Pty Ltd (the client) to undertake a Preliminary Site Investigation (PSI) for the property located at nos. 187-189 Adelaide Street St Marys NSW 2760 (the site). The site is legally identified as Lot 1 / - / DP567556 and has an area of approximately 1,130.16m^2. The site is currently zoned as R3 - Medium Density Residential.

GCA understand that the proposed development for this site includes:

1) Demolition of existing onsite structures;
2) Excavation and construction of basement level carpark; and
3) Construction of a childcare centre.

This PSI report was aimed to provide a preliminary assessment of potentially contaminating activities which may have impacted the site. The format of this report follows the NSW EPA "*Consultants Reporting on Contaminated Lands: Contaminated Land Guidelines*" (2020). In addition, GCA will provide recommendations if further investigation on site is required.

A site inspection was undertaken on the 24th November 2021. A soil sampling program, reporting and site photographs were conducted on this day with reference to the relevant regulatory criteria. Further information of the inspection is described in Section 4 of this report.

2. Scope of Work

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

- NSW Environmental Protection Authority (EPA) "Consultants Reporting on Contaminated Lands: *Contaminated Land Guidelines*" (2020);
- NEPM (2013), *Schedule B2 – Guideline on Site Characterisation;*
- State Environment Protection Policy 55 (SEPP 55). Remediation of Land Under the Environmental Planning and Assessment Act 1997; and
- National Environmental Protection (Assessment of Site Contamination) Measure – National Environmental Protection Council 2013.

The scope of works required to complete the PSI includes:

- A site inspection 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);
- Local Council records and planning certificates;
- NSW EPA environmental contaminated lands register;
- Protection of the Environment Operations (POEO) Act public register;
- Dial-Before-You-Dig enquiry for an evaluation into local underground services and assets;
- Review of local geological and hydrogeological information, including an evaluation of the WaterNSW registered groundwater bore database;
- Acid Sulphate Soils (ASS) data maps;
- Establish whether data gaps may exist within the investigation;
- Development of a Conceptual Site Model (CSM) to identify the connections between potential sources of contamination, exposure pathways, and human/ecological receptors; and
- Recommendations for additional investigations (if any), based on the identified data gaps and findings of the PSI.

3. Site Details

Table 1. Site Details

Address	187-189 Adelaide Street St Marys NSW 2760
Deposited Plan	Lot 1 / - / DP567556
Zoning	R3 – Medium Density Residential
Locality Map	**Figure 1**
Site Plan	**Figure 2**
Area (approx.)	1,130.16m^2

Table 2. Surrounding Land Use Adjacent to the Site

Direction from Site	Land Use
North	Residential properties
East	Residential properties
South	Adelaide Street followed by residential properties
West	Residential properties

4. Site Condition

A qualified environmental consultant inspected the site on the 24th November 2021. Site photographs are provided in **Appendix A**. Observations noted during the inspection are summarised below:

- The site is a rectangular lot that contained a two-storey bricked residential property;
- The front of the site contained a grassed area followed by a 0.7m (approximately) bricked retaining wall;
- There were matured trees located within the front of the site;
- Empty cages were located against the fence;
- A concrete driveway was located west of the site that led to the rear end of the site;
- The groundcover of the site consisted of grass and concrete areas;
- The grass groundcover was in a healthy condition;
- There was no significant elevation within the site;
- No underground tanks were identified, there was no indications of any other fuel related items (bowsers, breather pipe, inlet valve and piping) or odour that would indicate the potential for contamination.

The sensitive sites within a 500m radius include residential properties, parks and populated areas. These sensitive areas include St Mary Magdalene Anglican Church (located approximately 400m south-west of the site), St Marys Police Station (located approximately 500m south-west of the site), Bennet Park (located approximately 200m west of the site), Busy Bees Long Day Care Centre (located approximately 50m north-west of the site), Australia & Brisbane Street Reserve (located approximately 230m north of the site), Adelaide Street Reserve (located approximately 300m east of the site) and Great Western Highway (located approximately 320m south of the site).

5. Site History

5.1 History of the Site and Surrounding Area

A review of historical images of the site and the history of the suburb of St Marys are contained below.

Table 3. Historical Aerial Photographs (**Appendix A**).

Year	Description
2009	During this period, the site was composed of a rectangular lot that contained a bricked structural dwelling. There was a metal canopy located north – west of the site. A driveway located west of the property leads to the metal canopy. There are mature trees located at the front portion of the lot. The surrounding area was composed of residential dwellings.
2015	Within the year 2015, the site was similar to the image taken in 2009. The surrounding area changed slightly with a childcare centre being built north – west of the site.
2019	Within the site, there was more vehicles located within the rear end of the property. The surrounding area was similar to the image taken in 2015.
2021	During this period, the metal canopy was removed, only leaving a concrete groundcover. The structural dwelling was present within the site. The surrounding area was consistent with the image taken in 2015 and 2019.

5.2 Section 10.7 (2) Planning Certificate

A Section 10.7 Planning Certificate describes how a property may be used and the restrictions on development. The Planning Certificate is issued under Section 149 of the Environmental Planning and Assessment Act 1979. At the time of reporting, GCA could not get access to the Planning Certificate.

5.3 NSW EPA Contaminated Land Register

A search within the NSW EPA contaminated land register was undertaken for the site. No results found for this site or within 200m of the site.

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

A search on the POEO public register of licensed and delicensed premises (DECC) was undertaken for the site. No results found for this site or within 200m of the site.

5.5 SafeWork NSW Hazardous Goods

A search was not undertaken with NSW SafeWork for historical dangerous goods stored onsite. However, based on the historical ownership and historical aerial photographs of the site, no evidence of historical storage of dangerous goods were identified.

5.6 Product Spill and Loss History

The site inspection carried out found no evidence to suggest chemical contamination impact on the site (i.e. chemical staining, unhealthy vegetation). Hence, it is reasonable to assume there is no significant soil, surface water and/or groundwater contamination impacting the site. A soil sampling program was undertaken to ascertain the accuracy of these observations.

5.7 Dial Before You Dig

A review of assets and services via a Dial-Before-You-Dig request suggests no contamination is expected to impact the site via underground services and assets or act as a portal to transport potential contamination offsite.

6. Site Geology and Hydrology

The Geological Map (Geological Series Sheet S1 56-5, Scale 1:250,000, Edition 3, 1966), published by the Geological Survey of NSW indicates the residual soil for the site and surrounding area are underlain by Bringelly Shale (Wianamatta Group). This formation is regionally characterised by dark-grey to black claystone-siltstone and fine sandstone-siltstone laminate. These sediments are disconformably overlain by modern alluvium, gravel, sand, silt and clay.

The soil landscape within this suburb is comprised of active floodplain of many drainage networks of the Cumberland Plain. This includes the South Creek, Eastern Creek, Ricabys Creek and Prospect Creek systems. The geology within the area encompasses quaternity alluvium from the Wianamatta Group and Hawkesbury Sandstone.

A groundwater bore search was conducted on the 1st December 2021 and information was not accessible during the time of reporting.

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

7. 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 and eSPADE map viewer. The ASS maps identify five (5) classes of sulphuric acid on land, with Class 1 being the highest at risk of ASS.

This search indicated "no known occurrences" of ASS beneath this site.

8. Areas of Environmental Concern

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

Table 4. AEC and Associated CoPC

AEC	Potentially Contaminating/ Hazardous Activity	CoPC	Likelihood of Site Impact	Comments
Entire site	Importation of fill material from unknown origin. Historical land use, farming or storage etc.	Metals, TRH, BTEX, PAH, OCPs/OPPs, Asbestos	Low	Based on site observations and drilling at the selected borehole locations, the presence of imported fill material was not identified.
On-site structures	Hazardous materials	ACM, SMF, ODS, Lead (paint and/or dust), PCBs	High	Based on the age and presentation of onsite structures, these CoPC are likely. A HMS is recommended onsite prior to any demolition works.

Abbreviations: Asbestos Containing Materials (ACM), Hazardous Materials Survey (HMS), Benzene Toluene Ethylbenzene and Xylene (BTEX), Ozone Depleting Substances (ODS), Polychlorinated biphenyls (PCBs), Polycyclic Aromatic Hydrocarbon (PAH), Total Petroleum Hydrocarbons (TPH), Synthetic Mineral Fibres (SMF), Organochlorine Pesticides (OCPs), Organophosphorus Pesticides (OPPs).

9. Conceptual Site Model

A CSM has been developed and provides a representation of the potential risks associated with 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 dwellings/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 suite conditions.

Table 5. Conceptual Site Model

Potential Sources	Potential Receptor	Potential Exposure Pathway	Complete Connection	Risk	Justification/Control Measures
Contaminated soil from importation of uncontrolled fill across the site. Contaminated soil from historical onsite operations. ACM, lead-based paint and other trace metals in onsite structures.	Site occupants, workers, general public	Dermal contact, inhalation/ingestion of particulates	Limited (current)	Low	Exposure to potentially contaminated soils is possible due to unsealed surfaces.
			No (future)	Low	If present, impacted soils are likely to be disposed of offsite.
	South Creek	Migration of impacted groundwater and surface water run-off.	No (current)	Low	South Creek is located approximately 1.23km west of the site. Hence, it is unlikely contamination (in any) would reach this receptor through run-off.
			Limited (future)	Low	If present, contaminated soils and groundwater are likely to be remediated.
	Underlying aquifer	Leaching and migration of contaminants through groundwater infiltration.	Limited (current)	Low	Due to existing unsealed surfaces, expected shallow bedrock, leachability of CoPC, migration is likely to be possible.
			Limited (future)	Low	If present, contaminated soil and/or groundwater is likely to be remediated.

10. Assessment Criteria

The following soil assessment criteria were adopted for the investigation.

10.1 NEPM Health Investigation Level A (HIL-A)

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 the following sub-criteria:

- HIL A – residential with garden/accessible soils.
- HIL B – residential with minimal opportunities for soil access.
- HIL C – public open space/recreational areas.
- HIL D – commercial/industrial premises.

Table 6. HIL-A Guidelines for Pesticides, Metals and Polycyclic Aromatic Hydrocarbons

NEPM Assessment Criteria	NEPM 2013 Residential Soil **HIL-A**, mg/kg
Pesticides	
HCB	**10**
Heptachlor	**6**
Chlordane	**50**
Aldrin & Dieldrin	**6**
Endrin	**10**
DDT+DDE+DDT	**240**
Endosulfan	**270**
Methoxychlor	**300**
Mirex	**10**
Metals	
Arsenic, As	**100**
Cadmium, Cd	**20**
Chromium, Cr	**100**
Copper, Cu	**6,000**
Lead, Pb	**300**
Nickel, Ni	**400**
Zinc, Zn	**7,400**
Mercury, Hg	**40**

10.2 NEPM Health Screening Level A (HSL-A)

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 the following sub-criteria:

- HSL A – residential with garden/accessible soils.
- HSL B – residential with minimal opportunities for soil access.
- HSL C – public open space/recreational areas.
- HSL D – commercial/industrial premises.

Table 7. HSL-A for Benzene Toluene Ethylbenzene and Xylene (BTEX), Naphthalene and Total Recoverable Hydrocarbon Fractions

NEPM Assessment Criteria	NEPM 2013 Residential Soil **HSL-A** for Vapour Intrusion, 0-<1m Depth, **Clay**, mg/kg	NEPM 2013 Residential Soil **HSL-A** for Vapour Intrusion, 1-<2m Depth, **Clay**, mg/kg	NEPM 2013 Residential Soil **HSL-A** for Direct Contact, mg/kg
Benzene	**0.7**	**1**	**100**
Toluene	**480**	**NL**	**14,000**
Ethylbenzene	**NL**	**NL**	**4,500**
Xylenes	**110**	**310**	**12,000**
Naphthalene	**5**	**NL**	**1,400**
TRH C6-C10			**4,400**
TRH C6-C10 - BTEX (F1)	**50**	**90**	
TRH >C10-C16			**3,300**
TRH >C10-C16 - N (F2)	**280**	**NL**	
TRH >C16-C34 (F3)			**4,500**
TRH >C34-C40 (F4)			**6,300**

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

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

EILs can be applied for arsenic (As), copper (Cu), chromium III (Cr(III)), dichlorodiphenyltrichloroethane (DDT), naphthalene, nickel (Ni), lead (Pb) and zinc (Zn). The NEPM Soil Quality Guidelines (SQG) for EILs are calculated using the Added Contamination Limit (ACL) to determine the amount of contamination that had to be added to the soil to cause toxicity, including ambient background concentration (ABC).

Table 8. Generic EIL for Arsenic, DDT and Naphthalene

NEPM Assessment Criteria	NEPM 2013 Soil Generic **EIL** for Urban Residential and Public Open Space, mg/kg
Arsenic, As	**100**
DDT	**180**
Naphthalene	**170**

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

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

Table 9. ESL for Benzene Toluene Ethylbenzene and Xylene (BTEX), Benzo(a)pyrene and Total Recoverable Hydrocarbon Fractions

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

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

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

Table 10. Management Limits for Total Recoverable Hydrocarbon Fractions

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

10.6 NEPM Guidelines for Asbestos

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

11. Investigation Results

The soil analytical results are summarised below. Soil analytical results are presented in the laboratory reports in **Appendix C.**

Results Indicator	
▲	Exceedance of guideline limit for one or more samples.
▼	No exceedance of guideline limit for all samples.

Table 11. Total Recoverable Hydrocarbons (TRH) and Benzene Toluene Ethylbenzene and Xylene (BTEX) Analytical Results

Total Recoverable Hydrocarbons (TRH) and Benzene Toluene Ethylbenzene and Xylene (BTEX)	NEPM 2013 HSL-A for Vapour Intrusion, 0-<1m Depth, Clay, mg/kg	NEPM 2013 HSL-A for Vapour Intrusion, 1-<2m Depth, Clay, mg/kg	NEPM 2013 HSL-A for Direct Contact, mg/kg	NEPM 2013 ESL for Urban, Residential and Public Open Spaces, Fine-Grained Soil, mg/kg	NEPM 2013 Management Limits for Residential, Parkland and Public Open Space, Fine-Grained Soil, mg/kg
Benzene	▼	Not Analysed	▼	▼	
Toluene	▼	Not Analysed	▼	▼	
Ethylbenzene	NL	Not Analysed	▼	▼	
Xylenes	▼	Not Analysed	▼	▼	
Naphthalene					
TRH C6-C10			▼	▼	▼
TRH C6-C10 - BTEX (F1)	▼	Not Analysed			
TRH >C10-C16			▼	▼	▼
TRH >C10-C16 - N (F2)	▼	Not Analysed			
TRH >C16-C34 (F3)			▼	▼	▼
TRH >C34-C40 (F4)			▼	▼	▼

Table 12. Analytical Results for Pesticides

Pesticides	NEPM 2013 HIL-A, mg/kg	NEPM 2013 Generic EIL for Urban Residential and Public Open Space, mg/kg
HCB	▼	
Heptachlor	▼	
Chlordane	▼	
Aldrin & Dieldrin	▼	
Endrin	▼	
DDT		▼
DDT+DDE+DDT	▼	
Endosulfan	▼	
Methoxychlor	▼	
Mirex	▼	

Table 13. Analytical Results for Heavy Metals

Metals	NEPM 2013 HIL-A, mg/kg	NEPM 2013 Generic EIL for Urban Residential and Public Open Space, mg/kg
Arsenic, As	▼	▼
Cadmium, Cd	▼	
Chromium, Cr	▼	
Copper, Cu	▼	
Lead, Pb	▼	
Nickel, Ni	▼	
Zinc, Zn	▼	
Mercury, Hg	▼	

Table 14. Analytical Results for Asbestos

Chemical	BH1	BH2	BH3	BH4
Asbestos Detected	No	No	No	No

12. Data Gaps

The Remaining Data Gaps for the site include:

- Hazardous materials within onsite structures.

13. Conclusion

Based on the site investigation, GCA considers that the potential for significant contamination of soil and groundwater within the site to be low. Therefore, GCA finds that the site is suitable for the proposed development and land use, providing the recommendations within Section 14 below are implemented.

14. Recommendations

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

- All structures onsite should have a Hazardous Materials Survey (HMS) conducted by a qualified occupational hygienist and/or environmental consultant for the site prior to any demolition or renovation works in accordance with relevant Australian Standards, SafeWork NSW codes of practice and any other applicable requirements;
- An Asbestos Clearance Certificate is required to be completed once all existing buildings and structures have been demolished;
- Any soils requiring excavation, onsite reuse and/or removal must be classified in accordance with "Waste Classification Guidelines Part 1: Classifying Waste" NSW EPA (2014);
- The demolition of any structures and excavation activity onsite be undertaken in accordance with relevant Australian Standards, SafeWork NSW codes of practice and any other applicable requirements; and
- A site specific 'Unexpected Finds Protocol' is to be made available for reference for all occupants and/or site workers in the event unanticipated contamination is discovered, including asbestos.

References

- Geological Survey of NSW, Sydney 1:250,000 Geological Series Sheet S1 56-5, (Edition 3) 1966.
- National Environment Protection Measures (2013), Schedule B1 – *Guideline on Investigation Levels for Soil and Groundwater.*
- National Environment Protection Measures (2013), Schedule B2 – *Guideline on Site Characterisation.*
- NSW EPA- Contaminated land register, https://apps.epa.nsw.gov.au/prclmapp/sitedetails.aspx, accessed on 1st December 2021.
- NSW Environmental Protection Authority (EPA), *Waste Classification Guidelines Part 1: Classifying Waste*, 2014.
- NSW Environmental Protection Authority (EPA) "Consultants Reporting on Contaminated Lands: *Contaminated Land Guidelines*" (2020).
- Protection of the Environment Operations Act (POEO) Public Register, https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers, accessed on 1st December 2021.
- SafeWork NSW, *Site Search for Schedule 11 Hazardous Chemical on Premises.*
- State Environment Protection Policy 55 (SEPP 55). Remediation of Land Under the Environmental Planning and Assessment Act.
- Topography – map.com, https://en-au.topographic-map.com/, accessed on 1st December 2021.
- WaterNSW, https://realtimedata.waternsw.com.au/, accessed on 1st December 2021.

Limitations

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

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

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

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

Geotechnical Consultants Australia Pty Ltd (GCA)

Prepared by:

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Environmental Consultant

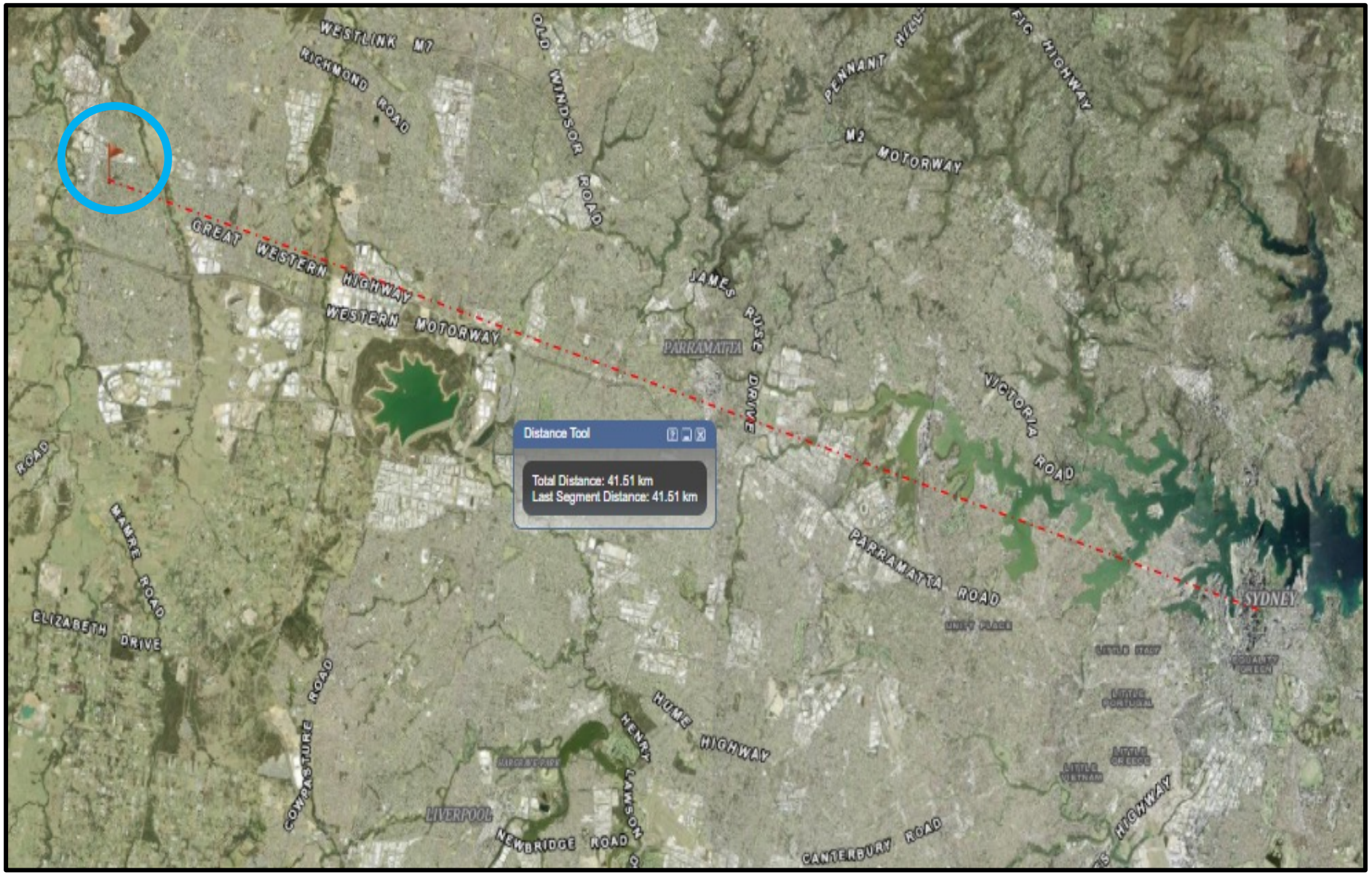
Reviewed by:

Nick Caltabiano
Project Manager

APPENDIX A

Figures and Site Photographic Log

Figure 1: The distance between the site and Sydney CBD is approximately 41.51km.



Site location

Source: Six Maps 2021

Figure 1	Locality Map
Project	187-189 Adelaide Street, St Marys NSW 2760

Figure 2: The total area of the site is approximately 1130.16m^2. Four (4) soil samples were taken in strategic locations to get an overview of the contaminants within the soil on site.

Sample Name	Sample Depth (m)
BH1	0.5
BH2	0.5
BH3	0.5
BH4	0.5

⊗ Borehole location

Figure 2	Site Plan and Sample Locations
Project	187-189 Adelaide Street, St Marys NSW 2760

Source: Near Maps 2021

Figure 3: Aerial view of the site and surrounding area within the year 2009.

The site was a rectangular lot that contains a structural dwelling and a metal canopy. A concrete driveway was located west of the lot. Scale = 20m.

The surrounding area included residential developments and a construction project in the north west of the site. Scale = 50m.

Aerial Photo of Site

Aerial Photo of Surrounding Area

Figure 3	Historical Photograph: 2009
Project	187-189 Adelaide Street, St Marys NSW 2760

Source: Metro Maps 2021

Figure 4: Aerial view of the site and surrounding area, 2015.

The site remains similar to the image taken in 2009. Scale = 20m.

The surrounding area remains relatively unchanged. Scale = 50m.

Figure 4	Historical Photograph: 2015
Project	187-189 Adelaide Street, St Marys NSW 2760

Source: Near Maps 2021

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Figure 5: Aerial view of the site and surrounding area, 2019.

The site remained similar to the image taken in 2015. However, there is an increase in vehicles parked within the rear end of the site. Scale = 20m.

The surrounding area remains similar to the images taken in 2015. Scale = 50m.

Figure 5	Historical Photograph: 2019
Project	187-189 Adelaide Street, St Marys NSW 2760

Source: Metro Maps 2021

Figure 6: Aerial view of the site and surrounding area, 2021.

The aerial photo of the site has minimal changes. For example, the metal canopy located within the north – west portion of the site has been removed abd there are no vehicles within the site.

The surrounding area remains similar to the images taken in 2019. scale = 50m.

Figure 6	Historical Photograph: 2021
Project	187-189 Adelaide Street, St Marys NSW 2760

Source: Metro Maps 2021

Figure 7. The site contained a two storey bricked dwelling within a rectangular block. The image also indicates the location of BH1.

Figure 8. The rear end of the dwelling. The rear end of the site contained a plastic canopy supported by bricked pylons and a healthy grass vegetation. The image also indicates the location of BH3 and BH4.

Figure 9. The concrete driveway that leads to the rear of the site. A grassed area and matured trees were located west of the driveway.

Figure 10. The rear end of the property. The groundcover was mostly composed of concrete and grass. There were empty cages located against the fence.

Figure 11. The soil profile of BH1. The soil is moist loam clay.

Figure 12. The soil profile of BH2. The soil is dry loam clay.

Figure 13. The soil profile of BH3. The soil is moist loam clay.

Figure 14. The soil profile of BH4. The soil is moist loam clay.

APPENDIX B

Data Quality Objectives

Data Quality Objectives (DQOs)

The DQOs have been developed in accordance with the NEPM Appendix B of Schedule B2 and provide the type, quantity and quality of data to support decisions regarding the environmental conditions of this site (**Table 15**).

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

Step 1: State the problem	GCA have identified the following risks to human and environmental receptors: - current and/or historical potentially contaminating activities that may have impacted the soils considering the sensitive human health risks associated with the proposed future use of the site;
Step 2: Identify the decision	GCA considered the site history, the proposed future use of this site, and the NEPM Health and Ecological Screening and Investigation Levels when identifying the decisions required for the site to be considered suitable for its continued land use. The decisions required to meet these decisions are as follows: - Was the sampling, analysis and quality plan designed appropriate to achieve the aim of the PSI? - If present, is on-site contamination capable of migrating off-site? - Are there any unacceptable risks to the future on site or off-site receptors in the soil or groundwater? - Is the site suitable for its continued land use?
Step 3: Identify the information inputs	GCA has identified issues of potential environmental concern; • Appropriate identification of COPC; • Systematic soil sampling and analysis programs of shallow soil across the site; • Appropriate quality assurance/quality control to enable an evaluation of the reliability of the analytical data; and • Screening sampler analytical results against appropriate assessment criteria for the intended land use.
Step 4: Define the boundaries of the study	The study boundaries are: • Lateral boundary: The legally defined area of the site; • Vertical boundary: The soil interface to the maximum depth reached during soil sampling; and • Temporal boundary: Constrained to a single visit to the site.
Step 5: Develop the analytical approach	Here, GCA integrate the information from steps 1 – 4 to support and justify our proposed analytical approach. Our aim is to confirm if the site is suitable for the proposed development. If the findings of the chemical analysis identify; - Any exceedance of the adopted assessment criteria for soil; - Groundwater flow direction confirms contamination likely to be transported offsite; - Professional opinion that further assessment is required; and/or

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

APPENDIX C

Chain of Custody and Laboratory Results

Table 16. Health Screening Levels, Ecological Screening Levels and Management Limits for Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) and TRH C_6-C_{10}, C_6-C_{10} F1*, >C_{10}-C_{16}, >C_{10}-C_{16} F2**, >C_{16}-C_{34} and >C_{34}-C_{40} * = F1 is calculated by subtracting the sum of BTEX concentrations from the C_6-C_{10} aliphatic hydrocarbon fraction. ** = F2 is calculated by subtracting Naphthalene from the >C_{10}-C_{16} aliphatic hydrocarbon fraction. NL = Not Limiting. Values are presented as mg/kg.

NEPM Assessment Criteria		Benzene	Toluene	Ethylbenzene	Xylenes	TRH C6-C10	TRH C6-C10 - BTEX (F1)	TRH >C10-C16	TRH >C10-C16 - N (F2)	TRH >C16-C34 (F3)	TRH >C34-C40 (F4)
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		0.7	480	NL	110		50		280		
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 1-<2m depth, Clay, mg/kg		1	NL	NL	310		90		NL		
NEPM 2013 Residential A Soil HSL-A for Vapour Intrusion, 2-<4m depth, Clay, mg/kg		2	NL	NL	NL		150		NL		
NEPM 2013 Residential A Soil HSL-A for direct contact, mg/kg		100	14 000	4500	12 000	4400		3300		4500	6300
NEPM 2013 Soil ESL for Urban, Residential and Public Open Spaces for fine-grained soil, mg/kg		65	105	125	45	180		120		1300	5600
NEPM 2013 Management Limits for Residential, Parkland and Public Open Space for fine-grained soil, mg/kg						800		1000		3500	10000
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1	0.5	<0.1	<0.1	<0.1	<0.3	<25	<25	<25	<25	<90	<120
BH2	0.5	<0.1	<0.1	<0.1	<0.3	<25	<25	**150**	**150**	**280**	<120
BH3	0.5	<0.1	<0.1	<0.1	<0.3	<25	<25	<25	<25	<90	<120
BH4	0.5	<0.1	<0.1	<0.1	<0.3	<25	<25	<25	<25	<90	<120

Table 17. Health Investigation Levels, Ecological Investigation Levels and Ecological Screening Levels for Polycyclic Aromatic Hydrocarbons (PAH). The carcinogenic PAHs (Benzo(a)anthracene (BaAnt); Benzo(a)pyrene (BaPyr); Benzo(b+j)fluoranthene (BbjFl); Benzo(k)fluoranthene (BkFl); Benzo(g,h,i)perylene (BghiPer); Chrysene (Chr); Dibenz(a,h)anthracene (DBahAnt); and Indeno(1,2,3-c,d)pyrene (Ipyr)) potency is calculated relative to Benzo(a)pyrene to produce a Toxicity Equivalent Factor (TEF). The Toxicity Equivalent Quotient (TEQ) is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its Benzo(a)pyrene (B(a)P) TEF. Total PAH includes Naphthalene (N), 2-methylnaphthalene (2-MN), 1-methylnaphthalene (1-MN), Acenaphthylene (Acy), Acenaphthene (Ace), Fluorene (F), Phenanthrene (P), Anthracene (Ant), Fluoranthene (Fl), Pyrene (Pyr) and the carcinogenic PAH. Values are presented as mg/kg.

NEPM Assessment Criteria		Naphthalene	BaPyr (B(a)P)	Carcinogenic PAHs (as BaP TEQ)	Total PAH (18)
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		5			
NEPM 2013 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			
NEPM 2013 Soil ESL for Urban, Residential and Public Open Spaces for fine-grained soil, mg/kg			0.7		
NEPM 2013 Residential Soil HIL-A, mg/kg			1.00 TEF	3	300
Sample	Depth (m)	mg/kg	mg/kg	TEQ (mg/kg)	mg/kg
BH1	0.5	<0.1	Not analysed	Not analysed	Not analysed
BH2	0.5	<0.1	Not analysed	Not analysed	Not analysed
BH3	0.5	<0.1	Not analysed	Not analysed	Not analysed
BH4	0.5	<0.1	Not analysed	Not analysed	Not analysed

Table 18. Heavy Metal values. Residential and Public Open Space Investigation Level A limits and Ecological Investigation Level for metals in soil samples. Values are presented as mg/kg.

NEPM 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							
Sample	Sample Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1	0.5	**3**	<0.3	**11**	**3.4**	**12**	**2.0**	**7.8**	<0.05
BH2	0.5	**4**	<0.3	**20**	**10**	**47**	**6.2**	**63**	<0.05
BH3	0.5	**3**	<0.3	**9.4**	**16**	**38**	**5.6**	**57**	<0.05
BH4	0.5	**3**	<0.3	**6.4**	**6.3**	**15**	**3.8**	**36**	<0.05

Table 19. Pesticides values. Health Investigation Levels and Ecological Investigation Levels for Organochlorine Pesticides for Residential and Public Open Space A limits. Values are presented as mg/kg.

NEPM Assessment Criteria		HCB	Heptachlor	Chlordane	Aldrin & Dieldrin	Endrin	DDT	DDT+DDE +DDT	Endosulfan	Methoxychlor	Mirex	Total CLP OC Pesticides	Total OP Pesticides
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	mg/kg	mg/kg
BH1	0.5	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1	<1	<1.7
BH2	0.5	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1	<1	<1.7
BH3	0.5	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1	<1	<1.7
BH4	0.5	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1	<1	<1.7

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 1 of 1

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

Company Name: NEO Consulting Pty Ltd
Address: 186 Riverstone Parade, Riverstone, NSW, 2765

Contact Name: Nick Caltabiano
Luke Brevu

Project Name/No: N5280
Purchase Order No:
Results Required By: Next day / 3 days / Standard (Circle One)
Telephone: Nick's mobile: 0416 680 375 Luke's mobile: 0455 485 502
Facsimile:
Email Results: [Read Comment section]

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	TRH	BTEX	Heavy Metals	OCP/OPP	Asbestos ID
BH1	24-11-21	1		✓		1	✓	✓	✓	✓	✓
BH2	"	2		✓		1	✓	✓	✓	✓	✓
BH3	"	3		✓		1	✓	✓	✓	✓	✓
BH4	"	4		✓		1	✓	✓	✓	✓	✓

SGS EHS Sydney COC
SE226255

Relinquished By:	Date/Time:	Received By: George Zhi	Date/Time 24/11/21 @ 4:40pm
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: (Yes) / No	Temperature: (Ambient) / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments: Email Reports and Invoices to all emails => ① nick@neoconsulting.com.au ② luke@neoconsulting.com.au ③ admin@neoconsulting.com.au ④ Oskar@neoconsulting.com.au ⑤ sarah@neoconsulting.com.au ⑥ Ehsan@neoconsulting.com.au		

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	**N5280**
Order Number	**N5280**
Samples	4

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE226255 R0**
Date Received	24/11/2021
Date Reported	1/12/2021

COMMENTS

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

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

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

Asbestos analysed by Approved Identifier Ravee Sivasubramaniam.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

Shane MCDERMOTT
Inorganic/Metals Chemist

VOC's in Soil [AN433] Tested: 26/11/2021

PARAMETER	UOM	LOR	BH1 SOIL - 24/11/2021 SE226255.001	BH2 SOIL - 24/11/2021 SE226255.002	BH3 SOIL - 24/11/2021 SE226255.003	BH4 SOIL - 24/11/2021 SE226255.004
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 26/11/2021

PARAMETER	UOM	LOR	BH1 SOIL - 24/11/2021 SE226255.001	BH2 SOIL - 24/11/2021 SE226255.002	BH3 SOIL - 24/11/2021 SE226255.003	BH4 SOIL - 24/11/2021 SE226255.004
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 26/11/2021

PARAMETER	UOM	LOR	BH1 SOIL - 24/11/2021 SE226255.001	BH2 SOIL - 24/11/2021 SE226255.002	BH3 SOIL - 24/11/2021 SE226255.003	BH4 SOIL - 24/11/2021 SE226255.004
TRH C10-C14	mg/kg	20	<20	**110**	<20	<20
TRH C15-C28	mg/kg	45	<45	**270**	<45	<45
TRH C29-C36	mg/kg	45	<45	**190**	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	**150**	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	**150**	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	**280**	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	**570**	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	**430**	<210	<210

OC Pesticides in Soil [AN420] Tested: 26/11/2021

PARAMETER	UOM	LOR	BH1 SOIL - 24/11/2021 SE226255.001	BH2 SOIL - 24/11/2021 SE226255.002	BH3 SOIL - 24/11/2021 SE226255.003	BH4 SOIL - 24/11/2021 SE226255.004
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 26/11/2021

PARAMETER	UOM	LOR	BH1 SOIL - 24/11/2021 SE226255.001	BH2 SOIL - 24/11/2021 SE226255.002	BH3 SOIL - 24/11/2021 SE226255.003	BH4 SOIL - 24/11/2021 SE226255.004
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 29/11/2021

PARAMETER	UOM	LOR	BH1 SOIL - 24/11/2021 SE226255.001	BH2 SOIL - 24/11/2021 SE226255.002	BH3 SOIL - 24/11/2021 SE226255.003	BH4 SOIL - 24/11/2021 SE226255.004
Arsenic, As	mg/kg	1	3	4	3	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	20	9.4	6.4
Copper, Cu	mg/kg	0.5	3.4	10	16	6.3
Lead, Pb	mg/kg	1	12	47	38	15
Nickel, Ni	mg/kg	0.5	2.0	6.2	5.6	3.8
Zinc, Zn	mg/kg	2	7.8	63	57	36

Mercury in Soil [AN312] Tested: 29/11/2021

PARAMETER	UOM	LOR	BH1 SOIL - 24/11/2021 SE226255.001	BH2 SOIL - 24/11/2021 SE226255.002	BH3 SOIL - 24/11/2021 SE226255.003	BH4 SOIL - 24/11/2021 SE226255.004
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 26/11/2021

PARAMETER	UOM	LOR	BH1 SOIL - 24/11/2021 SE226255.001	BH2 SOIL - 24/11/2021 SE226255.002	BH3 SOIL - 24/11/2021 SE226255.003	BH4 SOIL - 24/11/2021 SE226255.004
% Moisture	%w/w	1	**19.0**	**11.2**	**12.9**	**12.6**

Fibre Identification in soil [AN602] Tested: 30/11/2021

PARAMETER	UOM	LOR	BH1 SOIL - 24/11/2021 SE226255.001	BH2 SOIL - 24/11/2021 SE226255.002	BH3 SOIL - 24/11/2021 SE226255.003	BH4 SOIL - 24/11/2021 SE226255.004
Asbestos Detected	No unit	-	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	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	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	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	AS4964.2004 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	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.

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

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or

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	**N5280**
Order Number	**N5280**
Samples	4

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
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Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE226255 R0**
Date Received	24 Nov 2021
Date Reported	01 Dec 2021

COMMENTS

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

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

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

Asbestos analysed by Approved Identifier Ravee Sivasubramaniam.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Chemist

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE226255.001	BH1	Soil	96g Sand,Soil	24 Nov 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE226255.002	BH2	Soil	85g Sand,Soil,Rocks ,Plant Matter	24 Nov 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE226255.003	BH3	Soil	99g Sand,Soil	24 Nov 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE226255.004	BH4	Soil	108g Sand,Soil,Rocks	24 Nov 2021	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD	METHODOLOGY SUMMARY
AN602	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	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	AS4964.2004 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	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

SE226255 R0

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N5280**
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Samples	4

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE226255 R0**
Date Received	24 Nov 2021
Date Reported	01 Dec 2021

COMMENTS

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

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

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

Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

HOLDING TIME SUMMARY

SE226255 R0

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

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

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

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1	SE226255.001	LB238133	24 Nov 2021	24 Nov 2021	24 Nov 2022	30 Nov 2021	24 Nov 2022	01 Dec 2021
BH2	SE226255.002	LB238133	24 Nov 2021	24 Nov 2021	24 Nov 2022	30 Nov 2021	24 Nov 2022	01 Dec 2021
BH3	SE226255.003	LB238133	24 Nov 2021	24 Nov 2021	24 Nov 2022	30 Nov 2021	24 Nov 2022	01 Dec 2021
BH4	SE226255.004	LB238133	24 Nov 2021	24 Nov 2021	24 Nov 2022	30 Nov 2021	24 Nov 2022	01 Dec 2021

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1	SE226255.001	LB238063	24 Nov 2021	24 Nov 2021	22 Dec 2021	29 Nov 2021	22 Dec 2021	01 Dec 2021
BH2	SE226255.002	LB238063	24 Nov 2021	24 Nov 2021	22 Dec 2021	29 Nov 2021	22 Dec 2021	01 Dec 2021
BH3	SE226255.003	LB238063	24 Nov 2021	24 Nov 2021	22 Dec 2021	29 Nov 2021	22 Dec 2021	01 Dec 2021
BH4	SE226255.004	LB238063	24 Nov 2021	24 Nov 2021	22 Dec 2021	29 Nov 2021	22 Dec 2021	01 Dec 2021

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1	SE226255.001	LB237990	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	01 Dec 2021	30 Nov 2021
BH2	SE226255.002	LB237990	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	01 Dec 2021	30 Nov 2021
BH3	SE226255.003	LB237990	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	01 Dec 2021	30 Nov 2021
BH4	SE226255.004	LB237990	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	01 Dec 2021	30 Nov 2021

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1	SE226255.001	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	30 Nov 2021
BH2	SE226255.002	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	30 Nov 2021
BH3	SE226255.003	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	30 Nov 2021
BH4	SE226255.004	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	30 Nov 2021

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1	SE226255.001	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	01 Dec 2021
BH2	SE226255.002	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	01 Dec 2021
BH3	SE226255.003	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	01 Dec 2021
BH4	SE226255.004	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	01 Dec 2021

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	SE226255.001	LB238060	24 Nov 2021	24 Nov 2021	23 May 2022	29 Nov 2021	23 May 2022	01 Dec 2021
BH2	SE226255.002	LB238060	24 Nov 2021	24 Nov 2021	23 May 2022	29 Nov 2021	23 May 2022	01 Dec 2021
BH3	SE226255.003	LB238060	24 Nov 2021	24 Nov 2021	23 May 2022	29 Nov 2021	23 May 2022	01 Dec 2021
BH4	SE226255.004	LB238060	24 Nov 2021	24 Nov 2021	23 May 2022	29 Nov 2021	23 May 2022	01 Dec 2021

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	SE226255.001	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	30 Nov 2021
BH2	SE226255.002	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	30 Nov 2021
BH3	SE226255.003	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	30 Nov 2021
BH4	SE226255.004	LB237945	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	05 Jan 2022	30 Nov 2021

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1	SE226255.001	LB237950	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	08 Dec 2021	30 Nov 2021
BH2	SE226255.002	LB237950	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	08 Dec 2021	30 Nov 2021
BH3	SE226255.003	LB237950	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	08 Dec 2021	30 Nov 2021
BH4	SE226255.004	LB237950	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	08 Dec 2021	30 Nov 2021

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	SE226255.001	LB237950	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	08 Dec 2021	30 Nov 2021
BH2	SE226255.002	LB237950	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	08 Dec 2021	30 Nov 2021
BH3	SE226255.003	LB237950	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	08 Dec 2021	30 Nov 2021
BH4	SE226255.004	LB237950	24 Nov 2021	24 Nov 2021	08 Dec 2021	26 Nov 2021	08 Dec 2021	30 Nov 2021

SURROGATES

SE226255 R0

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	SE226255.001	%	60 - 130%	113
	BH2	SE226255.002	%	60 - 130%	108
	BH3	SE226255.003	%	60 - 130%	104
	BH4	SE226255.004	%	60 - 130%	105

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1	SE226255.001	%	60 - 130%	85
	BH2	SE226255.002	%	60 - 130%	86
	BH3	SE226255.003	%	60 - 130%	84
	BH4	SE226255.004	%	60 - 130%	83
d14-p-terphenyl (Surrogate)	BH1	SE226255.001	%	60 - 130%	87
	BH2	SE226255.002	%	60 - 130%	89
	BH3	SE226255.003	%	60 - 130%	86
	BH4	SE226255.004	%	60 - 130%	89

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1	SE226255.001	%	60 - 130%	86
	BH2	SE226255.002	%	60 - 130%	88
	BH3	SE226255.003	%	60 - 130%	93
	BH4	SE226255.004	%	60 - 130%	93
d4-1,2-dichloroethane (Surrogate)	BH1	SE226255.001	%	60 - 130%	98
	BH2	SE226255.002	%	60 - 130%	105
	BH3	SE226255.003	%	60 - 130%	108
	BH4	SE226255.004	%	60 - 130%	108
d8-toluene (Surrogate)	BH1	SE226255.001	%	60 - 130%	93
	BH2	SE226255.002	%	60 - 130%	101
	BH3	SE226255.003	%	60 - 130%	101
	BH4	SE226255.004	%	60 - 130%	102

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1	SE226255.001	%	60 - 130%	86
	BH2	SE226255.002	%	60 - 130%	88
	BH3	SE226255.003	%	60 - 130%	93
	BH4	SE226255.004	%	60 - 130%	93
d4-1,2-dichloroethane (Surrogate)	BH1	SE226255.001	%	60 - 130%	98
	BH2	SE226255.002	%	60 - 130%	105
	BH3	SE226255.003	%	60 - 130%	108
	BH4	SE226255.004	%	60 - 130%	108
d8-toluene (Surrogate)	BH1	SE226255.001	%	60 - 130%	93
	BH2	SE226255.002	%	60 - 130%	101
	BH3	SE226255.003	%	60 - 130%	101
	BH4	SE226255.004	%	60 - 130%	102

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB238063.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB237945.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	105

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB237945.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	93
		d14-p-terphenyl (Surrogate)	%	-	103

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

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

Sample Number	Parameter	Units	LOR	Result
LB238060.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB237945.001	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

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB237945.001		TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB237950.001	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)	%	-	101
		d8-toluene (Surrogate)	%	-	98
		Bromofluorobenzene (Surrogate)	%	-	92
	Totals	Total BTEX	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB237950.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	101

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

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

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

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

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

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE226239.001	LB238063.014	Mercury	mg/kg	0.05	0.08	0.11	83	31
SE226256.004	LB238063.023	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE226255.001	LB237990.011	% Moisture	%w/w	1	19.0	16.7	36	13
SE226256.004	LB237990.019	% Moisture	%w/w	1	16.4	16.5	36	1

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE226255.001	LB237945.014		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	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
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	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
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	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
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.16	30	4
SE226256.004	LB237945.022		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	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
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	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
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0

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

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

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

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

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

OC Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE226256.004	LB237945.022		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.18	0.18	30	0

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE226255.001	LB237945.024		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	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	-	0.4	0.4	30	1
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	1
SE226256.004	LB237945.025		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	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	-	0.4	0.4	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	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 %
SE226256.004	LB238060.023	Arsenic, As	mg/kg	1	5	5	50	9
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	11	14	34	26
		Copper, Cu	mg/kg	0.5	14	14	33	1
		Nickel, Ni	mg/kg	0.5	4.8	5.9	39	21
		Lead, Pb	mg/kg	1	14	17	36	19
		Zinc, Zn	mg/kg	2	40	68	34	51 ②

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE226255.001	LB237945.014		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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE226255.001	LB237945.014	TRH F Bands	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
SE226256.004	LB237945.022		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 %
SE226255.001	LB237950.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.8	9.9	50	1
			d8-toluene (Surrogate)	mg/kg	-	9.3	9.4	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.5	50	1
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE226256.004	LB237950.022	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	10.1	50	0
			d8-toluene (Surrogate)	mg/kg	-	9.7	9.6	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.9	50	1
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE226255.001	LB237950.014		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	-	9.8	9.9	30	1
			d8-toluene (Surrogate)	mg/kg	-	9.3	9.4	30	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.6	8.5	30	1
		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
SE226256.004	LB237950.022		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	10.1	30	0
			d8-toluene (Surrogate)	mg/kg	-	9.7	9.6	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.9	30	1
		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 %
LB238063.002		Mercury	mg/kg	0.05	0.21	0.2	70 - 130	107

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB237945.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	106
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	103
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	104
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	101
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	110
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	84
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	96

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB237945.002		Dichlorvos	mg/kg	0.5	1.5	2	60 - 140	75
		Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	60 - 140	96
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	101
		Ethion	mg/kg	0.2	1.6	2	60 - 140	81
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	85
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	85

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 %
LB238060.002		Arsenic, As	mg/kg	1	330	318.22	80 - 120	102
		Cadmium, Cd	mg/kg	0.3	4.5	4.81	70 - 130	93
		Chromium, Cr	mg/kg	0.5	37	38.31	80 - 120	97
		Copper, Cu	mg/kg	0.5	310	290	80 - 120	105
		Nickel, Ni	mg/kg	0.5	190	187	80 - 120	99
		Lead, Pb	mg/kg	1	91	89.9	80 - 120	101
		Zinc, Zn	mg/kg	2	270	273	80 - 120	99

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB237945.002		TRH C10-C14	mg/kg	20	45	40	60 - 140	113
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	110
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	105
	TRH F Bands	TRH >C10-C16	mg/kg	25	45	40	60 - 140	113
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	115
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	100

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB237950.002	Monocyclic	Benzene	mg/kg	0.1	4.6	5	60 - 140	93
	Aromatic	Toluene	mg/kg	0.1	4.5	5	60 - 140	90
		Ethylbenzene	mg/kg	0.1	4.6	5	60 - 140	91
		m/p-xylene	mg/kg	0.2	8.8	10	60 - 140	88
		o-xylene	mg/kg	0.1	5.0	5	60 - 140	99
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	10	70 - 130	110
		d8-toluene (Surrogate)	mg/kg	-	10.4	10	70 - 130	104
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	10	70 - 130	94

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB237950.002		TRH C6-C10	mg/kg	25	76	92.5	60 - 140	83
		TRH C6-C9	mg/kg	20	67	80	60 - 140	84
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	10	70 - 130	110
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.4	10	70 - 130	94
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	49	62.5	60 - 140	78

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

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

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE226193.001	LB238063.004	Mercury	mg/kg	0.05	0.20	0.02164550859	0.2	90

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE226193.001	LB237945.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0.00026042745	-	-
			Alpha BHC	mg/kg	0.1	<0.1	0.00156106842	-	-
			Lindane	mg/kg	0.1	<0.1	0.00053713017	-	-
			Heptachlor	mg/kg	0.1	0.2	0.00016606731	0.2	117
			Aldrin	mg/kg	0.1	0.2	8.65214419839	0.2	113
			Beta BHC	mg/kg	0.1	<0.1	0	-	-
			Delta BHC	mg/kg	0.1	0.2	4.80686920010	0.2	115
			Heptachlor epoxide	mg/kg	0.1	<0.1	0.00018502592	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	0.00036073516	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	0.00036073516	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	2.26910498781	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	4.89087145945	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	0.00176389453	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	0.00703639343	-	-
			Dieldrin	mg/kg	0.2	0.2	3.28988750262	0.2	114
			Endrin	mg/kg	0.2	0.2	3.20752031627	0.2	118
			o,p'-DDD	mg/kg	0.1	<0.1	0.00590386965	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	0.00214349111	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	0	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	0.00214349111	-	-
			p,p'-DDT	mg/kg	0.1	0.2	0.00040504724	0.2	93
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	-	-
			Methoxychlor	mg/kg	0.1	<0.1	0	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	1.81543957276	-	-
			Isodrin	mg/kg	0.1	<0.1	5.16495122731	-	-
			Mirex	mg/kg	0.1	<0.1	0	-	-
			Total CLP OC Pesticides	mg/kg	1	1	0	-	-
			Total OC VIC EPA	mg/kg	1	1	0	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.16371592679	-	108

OP Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE226193.001	LB237945.004		Dichlorvos	mg/kg	0.5	1.6	0.00072468962	2	78
			Dimethoate	mg/kg	0.5	<0.5	0.00171934560	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	2.0	0.00084734463	2	99
			Fenitrothion	mg/kg	0.2	<0.2	0.00439366734	-	-
			Malathion	mg/kg	0.2	<0.2	0.00421743806	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.2	0	2	108
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0.00400683191	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	-	-
			Methidathion	mg/kg	0.5	<0.5	0	-	-
			Ethion	mg/kg	0.2	1.8	0	2	91
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0.00063177741	-	-
			Total OP Pesticides*	mg/kg	1.7	7.5	0	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.43242059676	-	88
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.46231887105	-	90

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%
SE226193.001	LB238060.004	Arsenic, As	mg/kg	1	50	7.64706445505	50	85
		Cadmium, Cd	mg/kg	0.3	39	0.04684931801	50	79
		Chromium, Cr	mg/kg	0.5	57	13.1129792177€	50	87
		Copper, Cu	mg/kg	0.5	62	16.36152058861	50	92
		Nickel, Ni	mg/kg	0.5	50	7.45773525235	50	85
		Lead, Pb	mg/kg	1	60	21.1430489221€	50	77

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.

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE226193.001	LB238060.004	Zinc, Zn	mg/kg	2	75	40.39522073060	50	70 ④

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE226193.001	LB237945.004		TRH C10-C14	mg/kg	20	32	0	40	80
			TRH C15-C28	mg/kg	45	<45	0	40	90
			TRH C29-C36	mg/kg	45	46	0	40	115
			TRH C37-C40	mg/kg	100	<100	0	-	-
			TRH C10-C36 Total	mg/kg	110	<110	0	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	-	-
		TRH F	TRH >C10-C16	mg/kg	25	34	0	40	85
		Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	34	0	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	40	113
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE226193.001	LB237950.004	Monocyclic	Benzene	mg/kg	0.1	4.0	0.00409623466	5	80
		Aromatic	Toluene	mg/kg	0.1	4.1	0.01209129606	5	82
			Ethylbenzene	mg/kg	0.1	4.3	0.01168659322	5	85
			m/p-xylene	mg/kg	0.2	8.3	0.02950188339	10	83
			o-xylene	mg/kg	0.1	4.7	0.01644606163	5	93
		Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	0.00606633030	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.0	9.54637858333	10	100
			d8-toluene (Surrogate)	mg/kg	-	9.5	9.46563701636	10	95
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	8.73684669582	10	87
		Totals	Total Xylenes	mg/kg	0.3	13	0.04594794503	-	-
			Total BTEX	mg/kg	0.6	25	0	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE226193.001	LB237950.004		TRH C6-C10	mg/kg	25	65	0.10113014320	92.5	70
			TRH C6-C9	mg/kg	20	58	0	80	73
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.0	9.54637858333	10	100
			d8-toluene (Surrogate)	mg/kg	-	9.5	9.46563701636	10	95
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	8.73684669582	-	87
		VPH F	Benzene (F0)	mg/kg	0.1	4.0	0.00409623466	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	40	0.10113014320	62.5	64

MATRIX SPIKE DUPLICATES

SE226255 R0

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

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

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

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

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

No matrix spike duplicates were required for this job.

id samples expressed on a dry weight basis.

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

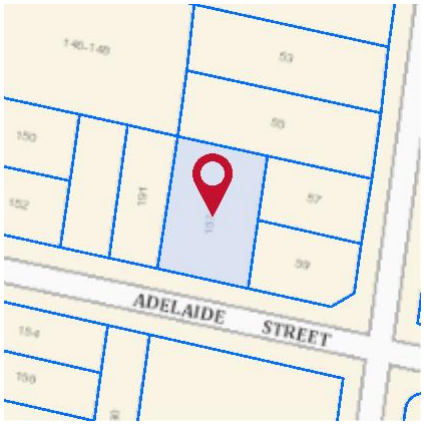
*	NATA accreditation does not cover the performance of this service .
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.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

APPENDIX D

Property Report and Relevant Information

Property Report

187-189 ADELAIDE STREET ST MARYS 2760



Property Details

Address:	187-189 ADELAIDE STREET ST MARYS 2760
Lot/Section /Plan No:	1/-/DP567556
Council:	PENRITH CITY COUNCIL

Summary of planning controls

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

Local Environmental Plans	Penrith Local Environmental Plan 2010 (pub. 18-12-2020)
Land Zoning	R3 - Medium Density Residential: (pub. 11-8-2017)
Height Of Building	8.5 m
Floor Space Ratio	NA
Minimum Lot Size	400 m²
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA
Local Provisions	13 km
	30 km
Obstacle Limitation Surface	230.5-230.5

Detailed planning information

State Environmental Planning Policies which apply to this property

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

- State Environmental Planning Policy (Affordable Rental Housing) 2009: Land Application (pub. 31-7-2009)
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004: Land Application (pub. 25-6-2004)

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

- State Environmental Planning Policy (Concurrences and Consents) 2018: Land Application (pub. 21-12-2018)
- State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017: Land Application (pub. 1-9-2017)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004: Land Application (pub. 31-3-2004)
- State Environmental Planning Policy (Infrastructure) 2007: Land Application (pub. 21-12-2007)
- State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007: Land Application (pub. 16-2-2007)
- State Environmental Planning Policy (Primary Production and Rural Development) 2019: Land Application (pub. 28-2-2019)
- State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017: Excluded (pub. 17-9-2021)
- State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017: Subject Land (pub. 25-8-2017)
- State Environmental Planning Policy No 19—Bushland in Urban Areas: Land Application (pub. 24-10-1986)
- State Environmental Planning Policy No 21—Caravan Parks: Land Application (pub. 24-4-1992)
- State Environmental Planning Policy No 33—Hazardous and Offensive Development: Land Application (pub. 13-3-1992)
- State Environmental Planning Policy No 36—Manufactured Home Estates: Land Application (pub. 16-7-1993)
- State Environmental Planning Policy No 50—Canal Estate Development: Land Application (pub. 10-11-1997)
- State Environmental Planning Policy No 55—Remediation of Land: Land Application (pub. 28-8-1998)
- State Environmental Planning Policy No 64—Advertising and Signage: Land Application (pub. 16-3-2001)
- State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development: Land Application (pub. 26-7-2002)
- State Environmental Planning Policy No 70—Affordable Housing (Revised Schemes): Land Application (pub. 31-5-2002)
- Sydney Regional Environmental Plan No 20—Hawkesbury-Nepean River (No 2—1997): Land Application (pub. 7-11-1997)
- Sydney Regional Environmental Plan No 20—Hawkesbury-Nepean River (No 2—1997): Sub Catchment Boundaries (pub. 7-11-1997)

Other matters affecting the property

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

Local Aboriginal Land Council	DEERUBBIN
Regional Plan Boundary	Greater Sydney

187-189 Adelaide Street, St Marys

Proposed Child Care Centre

DRAWING SCHEDULE:

GENERAL NOTES

1. CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS. DO NOT SCALE FROM DRAWINGS.
2. ALL BUILDING WORKS SHALL BE IN ACCORDANCE WITH THE RELEVANT NATIONAL CONSTRUCTION CODE (NCC), BUILDING CODE OF AUSTRALIA (BCA), RELEVANT AUSTRALIAN STANDARDS (AS), INCLUDING AMENDMENTS AND THE REQUIREMENTS OF COUNCIL AND PRIVATE CERTIFIERS (PC) AND OTHER AUTHORITIES HAVING JURISDICTION.
3. THE ARCHITECTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONSULTANT DRAWINGS AND REPORTS FOR COORDINATION AND INFORMATION.
4. THRESHOLDS AND DOORWAYS ARE FLUSH FOR WHEELCHAIR ACCESS IN ACCORDANCE WITH AS1428.1 DESIGN FOR ACCESS AND MOBILITY. REFER TO ACCESS CONSULTANT REPORT FOR DISPENSATIONS AND POTENTIAL PERFORMANCE SOLUTION PROPOSED.
5. DRAWINGS ARE NOT COORDINATED BY JANSSEN DESIGNS. CONDITIONS AND DOCUMENTS NEED TO BE COORDINATED AND CHECKED TO CONFIRM THEY SATISFY THE AUSTRALIAN STANDARDS, SPECIALIST DISABILITY ACCOMMODATION, DESIGN FOR DISABILITY ACCOMMODATION, DEVELOPMENT APPLICATION REQUIREMENTS, THE NCC, BCA CODES AND CONTROLS THAT APPLY TO THIS PROJECT. A COORDINATED CONSTRUCTION SET MAY VARY FROM THE PRODUCED DRAWINGS. JANSSEN DESIGNS DOES NOT ACCEPT ANY LIABILITY, DIRECT OR INDIRECT, FOR ANY LOSS LIABILITY OR LOSS SUFFERED OR INCURRED BY ANY PERSON OR THIRD PARTY PLACING ANY RELIANCE ON THE SERVICES OR DOCUMENTS OR ADVICE ARISING IN CONNECTION WITH THE SERVICE.
6. ALL STRUCTURAL ELEMENTS ARE SHOWN INDICATIVELY AND ARE TO BE CONFIRMED WITH THE DESIGN, DETAIL AND SPECIFICATION OF THE STRUCTURAL ENGINEER.
7. ALL STRUCTURAL FRAMING, LOADING, BEARING, RETAINING AND FIXING OF ELEMENTS ARE TO THE DESIGN, DETAIL AND SPECIFICATION OF THE STRUCTURAL ENGINEER.
8. ALL SERVICES ELEMENTS INCLUDING HYDRAULICS, ELECTRICAL, MECHANICAL, FIRE AND COMMUNICATION SERVICES SHOWN ARE INDICATIVE ONLY. REFER TO SERVICES CONSULTANT SEPARATE DOCUMENTATION AND SPECIFICATION FOR DETAILED DESIGN.
9. ANY DISCREPANCIES BETWEEN ARCHITECTURAL CONSULTANT DOCUMENTATION ARE TO BE REPORTED TO THE ARCHITECT IMMEDIATELY FOR CLARIFICATION.
10. ALL CONCRETE AND METALWORK ITEMS, SUCH AS SHOP DRAWINGS, TO BE ORGANISED AND REVIEWED BY THE CLIENT.
11. ALL SITE AND BUILDING GRID SET-OUT IS TO BE CONDUCTED AND VERIFIED BY A REGISTERED SURVEYOR BEFORE COMMENCEMENT OF CONSTRUCTION WITH ANY DISCREPANCIES NOTIFIED TO THE CLIENT FOR CLARIFICATION.

JANSSEN DESIGNS

info@janssendesigns.com.au | PO Box 41, Kenthurst 2156 | m: 0423 216 636

Nominated Architect: Jake Janssen NSW Registered Architect 11575

AMENDMENTS

ISSUE:	DESCRIPTION	DATE:

Project Title:

Proposed Child Care Centre

DRAWING TITLE:

Cover Page

ADDRESS:

187-189 Adelaide Street, St Marys

CLIENT DETAILS:

Anrite Mamark & Chrisyl Holdings Pty Ltd

LOCAL GOVERNMENT AREA:

Penrith Council

Issue For:	Issue:	
DA	A	

Date:	Scale:	Drawing #:	Project #:
7.11.2021	1:100	A000	10116

COMPLIANCE TABLE

SITE AREA	1,100m2

GROSS FLOOR AREA

BASEMENT	XXXXm2
GROUND FLOOR	XXXXm2
FIRST FLOOR	XXXXm2
TOTAL GROSS FLOOR AREA	XXXXm2

MIN. REQUIRED FLOOR SPACE RATIO	N/a
PROPOSED FLOOR SPACE RATION	XXXX:1

MAX BUILDING HEIGHT	8.5M
PROPOSED BUILDING HEIGHT	XXXXM

CHILDCARE

NUMBER OF CHILDREN:

0-2 YEARS - XXXX PLACES
2-3 YEARS - XXXX PLACES
3-4 YEARS - XXXX PLACES
4-6 YEARS - XXXX PLACES

NUMBER OF TEACHERS:

0-2 YEARS - X TEACHERS @ 1:4 RATIO
2-3 YEARS - X TEACHERS @ 1:5 RATIO
3-6 YEARS - X TEACHERS @ 1:10 RATIO

INDOOR PLAY AREA:

0-2 YEARS - XXXXm2 @ 3.25m2 / KID
2-3 YEARS - XXXXm2 @ 3.25m2 / KID
3-6 YEARS - XXXXm2 @ 3.25m2 / KID

OUTDOOR PLAY AREA:

TOTAL AREA - XXXXm2 @ 7m2 / KID

PARKING

TEACHERS	XX CARSPACES @ 1 PER TEACHER RATE
VISITORS	XX CARSPACES @ 1 SPACE PER 10 PLACES
TOTAL PARKING SPACES PROPOSED	XX CARSPACES

SETBACKS

FRONT SETBACK	XXXXM
SIDE SETBACK	XXXXM
REAR SETBACK	XXXXM

JANSSEN DESIGNS
info@janssendesigns.com.au | PO Box 41, Kenthurst 2156 | m: 0423 216 636
Nominated Architect: Jake Janssen NSW Registered Architect 11575

AMENDMENTS

ISSUE:	DESCRIPTION	DATE:

Project Title:
Proposed Child Care Centre

DRAWING TITLE:
Calculations

ADDRESS:
187-189 Adelaide Street, St Marys

CLIENT DETAILS:
Anrite Mamark & Chrisyl Holdings Pty Ltd

LOCAL GOVERNMENT AREA:
Penrith Council

Issue For:	Issue:	
DA	A	

Date:	Scale:	Drawing #:	Project #:
7.11.2021	1:100	A000	T0116

NOTE: ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH BCA, SAA & COUNCILS CONDITIONS **COPYRIGHT:**. DO NOT SCALE OFF ARCHITECTURAL DRAWINGS. THESE NOTES MUST BE READ IN CONJUNCTION WITH COLOURS SELECTION FOR ADDITIONAL DETAILS ON APPLIANCES, PC ITEMS & SHOWER SIZES SHOWN ON PLAN ARE INSIDE HOB. DIMENSIONS SHOWER SCREENS TO BE FITTED ON INSIDE OF HOB. BULKHEADS MAY BE REQUIRED TO ACCOMMODATE DRAINAGE LINES & STEEL BEAMS POSITION TO BE DETERMINED ON SITE. **USE FIGURED DIMENSIONS ONLY. DO NOT SCALE.** FINISHED GROUND LEVELS ON PLANS ARE SUBJECT TO SITE CONDITIONS. ALL CALCULATED DIMENSIONS ARE SUBJECT TO SITE MEASURE DURING CONSTRUCTION & NO ALLOWANCE HAS BEEN MADE FOR SHRINKAGE OR WILLING POSITION OF ELECTRICAL METER TO BE DETERMINED ON SITE IN ACCORDANCE TO THE TURRET POSITION FRONT GARDEN TAP ON METER **ENERGY SMART DESIGN:** AAA RATED WATER CONSERVATION DEVICES INCLUDE RAINWATER TANKS SHOWER HEADS, WATER TAP FLOW REGULATORS, DUAL FLUSH TOILETS CISTERNS & COMPLIANT HOT WATER SYSTEMS WITH MINIMUM GREEN HOUSE SCORE OF 3 STARS ARE TO BE USED IN THIS DEVELOPMENT. OCCUPANTS ARE ENCOURAGED TO USE AAA RATED DISH WASHING MACHINES WITH FRONT LOADING WHERE POSSIBLE. OWNER/BUILDER MUST READ ALL PLANS IN CONJUNCTION WITH THE ABSA & BASIX REPORT

DO NOT SCALE OFF ARCHITECTURAL DRAWINGS

DEMOLITION PLAN -
1:100 @ A1

JANSSEN DESIGNS
info@janssendesigns.com.au | PO Box 41, Kenthurst 2156 | m: 0423 216 636
Nominated Architect: Jake Janssen NSW Registered Architect 11575

AMENDMENTS		
ISSUE:	DESCRIPTION	DATE:

Project Title:
Proposed Child Care Centre

DRAWING TITLE:
Demolition Plan

ADDRESS:
187-189 Adelaide Street, St Marys

CLIENT DETAILS:
Anrite Mamark & Chrisyl Holdings Pty Ltd

LOCAL GOVERNMENT AREA:
Penrith Council

Issue For:	Issue:		
DA	A		
Date:	Scale:	Drawing #:	Project #:
7.11.2021	1:100	A000	10116

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LANDMARKS

A - BUSY BEES LONG DAY CHILD CARE CENTRE

B - ADELAIDE STREET RESERVE

C - YOUNG EXPLORERS EARLY LEARNING CENTRE

D - AUSTRALIA & BRISBANE STREET RESERVE

E - BENNETT PARK

F - ST MARYS POLICE STATION

G - ST MARY MAGDALENE'S ANGLICAN CHURCH

H - INTERSECTION OF GLOSSOP STREET AND GREAT WESTERN HIGHWAY

I - ST MARYS BLINKY BILL PRESCHOOL

J - ST MARYS DISTRICT BAPTIST CHURCH

SITE CONTEXT PLAN - N.T.S.

JANSSEN DESIGNS

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Nominated Architect: Jake Janssen NSW Registered Architect 11575

N

AMENDMENTS		
ISSUE:	DESCRIPTION	DATE:

Project Title:

Proposed Child Care Centre

DRAWING TITLE:

Site Context Plan

ADDRESS:

187-189 Adelaide Street, St Marys

CLIENT DETAILS:

Anrite Mamark & Chrisyl Holdings Pty Ltd

LOCAL GOVERNMENT AREA:

Penrith Council

Issue For:	Issue:	
DA	A	

Date:	Scale:	Drawing #:	Project #:
7.11.2021	1:100	A000	10116

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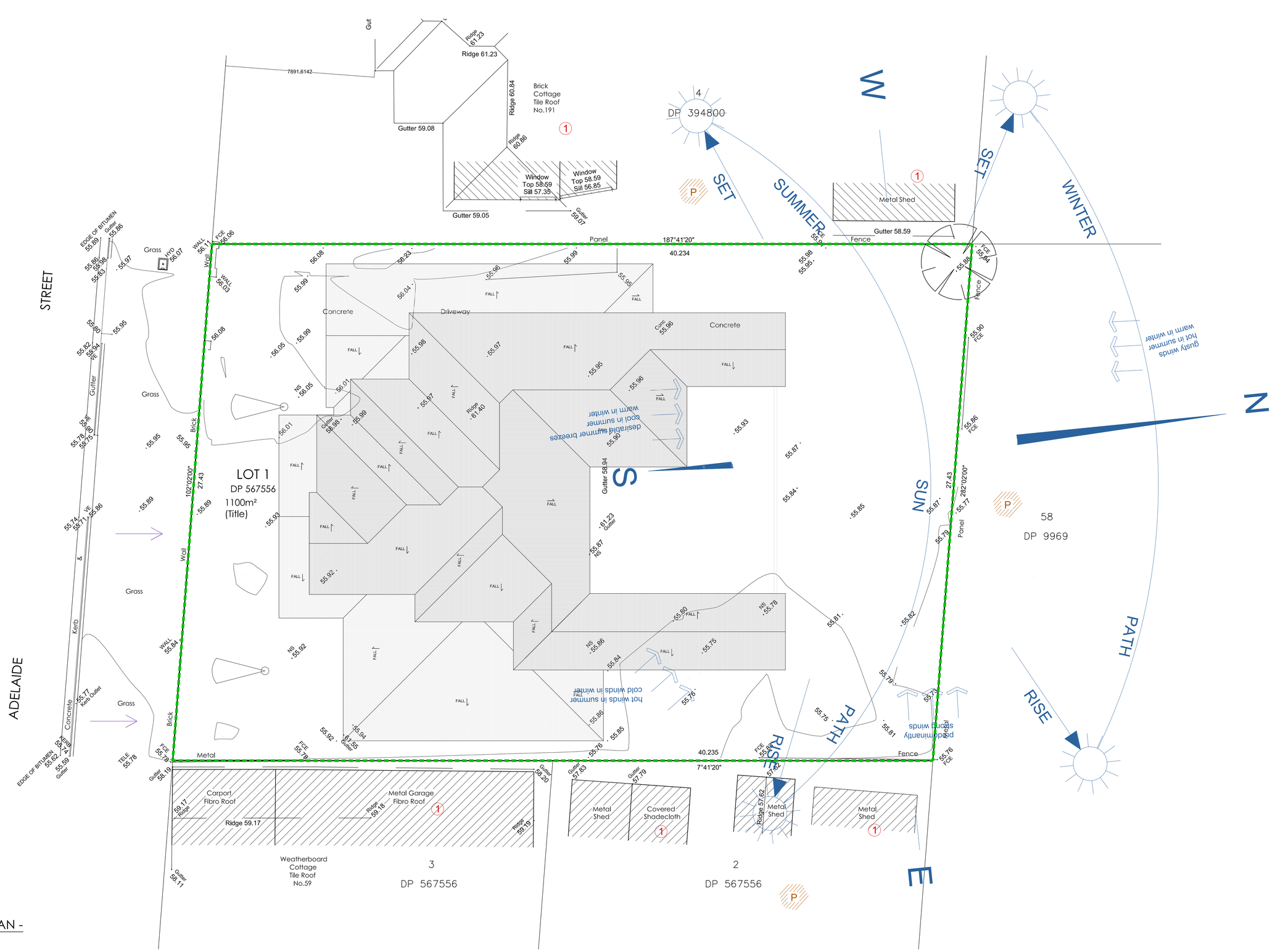
KEY:

- CARPORT
- 1/2 NUMBER OF STOREYS
- OVERLOOKING
- PEDESTRAINS & VEHICLE ACCESS POINTS
- VIEWS
- SITE
- CONTOURS
- P PRIVATE OPEN SPACE
- EXISTING TREES



SITE ANALYSIS PLAN -
1:100 @ A1

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AMENDMENTS		
ISSUE:	DESCRIPTION	DATE:

Project Title:
Proposed Child Care Centre

DRAWING TITLE:
Site Analsyis Plan

ADDRESS:
187-189 Adelaide Street, St Marys

CLIENT DETAILS:
Anrite Mamark & Chrisyl Holdings Pty Ltd

LOCAL GOVERNMENT AREA:
Penrith Council

Issue For:	Issue:	
DA	A	

Date:	Scale:	Drawing #:	Project #:
7.11.2021	1:100	A000	10116

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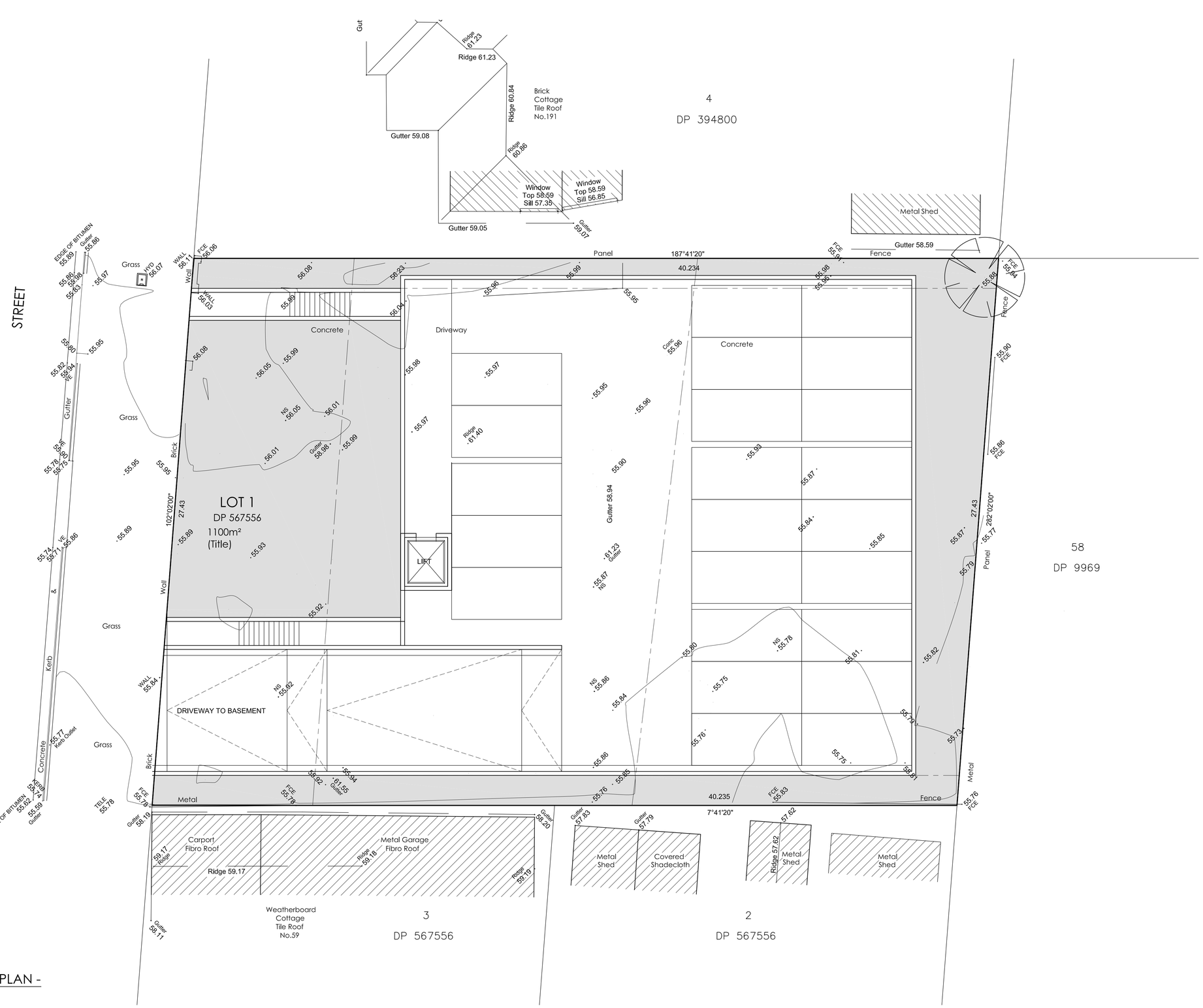

CONCEPT BASEMENT PLAN -
1:100 @ A1

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Nominated Architect: Jake Janssen NSW Registered Architect 11575

AMENDMENTS		
ISSUE:	DESCRIPTION	DATE:

Project Title:
Proposed Child Care Centre

DRAWING TITLE:
Concept Basement Plan

ADDRESS:
187-189 Adelaide Street, St Marys

CLIENT DETAILS:
Anrite Mamark & Chrisyl Holdings Pty Ltd

LOCAL GOVERNMENT AREA:
Penrith Council

Issue For:	Issue:		
DA	A		
Date:	**Scale:**	**Drawing #:**	**Project #:**
7.11.2021	1:100	A000	10116

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CONCEPT GROUND FLOOR PLAN -
1:100 @ A1

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AMENDMENTS		
ISSUE:	DESCRIPTION	DATE:

Project Title:
Proposed Child Care Centre

DRAWING TITLE:
Concept Ground Floor Plan

ADDRESS:
187-189 Adelaide Street, St Marys

CLIENT DETAILS:
Anrite Mamark & Chrisyl Holdings Pty Ltd

LOCAL GOVERNMENT AREA:
Penrith Council

Issue For:	Issue:	
DA	A	

Date:	Drawing #:	Project #:
7.11.2021	A000	10116

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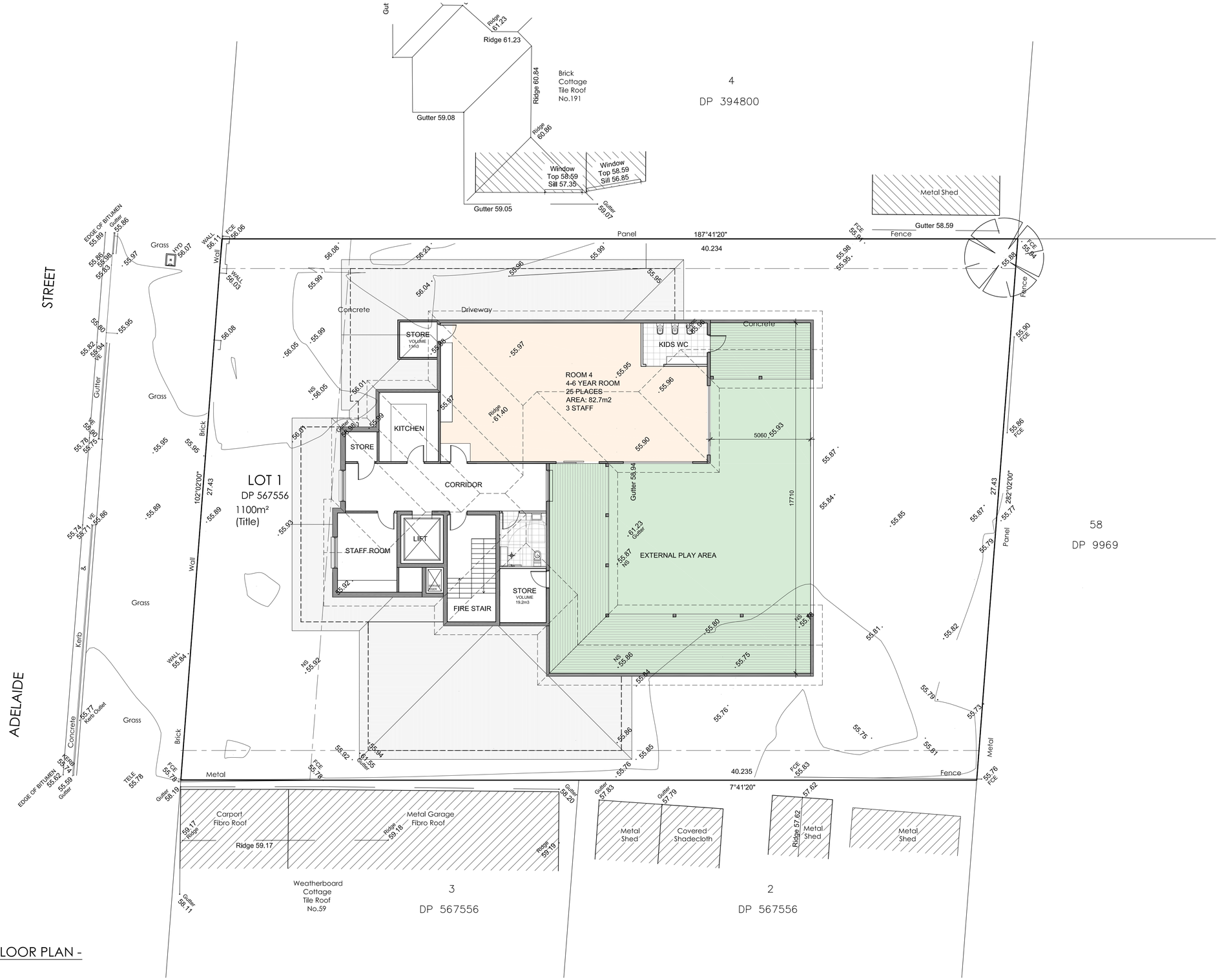

CONCEPT FIRST FLOOR PLAN -
1:100 @ A1

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AMENDMENTS		
ISSUE:	DESCRIPTION	DATE:

Project Title:
Proposed Child Care Centre

DRAWING TITLE:
Concept First Floor Plan

ADDRESS:
187-189 Adelaide Street, St Marys

CLIENT DETAILS:
Anrite Mamark & Chrisyl Holdings Pty Ltd

LOCAL GOVERNMENT AREA:
Penrith Council

Issue For:	Issue:	
DA	A	
Date: 7.11.2021	Drawing #: A000	Project #: 10116

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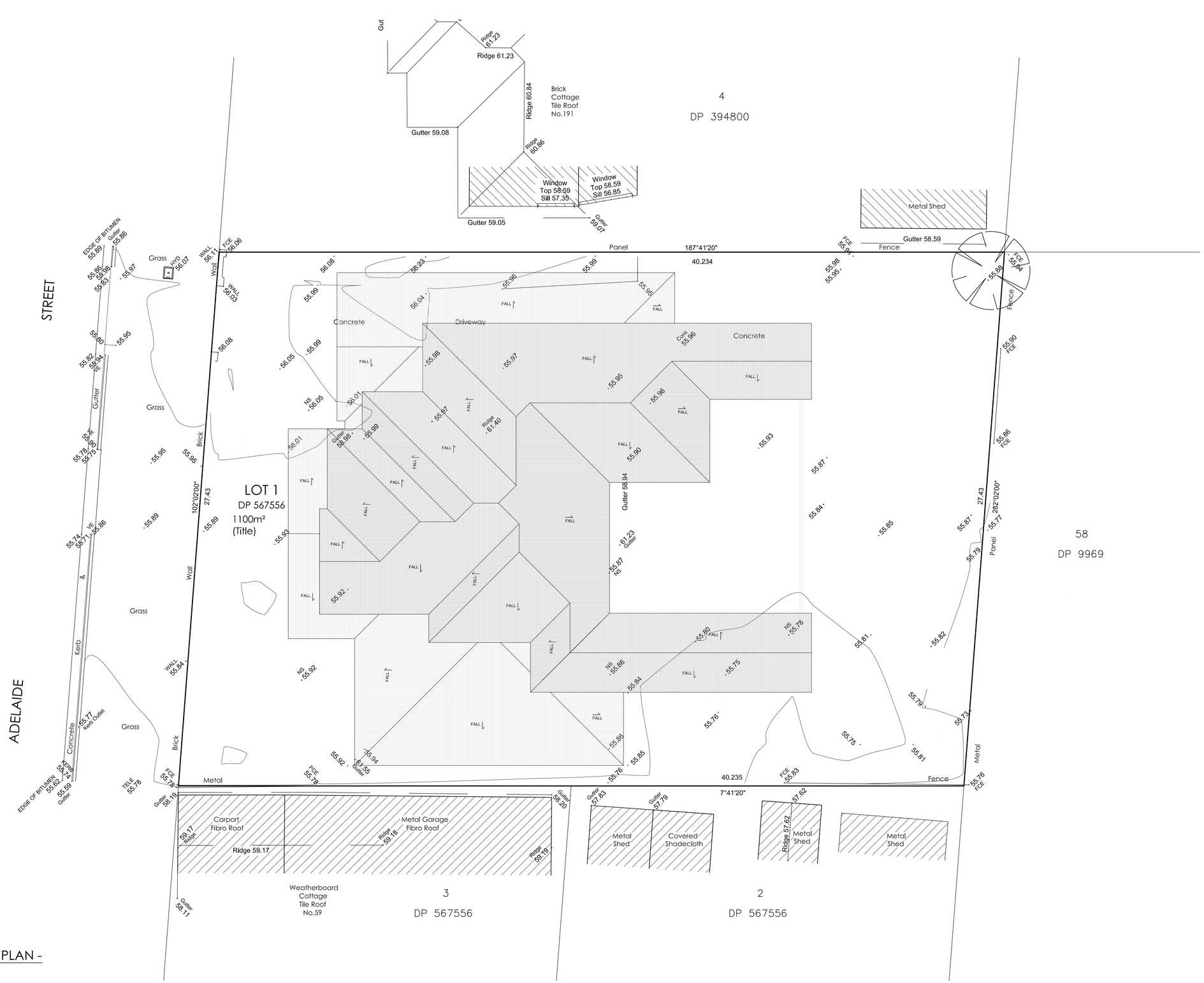

CONCEPT ROOF PLAN -
1:100 @ A1

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AMENDMENTS		
ISSUE:	DESCRIPTION	DATE:

Project Title:
Proposed Child Care Centre

DRAWING TITLE:
Concept First Floor Plan

ADDRESS:
187-189 Adelaide Street, St Marys

CLIENT DETAILS:
Anrite Mamark & Chrisyl Holdings Pty Ltd

LOCAL GOVERNMENT AREA:
Penrith Council

Issue For:	Issue:	
DA	A	

Date:	Drawing #:	Project #:
7.11.2021	A000	10116