

Preliminary Site Investigation

National Circularity Centre

Lot 1 DP1264640, North Bega, NSW

Prepared for ACT Geotechnical Engineers
Pty Ltd

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Table of Contents

Executive Summary.....	5
1. Introduction	7
1.1 Objectives.....	7
1.2 Scope of Work.....	7
1.3 Regulatory Guidelines / Legislations.....	7
1.4 Limitations.....	8
2. Site Characteristics	9
2.1 Site Identification and Description.....	9
2.2 Surrounding Land Uses	9
2.3 Sensitive Environments.....	10
2.4 Proposed Land Use	10
3. Site History.....	11
3.1 Previous Investigations	11
3.2 Site Zoning.....	11
3.3 Aerial and Historical Photograph Review	11
3.4 Historical Business Directories.....	13
3.5 Contaminated Site Register	13
3.6 Heritage Items.....	14
3.7 Waste Management & Liquid Fuel Facilities.....	14
3.8 Worksafe Dangerous Good Search	14
3.9 Manufacturing Processes.....	14
3.10 Storage Tank	14
3.11 Discharges to Land, Water and Air	14
3.12 Review of Current and Historical Uses.....	14
4. Site Condition and Environmental Setting	16
4.1 Topography	16
4.2 Visible Signs of Contamination	16
4.3 Odours.....	16
4.4 Fill Material	16
4.5 Staining.....	16
5. Geology and Hydrogeology	17
5.1 Geology	17
5.2 Hydrogeology	17
5.3 Hydrology	17

5.4	Acid Sulfate Soil Risk	17
6.	Preliminary Conceptual Site Model	18
6.1	Areas of Environmental Concern	18
6.2	Contaminants of Potential Concern	18
6.3	Exposure Pathways and Receptors	19
7.	Data Quality Objectives	21
8.	Sampling, Analysis and Quality Plan	23
8.1	Chronology of Events	23
8.2	Sampling Plan	23
8.2.1	Soil	23
8.2.2	Quality Assurance / Quality Control	23
8.3	Analytical Plan	23
9.	Assessment Criteria	25
9.1	Soil Assessment Criteria	25
10.	Methods	28
11.	Quality Assurance (QA) and Quality Control (QC) Plan	29
11.1	Field QA/QC	29
11.2	Laboratory QA/QC	29
12.	Results	31
12.1	Visual Observations / Field Measurements	31
12.2	Analytical Results	31
13.	Revised Conceptual Site Model	34
13.1	Summary of Site Condition	34
13.2	Potential Receptors and Exposure Pathways	34
14.	Summary and Conclusions	36
15.	References	37

List of Tables

Table 1:	Summary of Site Details	9
Table 2:	Details of the Review of Aerial Photographs	11
Table 3:	Identified COPC and the associated AECs	18
Table 4:	Summary of Exposure Pathways	19
Table 5:	<i>DQOs derived for the Investigation</i>	21
Table 6:	<i>Summary of the Chronology of Works</i>	23
Table 7:	Analytical plan for the investigation	24
Table 8:	Used Physicochemical Properties	25
Table 9:	Soil Assessment Criteria	25

Table 10: Summary of RPDs.....	29
Table 11: Surrogate samples that Exceed the Laboratory QA/QC criteria	30
Table 12: Laboratory duplicate samples that exceeded the Laboratory QA/QC criteria	30
Table 13: PAH Soil Concentrations	32
Table 14: Revised Conceptual Site Model	34

Appendices

Appendix A	Figures
Appendix B	Analytical Results
Appendix C	Laboratory Reports and Chain of Custody Documentation
Appendix D	Lotsearch Report
Appendix E	Site Photographs
Appendix F	EIL Calculations
Appendix G	Borehole Logs
Appendix H	DSI Checklist

Executive Summary

ACT Geotechnical Engineers Pty Ltd (ACT Geotechnical Engineers) engaged Lanterra Consulting Pty Ltd (Lanterra) to undertake a preliminary site investigation (PSI) with soil sampling on part of Lot 1 DP1264640, North Bega, NSW (herein referred to as the site).

The site has an area of approximately 12,000 square metres (m²) and is zoned E4: General Industrial zone under the Bega Valley Local Environmental Plan 2013 and is the proposed location for the new National Circularity Centre.

The objective of this PSI was to assess the suitability of the site for the proposed development and to provide preliminary soil assessment from a contamination perspective.

The scope of this PSI comprised of the following:

- A site visit to characterise the property setting, including inspection of the site surface for obvious and visible signs of potential contamination and / or contaminant sources.
- A visual evaluation of surrounding land uses to identify any neighbouring activities which may have affected or present a potential risk to the environmental quality of the site.
- An evaluation of aerial photographs to assist in assessing historical land uses and conditions on and adjacent to the site.
- A review of the environmental setting with regards to geology, topography, hydrology, and hydrogeology
- Review the results of an NSW EPA contaminated sites register to assess whether there are any known contaminating activities either on the site or on neighbouring properties.
- Undertake a site investigation across the site including constructing twelve (12) boreholes for soil sampling within the site (BH1 to BH12; **Figure 3, Appendix A**).
- Undertake soil analysis at a National Association of Testing Authorities (NATA) accredited laboratory for the analyses of contaminants of potential concern (COPCs) identified by Lanterra.

Based on the site layout, its surrounding and reviewed information, Lanterra identified the following areas of environmental concern (AECs):

AEC 1 – Fill Material: Fill material may have been used for the establishment of the site, including the stormwater infrastructure located in the central-north portion of the site. Should fill material had been sourced from a contaminated site, then it could pose a contamination risk for human health and the environment.

AEC 2 – Stockpiles and Vehicular Traffic: The site was used to store stockpiles and for truck parking purposes. These activities have the potential to introduce contaminants into the site, including fuel/oil from vehicle traffic.

The following contaminants of potential concern (COPC) were identified to characterise and assess the site:

- Total Recoverable Hydrocarbons (TRH);
- Benzene, Toluene, Ethylbenzene, Xylenes (BTEX);
- Polycyclic Aromatic Hydrocarbons (PAH);
- Organochlorine pesticides (OCP);
- Organophosphorus pesticides (OCP);

- Polychlorinated Biphenyls (PCB);
- Speciated phenols;
- Heavy Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc); and
- Asbestos.

Based on the history of the site and this soil investigation, a summary of the key findings is provided below:

- Fill material was observed in each borehole drilled across the site (BH1 to BH12) to depths varying between 0.3 to 3.0 m below ground level. While the maximum borehole depth was 3 m, fill was inferred to extend beyond this depth along the eastern boundary of the investigation area.
- Based on anecdotal evidence from the former site owner (who coordinated the filling of the site) indicated that soil was imported from sites that were being developed in the Bega region at the time.
- No asbestos containing material fragments were observed on the surface of the site.
- No asbestos fines or fibrous asbestos were detected in any of the analysed samples across the site.
- Concentrations of TRH, BTEX, PAH, OPP/OCP, PCB, phenols and heavy metals in soil across the site were below the HIL/HSL D and ecological criteria for commercial/industrial land use. Therefore, the soil on the site was considered suitable for the proposed National Circularity Centre which is considered a commercial use.

Based on the findings of this contamination assessment, the site is considered suitable for all the land uses permitted under E4: General Industrial Zone, including the proposed National Circulatory Centre building.

Lanterra notes that prior to any earthwork occurring across the site a construction environmental management plan (CEMP) which includes an unexpected finds protocol (UFP) to manage any unexpected occurrences of contamination must be prepared by a suitably qualified environmental consultant.

Any soil to be removed from the site as part of the development works must be assessed in accordance with the NSW EPA (2014) *'The Excavated Natural Material Order 2014'* if suitable for off-site use as natural excavated material (ENM) or NSW EPA (2014) *'Waste Classification Guidelines, Part 1: Classifying Waste'* for off-site disposal as waste.

1. Introduction

ACT Geotechnical Engineers Pty Ltd engaged Lanterra Consulting Pty Ltd (Lanterra) to complete a preliminary site investigation (PSI) with soil limited sampling for the proposed National Circularity Centre on the western part of Lot 1 DP1264640, North Bega, NSW (herein referred to as the site). The location and layout of the site is illustrated in **Figure 1** and **Figure 2, Appendix A**.

From the project brief, it is understood that the National Circulatory Centre would include a visitors' centre and tourism-oriented showroom, a business events and conferencing space, a circularity innovation hub and start-up accelerator, embedded technology to provide an immersive experience both within the Centre and online, and a providore and café.

The proposed development is planned to occupy the western portion of Lot 1 DP1264640 which, in accordance with the Bega Valley LEP 2013 is zoned E4 General Industrial.

The site, where the development will be constructed, has an approximate area of 12,000 square metres (m²) and is currently vacant land including grassed and gravel truck park areas.

The purpose of this investigation was to assess the suitability of the site for the proposed development.

1.1 Objectives

The objective of the investigation was to assess the site for possible contamination associated with current and historical activities and to assess the suitability of the site for the proposed National Circularity Centre.

1.2 Scope of Work

The following scope work has been completed to meet the project objectives:

- A brief desktop assessment was completed to assess the history of the site to establish contaminants of potential concern.
- Undertake intrusive site investigation including constructing twelve (12) boreholes for soil sampling (see **Figure 3, Appendix A**).
- Undertake soil analysis at a National Association of Testing Authorities (NATA) accredited laboratory for the analyses of contaminants of potential concern (COPCs) identified by Lanterra during this investigation.
- Assess laboratory results obtained from the investigation against the applicable land use criteria.
- Prepare a preliminary site investigation report presenting:
 - The results of the intrusive investigation.
 - Recommendation if further investigation / remediation is required.

1.3 Regulatory Guidelines / Legislations

The investigation and preparation of this report was undertaken with reference to (but not limited to) the following regulatory guidance documents and standards:

- *National Environmental Protection Council (NEPC) (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended April 2013) (hereafter ASC NEPM 2013)*

- *NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme (3rd Ed.) (2017)*
- *NSW EPA (1995) Sampling Design Guidelines*
- *NSW EPA (2022) Contaminated Land Guidelines – Sampling Design Part 1 - Application*
- *NSW EPA (2020) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*
- *Standards Australia (2005). Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds AS4482.1 (2005) and Part 2: Volatile substances, AS4482.2 (2005)*

1.4 Limitations

The findings of the report were based on the Scope of Work outlined above. Lanterra performed services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties express or implied, are made.

Subject to the Scope of Work, the assessment was limited strictly to identifying typical environmental conditions associated with the subject property area and does not include evaluation of any other issues.

The absence of any identified hazardous or toxic materials on the subject property should not be interpreted as a guarantee that such materials do not exist on the site. Lanterra will not investigate any waste materials from the property that may have been disposed of off the site, nor related waste management practices.

The results of this assessment are based upon the site inspection and the sampling specified above conducted by Lanterra personnel and information from the Client or regulatory agencies. All conclusions and recommendations regarding the property area will be the professional opinions of the Lanterra personnel involved with the project, subject to the qualifications made above.

While normal assessments of data reliability are made, Lanterra will not assume responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Lanterra, or developments resulting from situations outside the scope of this project.

2. Site Characteristics

2.1 Site Identification and Description

The site location and a detailed site plan are presented as **Figure 1** and **Figure 2, Appendix A**.

Table 1: *Summary of Site Details*

Site Characteristics	Detail
Street Address	10 Lagoon Street, North Bega, NSW 2550
Approximate Easting and Northing (centre of site)	Easting: 216520 Northing: 5937431 GDA2020/MGA zone 56
Approximate Elevation (m AHD)	10 – 16 m
Lot and Plan	Lot 1 DP1264640
Land Zoning	E4: General Industrial
Current Land Use	Vacant Land
Future Land Use	National Circulatory Centre
Owner/Custodian	Bega Group
Investigation Area	Approximately 12,000 m ²

The following description is based on observations made during fieldwork conducted on 31 August 2023.

- The site was accessible via Anderson Drive in the northwest corner of the site via a locked gate.
- The site was vacant, and patches of grassed areas and traces of road gravel were observed on the surface.
- Stormwater infrastructure was observed in the north-central portion of the site. Surface water was not observed however any stormwater is expected to flow towards the east in the direction of the wetlands located approximately 100 m to the east.
- A former service station was observed adjacent to the southern corner of the site, towards the east.
- An active service station is located to the southeast of the site, beyond Lagoon Street, approximately 70 m from the southernmost boundary of the site.

A detailed site plan is presented in **Figure 2, Appendix A** while photographs of the site are provided in **Appendix E**.

2.2 Surrounding Land Uses

A summary of the land uses that surround the site are as follows:

- **North:** Bridge Street and residential dwellings are observed to the north.
- **South:** Lagoon Street immediately south of the site. An active service station is observed adjacent to Lagoon Street towards the south. Vacant land is observed further south, including Bega River approximately 250 m to the south.

- **East:** Vacant and agricultural land and Bega Cheese Factory. Wetlands are observed approximately 100 m to the east, while the conjunction of Bega and Brogo River is observed approximately 1,000 m towards the east.
- **West:** Anderson Street and Princess Highway are observed immediately west from the site. Commercial and industrial buildings are observed further west.

2.3 Sensitive Environments

Lanterra identified the following sensitive environments across the site and its surroundings:

- Stormwater network observed within the site, wetlands observed approximately 100 m to the east of the site, and Bega River observed to the south and east of the site.

2.4 Proposed Land Use

The site is the proposed location of the National Circulatory Centre.

3. Site History

3.1 Previous Investigations

Lanterra is unaware of any previous environmental investigation across the site.

3.2 Site Zoning

Under the Bega Valley Local Environmental Plan 2013, the site is zoned E4: General Industrial which objectives are as follow:

- To provide a range of industrial, warehouse, logistics and related land uses.
- To ensure the efficient and viable use of land for industrial uses.
- To minimise any adverse effect of industry on other land uses.
- To encourage employment opportunities.
- To enable limited non-industrial land uses that provide facilities and services to meet the needs of businesses and workers.
- To ensure that development has regard to the environmental constraints of the land and minimises adverse impacts on biodiversity, water resources and natural landforms.

3.3 Aerial and Historical Photograph Review

A Lotsearch (Environmental Risk Report) was requested, which included historical aerial photographs of the site. These were reviewed to assist with assessing the history of the site. A summary of each photograph examined as a part of the investigation is provided in **Table 2** below and the Lotsearch report in **Appendix D**.

Table 2: Details of the Review of Aerial Photographs

Date	Description of the Subject Site	Description of Surrounding Land
1944	The site is vacant and appears to be agricultural land. A building is observed in the southernmost corner of the site, presumably residential. A drainage channel, where the current stormwater infrastructure is located, is observed in the central-north section of the site.	Surrounding area appears agricultural land. The Bega cheese factory is observed to the southeast of the site. Unsealed roads are observed in the surroundings. The wetlands are observed approximately 100 m east from the site. Bega River is observed approximately 100 m to the south of the site. A bridge crossing Bega River is observed approximately 150 m towards the southeast of the southernmost portion of the site.
1957	The site does not exhibit any discernible differences.	No significant changes to the site surroundings are observed.
1967	The site does not exhibit any discernible differences.	Residential and/or commercial infrastructure has been constructed to the east of the southernmost section of the site, potentially related to Bega Cheese factory. The former service station adjacent to the southern portion of the site, towards the east, appears to be established.
1979	The site does not exhibit any discernible differences.	The bridge to the southeast of the site has been demolished and Princess Highway appears fully established. Other roads have been also constructed further west of the site. A building

Date	Description of the Subject Site	Description of Surrounding Land
		was constructed in the location of the current Bega Cheese Training Centre.
1987	The site does not exhibit any discernible differences.	Commercial/industrial buildings appear constructed to the west of the site, beyond Princess Highway.
1994	A set of stockpiles appear to have been stored across the site in its northern section, where borehole BH1 was drilled. The stormwater channel area appears to have been excavated.	Bega Cheese Factory appears to have undergone general refurbishment. The active service station located beyond Lagoon Street towards the southeast of the site appears operative.
2003	Stockpiles are observed in the northern section of the site. More stockpiles are located to the northwest of the Bega Cheese Training Centre.	New buildings are observed in the cheese factory, east of the site.
2006	Earthworks are observed in the northern section of the site and to the northwest of the Bega Cheese Training Centre.	No significant changes to the site surroundings are observed.
2010	Earthworks including excavations and presence of stockpiles are observed in the central portion of the site.	Earthworks are observed to the west of the site, beyond Princess Highway.
2015	The stormwater infrastructure within the north-central portion of the site appears established. The surface of the site appears devoid of stockpiles and excavations. The residential dwelling located in the southernmost portion of the site has been demolished.	New commercial facilities have been constructed to the west of Princess Highway.
2020	The site appears to be used for truck parking.	One of the lots observed beyond Princess Highway towards the west is used as a stockpile storage yard and/or sand/gravel yard.
2022	Containers and/or trucks are observed in the northern section of the site.	No significant changes to the site surroundings are observed.
2023	The site does not exhibit any discernible differences.	No significant changes to the site surroundings are observed, however, two new sheds are observed adjacent to the eastern boundary of the site, in the northern portion.

The site appears to have been agricultural land prior to 1944, potentially related to the Bega Cheese Factory.

Earthworks and the presence of stockpiles were observed across the site between 1994 and 2015, when the stormwater infrastructure appeared fully established.

Since 2020, the site appears to have been used for truck parking purposes.

Development in the surrounding of the site started prior to 1944, related to the Bega Cheese Factory located to the east of the site. Development continued through the years up to 2023, including commercial/industrial facilities to the west and residential dwellings to the north.

3.4 Historical Business Directories

The Lotsearch report includes historical business records from 1950 to 1991 of the area that were reviewed.

The search results indicated that the only historical business located within the site is related to the Bega Cheese Factory. The factory is not considered a risk to the site given that it is located approximately 70 m to the east of the site.

Several other historical businesses located within 150 m of the site that may introduce contaminants into the environment are listed on page 19-26 of **Appendix D**.

These include motor/garage services, located across Princess Highway 150 m towards the west, and service stations which locations are not clear from the Lotsearch report, it is possible that the listed service stations are related to the former service station located to the east of the southernmost portion of the site.

The automotive businesses beyond Princess Highway are not considered a risk considering their distance to the site boundary.

The former service station located to the east of the southern portion of the site is not considered a risk given that it is located down gradient.

The operational service station located 70 m southeast of the site is unlikely to pose a risk to the site considering the distance from it and the fact that it is also located downgradient.

These features are illustrated in **Figure 2 of Appendix A**.

3.5 Contaminated Site Register

Contaminated site search was completed for the site with NSW EPA as part of the Lotsearch Report with findings below:

- The site is not listed under the NSW EPA contaminated site notification list.
- A property approximately 30 m to the south of the site is listed under the NSW EPA contaminated site notification list. This site is shown in page 5, **Appendix D**, and is related to a former service station. This facility is not considered a risk to the site considering that it is located downstream of it.
- There are no records for the site and buffer areas being investigated by the Department of Defence for per- and poly- fluoroalkyl substances (PFAS) contamination.
- There are no records for the site and buffer areas being investigated by the Airservices Australia National PFAS Management program.
- There are no records for the site and buffer areas being investigated by the Defence three (3) year Regional Contamination Investigation program.
- There are no records of delicensed activities still regulated by the NSW EPA within the site and buffer area, with four (4) records of former licensed activities (surrendered) under the Protection of Environment Operations Act 1997 (NSW) within the site and buffer area for application of herbicides on waterways.

Refer to **Appendix D** for the Lotsearch Report.

3.6 Heritage Items

No heritage listed items are located within the site.

The closest listed heritage item is located 316 m to the northwest and corresponds a federation residence.

A copy of these records is presented in **Appendix D**

3.7 Waste Management & Liquid Fuel Facilities

There are no records within the site for National Liquid Fuel Facilities or records in the National Waste Management Site Database.

Two service stations are observed in the vicinity of the site; one located 70 m to the southeast of the site, adjacent to Lagoon Street, and another located approximately 680 m to the southeast of the site, adjacent to Carp Street.

Considering the topography of the site and its surroundings which tend to slope towards the east, and the downgradient location of these service station, they are not considered to have affected the site.

3.8 Worksafe Dangerous Good Search

A search of the Worksafe NSW dangerous good storage was not undertaken for the site, based on the historical land use of the site (vacant land).

3.9 Manufacturing Processes

There are no known manufacturing processes that currently occur or have previously occurred on the site.

3.10 Storage Tank

No chemical storage tanks were identified on the site.

3.11 Discharges to Land, Water and Air

No information regarding discharges to land, water and air was available for review at the time of writing this report. As no manufacturing operations are known to have occurred at the site, it is unlikely that there may have been previous discharges to land, water or air in the past.

3.12 Review of Current and Historical Uses

Based on the observations made during the site visit and the historical information received, the following summary for the current and historical uses has been compiled:

- The site appears to have been used for agricultural uses, presumably related to the Bega Cheese factory.
- Earthworks and presence of stockpiles were observed between 1994 and 2015.
- In 2015, the stormwater infrastructure located in the central-north portion of the site appears fully established.
- Since 2020, the site has been used for truck parking purposes.

- Development in the surrounding of the site started prior to 1944, including the Bega Cheese Factory.
- Development continued through the years up to 2023, including commercial/industrial facilities to the west and residential dwellings to the north.

4. Site Condition and Environmental Setting

4.1 Topography

The digital topographic map presented in NSW Six Maps indicated that the site has an elevation of 10 - 16 m above Australian Height Datum (m AHD).

The site slopes away following topographic contours to the east (**Figure 2, Appendix A**).

In the surrounding area, drainages and rivers are observed to run in an overall easterly direction.

4.2 Visible Signs of Contamination

Traces of road base asphalt was observed on the surface of the site.

No asbestos containing material (ACM) fragments were observed on the surface of the site.

4.3 Odours

There were no olfactory indicators of possible contamination noted during the drilling of the boreholes.

4.4 Fill Material

Fill material was observed across the site in each of the testpits, except for BH6 and BH9, advanced on 31 August 2023.

4.5 Staining

Staining was not observed across the surface of the site.

5. Geology and Hydrogeology

5.1 Geology

The 1:250 000 Bega-Mallacoota, New South Wales Geological Series Sheet, indicates that the site is underlain by the Devonian aged intrusive Brogo Granodiorite.

5.2 Hydrogeology

A groundwater bore search was provided within the Lotsearch report (**Appendix D**). The purpose of the bore search was to document the location and depth of any nearby registered groundwater bores, and the associated quality of the groundwater so that potential impacts of contaminants from the site or surrounding land uses (if any) on local users of groundwater may be assessed. A copy of the groundwater bore search result is presented in **Appendix D**.

A total of forty-seven (47) monitoring wells were observed with a buffer of 2,000 m around the site including water supply wells, stock and domestic, monitoring wells, commercial and industrial, and unknown use wells (pages 48 - 53, **Appendix D**).

The search indicated that two (2) commercial/industrial wells are located in the easternmost portion of Lot 1, approximately 500 m to the east of the site.

Three relatively closer monitoring wells are located approximately 50 m to the south of the site and related to a former service station.

The Lotsearch report indicated that aquifers across the site are porous, extensive highly productive aquifers.

Based on the topography and elevation of the site, the expected depth to groundwater is inferred to be beyond 3 m below ground level while groundwater is inferred to flow in an easterly direction towards the wetlands and Bega River.

5.3 Hydrology

Most storm water is expected to infiltrate into the subsurface.

Based on the local topography storm water that does not infiltrate would flow towards the east in the direction of the wetlands.

5.4 Acid Sulfate Soil Risk

A review of the Australian Soil Resource Information System (ASRIS) map shows the subject site to be situated in an area of 'low probability for acid sulfate soil'.

6. Preliminary Conceptual Site Model

Conceptual site models (CSM) are a method of presenting site contamination information and the relationships between sources of contamination, how it may have been introduced to the site, possible pathways for contaminant migration and exposure and the receptors that may be affected by contaminants.

Based on the information reviewed prior to conducting any intrusive investigation, the CSM was developed to assist with generating areas of environmental concern (AEC) based on the risk of contamination being present and the potential for exposure pathways.

The preliminary CSM is presented in the sections below.

6.1 Areas of Environmental Concern

The areas of environmental concern (AECs) for the site are summarised below.

AEC 1 – Fill Material

Fill material could have been used for the establishment of the site, including the stormwater infrastructure located in the central-north portion of the site. Should fill material had been sourced from a contaminated site, then it could pose a contamination risk for human health and the environment.

AEC 2 – Stockpiles and Vehicular Traffic

The site has been used to store stockpiles and for truck parking purposes. These activities have the potential to introduce contaminants into the site, including fuel/oil from vehicle traffic.

6.2 Contaminants of Potential Concern

To comprehensively characterise the site and based on the activities historically undertaken in the surroundings of the site and the site walkover, the following contaminants of potential concern (COPC) were identified.

Table 3: Identified COPC and the associated AECs

AECs	Media	COPC
AEC 1 – Fill Material	Soil	• Total Recoverable Hydrocarbons (TRH); • Benzene, Toluene, Ethylbenzene, Xylenes (BTEX); • Polycyclic Aromatic Hydrocarbons (PAH); • Organochlorine pesticides (OCP); • Organophosphorus pesticides (OCP); • Polychlorinated Biphenyls (PCB); • Speciated phenols; • Heavy Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc); and • Asbestos.
AEC 2 – Stockpiles and Vehicular Traffic	Soil	• TRH • BTEX • PAH • Heavy Metals

6.3 Exposure Pathways and Receptors

For a contaminant to pose a risk to either human health and/or the environment, there must be a potentially complete or complete pathway between the contaminant and the receptor. Identified receptors at the site are as follows:

- Future construction workers engaged as part as the development.
- On-site workers associated with the current and future use of the site.
- Groundwater.
- Ecological Receptors.

Common pathways for contaminants to migrate through the environment and result in exposure to receptors are summarised in **Table 4** below.

Table 4: Summary of Exposure Pathways

Pathway	Contaminants of Concern	Exposure Pathway Complete or Potentially Complete	Comments
Direct Contact with Soil including dermal contact and ingestion	TRH, BTEX, PAH, OCP, OPP, PCB, Phenols, Heavy metals	Potentially Complete	Based on the potential presence of fill material within the site, and its use as stockpile storage yard and truck parking area, the presence of potential contaminants in the surface or subsurface of the site cannot be eliminated and could pose a risk to the human health and the environment.
Direct Contact with Groundwater including dermal contact and ingestion	TRH, BTEX, PAH, PCB, Phenols, Heavy metals	Incomplete	No abstraction bores are located on or near the site and therefore the risk of exposure to groundwater is considered negligible. Considering that groundwater levels are expected beyond 3 m below ground level, groundwater exposure due to excavation seepage is considered unlikely to occur.
Inhalation of Asbestos Fibres	Asbestos	Potentially Complete	Given the potential presence of imported fill at the site the presence of asbestos cannot be eliminated. If present, the exposure pathway to residual asbestos fines fibrous asbestos may become complete, posing a risk for the human health.
Inhalation of gasses and vapour	TRH, BTEX	Potentially Complete	If volatile contaminants are present in the soil these could produce a vapour that could migrate to the surface, then there is a potentially complete exposure pathway. Any buildings that may be constructed in the

Pathway	Contaminants of Concern	Exposure Pathway Complete or Potentially Complete	Comments
			future are at greater risk of vapour inhalation than outdoor areas.

In its current condition, there are potentially complete contaminant exposure pathways which are contingent on whether COPCs are present.

7. Data Quality Objectives

This section outlines the data quality objectives (DQOs) applied to the investigation.

The DQO process is a planning tool that relies on scientific methods for establishing criteria for data quality and for designing data collection programs. The DQO defines the experimental process required to test a hypothesis. The DQO process aims to ensure that efforts relating to data collection are cost-effective, by eliminating unnecessary, duplicative or overly precise data whilst at the same time, ensuring the data collected is of sufficient quality and quantity to support defensible decision making.

The DQO process consists of seven steps, which are designed to clarify the study objectives, define the appropriate type of data and specify tolerable levels of potential decision errors. The seven-step DQO process adopted for this investigation is as follows:

Step 1: State the Problem – concisely describe the problem to be studied. Review prior studies and existing information to gain a sufficient understanding to define the problem;

Step 2: Identify the Decision – identify what questions the study will attempt to resolve, and what actions may result;

Step 3: Identify the Inputs to the Decision – identify the information that needs to be obtained and the measurements that need to be taken to resolve the decision statement;

Step 4: Define the Study Boundaries – specify the time periods and spatial area to which decisions will apply. Determine when and where data should be collected;

Step 5: Develop a Decision Rule – define the statistical parameter of interest, specify the action level, and integrate the previous DQO outputs into a single statement that describes the logical basis for choosing among alternative actions;

Step 6: Specify Tolerable Limits on Decision Errors – define the decision maker's tolerable decision error rates based on a consideration of the consequences of making an incorrect decision; and

Step 7: Optimise the Design –evaluate information from the previous steps and generate alternative data collection designs. Choose the most resource-effective design that meets all DQOs.

The DQOs derived for the investigation are presented in **Table 5**.

Table 5: DQOs derived for the Investigation

Step	Details
Step 1: State the Problem	The site has been used for activities that have the potential to introduce contaminants into the environment, particularly the potential presence of imported fill materials, and use as stockpile yard and vehicle parking across the site.
Step 2: Identify the Decision	The suitability of the site is to be assessed for future development from a contamination perspective. The site would be assessed as suitable should concentration of COPCs be below the adopted criteria.
Step 3: Identify the Inputs into the Decision	The COPCs selected are based on the review of previous on- and off-site historical uses and activities (see Section 2 , Section 3 and Section 4 for details).

Step	Details
	The site is zoned E4: General Industrial. Based on the project brief, it is understood that the site will be used for commercial/industrial land use (National Circulatory Centre). Therefore, the following assessment criteria from the National Environment Protection Council (NEPC) '<i>National Environment Protection (Assessment of Site Contamination) Measure 1999</i>' (revised in 2013; ASC NEPM 2013) has been selected: • Health Based Investigation Levels for Commercial/Industrial Sites (HIL D) • Health Based Screening Levels for Commercial/Industrial Sites (HSL D) • Ecological Investigation Levels (EIL) for Commercial/Industrial Sites • Ecological Screening Levels (ESL) for Commercial/Industrial Sites Selected assessment criteria based on the proposed development (see Section 9).
Step 4: Define the Site Boundaries	The investigation is limited to the site boundary shown in Appendix A: Figure 2. The vertical boundary of the site was 3 m below ground level (bgl) which was the maximum borehole depth. It is also noted that the results of the assessment are limited to the condition of the site as of 31 August 2023 when the site investigation work was completed.
Step 5: Develop a Decision Rule	• If review of previous investigations reports identified data gaps and/or potentially contaminating activities that require further investigations and/or management. • If site inspections identified signs of recent contamination, then further assessment to assess the potential contamination will be required, to determine the management actions required. • If the laboratory quality assurance / quality control data are within acceptable ranges, the results will be considered suitable for use. • If the concentrations of contaminants in samples analysed exceed the adopted assessment criteria, further investigation for delineation may be required to determine the remediation/management required. • If analytical results for COPCs are below the adopted criteria for the adopted assessment criteria, then the soil condition on-site would be considered not impacted by potential contaminating activities.
Step 6: Specify Tolerable Limits	The tolerable limits for the investigation adopted for quality assurance/quality control (QA/QC) purposes are as follows: • The relative percentage difference (RPD) for laboratory duplicates is as per the laboratory's quality assurance targets accepted under their NATA accreditation. • Recovery of matrix spikes and surrogate spikes is as per the laboratory's Quality Assurance targets accepted under their NATA accreditation. The tolerable limits for field QA/QC and duplicates data are as follows: RPD criteria of 30% or less, for concentrations > or = 5 times PQL.
Step 7: Optimise the Design	The investigation program for this assessment is detailed in Section 8 to adequately characterise the identified risks of contamination across the site (Section 3 and Section 4) and in general accordance with the NSW EPA (2022) 'Contaminated Land Guidelines – Sampling Design Part 1 - Application 'Sampling Design Guidelines'. As a summary, twelve (12) boreholes for soil sampling were constructed to assess potential impact across the site.

8. Sampling, Analysis and Quality Plan

Details of the sampling and analytical plan adopted to meet the project objectives are presented in the following sections.

8.1 Chronology of Events

The chronology of key project events is summarised in Table 6 below:

Table 6: *Summary of the Chronology of Works*

Date	Event
1 August 2023	Lanterra was engaged by ACT Geotechnical Engineers to undertake a preliminary site investigation in the westernmost portion of Lot 1 DP1264640, North Bega, NSW
31 August 2023	Borehole advancement and soil sampling across the site
12 September 2023	Receipt of laboratory results
04 October 2023	Issue of DSI report

8.2 Sampling Plan

8.2.1 Soil

Considering the identified potential contamination risks, the sampling plan follows a low density, systematic sampling across the site, in general accordance with the NSW EPA (2022) Contaminated Land Guidelines – Sampling Design Part 1 – Application’.

It is noted that twelve (12) sample locations are less than the recommended sampling density for a site of 1.2 hectares (21 to 25 sampling locations), however, based on agricultural history of the site and the identified risks, the lower systematic sampling density is considered suitable for this preliminary assessment for potential contamination on the site.

Based on the history of the site and identified risks, samples were planned to a maximum depth of 3 m below ground level (bgl).

The soil sampling plan is presented in **Figure 3, Appendix A**.

8.2.2 Quality Assurance / Quality Control

For quality assurance / quality control (QA/QC) purposes, the following samples were collected in accordance with AS4482.1 (2005).

- One (1) field duplicate sample for each twenty (20) primary soil samples to be analysed by the primary laboratory to assess the precision of the results;
- One (1) field triplicate sample for each twenty (20) primary soil samples to be analysed by a secondary laboratory to assess the accuracy of the primary laboratory;

The QA/QC analytical plan was considered appropriate.

8.3 Analytical Plan

From the samples collected across the site, the analytical plan presented in **Table 7** was executed to assess the identified COPCs.

Table 7: *Analytical plan for the investigation*

Sample Type	Sample Media	TRH	BTEX	PAH	OPP/OCF	PCB	Phenols	Heavy Metals	Asbestos in Soil
Primary	Soil	18	18	18	18	18	18	18	18
Duplicate	Soil	1	1	1	1	1	1	1	0
Triplicate	Soil	1	1	1	0	0	0	1	0

9. Assessment Criteria

The assessment criteria adopted for the investigation was based on the fact that the site is part of a school. Therefore, the following criteria has been adopted from the ASC NEPM 2013 and details of the criteria are presented in the following sections.

9.1 Soil Assessment Criteria

The assessment criteria to be adopted for soil materials are as follow:

- Health Based Investigation Levels for Commercial/Industrial Sites (HIL D).
- Health Based Screening Levels for Commercial/Industrial Sites (HSL D) for a sand lithology and a depth of 0 m to <1 m below ground level. This assumption is considered appropriate based on the predominant soil observed on site.
- Ecological Investigation Levels (EIL) for aged contaminants in Commercial/Industrial Sites.
- Ecological Screening Levels (ESL) for Commercial/Industrial for coarse soil based on sandy texture.
- Health Based Investigation Levels for Commercial/Industrial Sites where:
 - 0.05 %w/wt asbestos for bonded ACM
 - 0.001 %w/wt asbestos for asbestos fines (AF) and fibrous asbestos (FA).

It is noted that the laboratory limit of reporting for the NATA accredited analytical method is 0.01 %w/wt which is greater than the adopted criteria of 0.001 %w/wt for AF and FA. Therefore, where asbestos is detected at trace concentrations in the soil, it will be assumed that asbestos exceeds the criterion value.

EIL criteria were derived based on a conservative approach using the values presented in **Table 8** below (see **Appendix B: Table 1**).

Table 8: *Used Physicochemical Properties*

Physicochemical Property	Unit	Value
pH	pH Unit	5.5
CEC	meq / 100g	5
% Clay	%w / w	5

The EIL criteria was calculated using the ASC NEPM 2013 EIL Interactive (Excel) Calculation Spreadsheet using values for aged contaminants. Results of the EIL calculations are presented in **Appendix F**.

These criteria are shown in **Table 9**.

Table 9: *Soil Assessment Criteria*

Contaminant Group	HIL/HSL – D (mg/kg)	EIL – Commercial and Industrial (mg/kg)	ESL – Commercial and Industrial (mg/kg)
Heavy Metals			
Arsenic	3,000	160	-
Cadmium	900	-	-

Contaminant Group	HIL/HSL – D (mg/kg)	EIL – Commercial and Industrial (mg/kg)	ESL – Commercial and Industrial (mg/kg)
Chromium (III)	3,600	530	-
Copper	240,000	150	-
Lead	1,500	1,800	-
Nickel	6,000	60	-
Zinc	400,000	360	-
Mercury	730	-	-
OCP/OPP			
Aldrin and Dieldrin	45	-	-
Chlordane	530	-	-
DDT	3,600	640	-
DDT+DDD+DDE	10,800	-	-
Endrin	100	-	-
HCB	80	-	-
Heptachlor	50	-	-
Methoxychlor	2,500	-	-
Mirex	100	-	-
Chlorpyrifos	2,000	-	-
TRH and BTEX			
TRH C ₆ -C ₁₀ – BTEX (F1)	260	-	215
TRH >C ₁₀ -C ₁₆ – Naphthalene (F2)	NL	-	170
TRH >C ₁₆ -C ₃₄ (F3)	-	-	1,700
TRH >C ₃₄ -C ₄₀ (F4)	-	-	3,300
Benzene	3	-	75
Toluene	NL	-	135
Ethylbenzene	NL	-	135
Xylenes	230	-	180
PAH and PCB			

Contaminant Group	HIL/HSL – D (mg/kg)	EIL – Commercial and Industrial (mg/kg)	ESL – Commercial and Industrial (mg/kg)
Total PAH	4,000	-	-
Benzo(a)pyrene	-	-	0.7
Carcinogenic PAHs as B(a)P TEQ	40	-	-
Naphthalene	NL	170	-
Total PCB	7	-	-
Phenols			
Phenol	240,000	-	-
Pentachlorophenol	660	-	-
Cresols	250,000	-	-
Asbestos			
Bonded ACM	0.05%	-	-
FA and AF (friable asbestos)	0.001%	-	-
All forms of asbestos	No visible asbestos for surface soil	-	-

Notes:

- NL denotes non-limiting.
- ESL for Carcinogenic PAH provides concentration for Benzo(a)pyrene only.
- ACM denotes asbestos containing material.

10. Methods

A suitably qualified and experienced environmental scientist and an excavation subcontractor was mobilised to the site with appropriate equipment to undertake the soil investigation required. The methodology adopted is presented below:

- All boreholes (BH1 to BH12) were drilled with the aid of a 4-tonne excavator with a 300 mm mechanical auger attachment.
- Borehole samples were collected at the surface (0.0-0.1 m), 0.5 m below ground level (bgl), 1.0 m bgl, 2.0 m bgl and 3.0 m bgl which was the target depth.
- A new, clean pair of single-use nitrile gloves were used to extract each soil sample directly from the auger where it was then placed in a laboratory supplied 250 mL glass jar with a screw top, Teflon lined cap.
- One (1) duplicate and one (1) triplicate sample were collected for QA/QC purposes.
- Each sample was labelled including the sample name, the job number, the date of sample and the sample depth.
- For asbestos analysis, a 300 grams sample of soil was placed was placed in a zip lock plastic bag.
- Each soil sample was described in general accordance with the Unified Soil Classification System (USCS) and details of any discolouration, staining, odours or other indicators of contamination noted.
- All samples were immediately placed and stored in an ice-filled esky to keep them chilled. Samples were transported to a NATA accredited laboratory with the signed chain of custody (COC) form with the required analysis (**Appendix C**).

11. Quality Assurance (QA) and Quality Control (QC) Plan

11.1 Field QA/QC

One field duplicate and one field triplicate sample was collected for calculating the relative percent difference (RPD) and assess the precision and accuracy of the laboratory. An RPD of less than 30% is considered acceptable where the analyte concentration is greater than five (5) times the laboratory LOR. Should the RPD be greater than 30%, then further investigation as to the reason for high RPD would occur.

The duplicate and triplicate samples were collected with the following primary samples:

- QC1 and QC2 were collected with primary sample BH6 0.0-0.1

The results of the RPD calculation for each analyte were less than 30% and/or with concentrations less than five (5) times the LOR. A summary of the RPDs is tabulated below:

Table 10: Summary of RPDs

Sample Type	Number of samples	Target	Actual	Criteria Met (Yes/No)
Primary samples	18			
Duplicate (QA/QC)	1	≥ 5%	6%	Yes
Triplicate (QA/QC)	1	≥ 5%	6%	Yes
Total RPDs	162			
Total RPDs > 5x LOR & > 30%	5	≤ 5%	3.1%	Yes

Field QAQC criteria was met, therefore the data is considered suitable and reliable for the investigation.

The QA/QC results and calculated RPDs are presented in **Appendix B: Table 1** and **Table 2**.

11.2 Laboratory QA/QC

A review of the laboratory QA/QC data is summarised below.

Holding Times

All holding times were reported within their tolerable ranges.

Laboratory Accreditation

All analysis was performed in NATA accredited laboratory as follow:

- **Primary Laboratory:** SGS Australia Pty Ltd (NATA accreditation No. 2562)
- **Secondary Laboratory:** Envirolab Services Pty Ltd (NATA accreditation No. 2901)

Surrogate and Spike Recoveries

All matrix spike recoveries were within tolerable limits.

All surrogate recoveries were within the tolerable limits with the exception of the following:

Table 11: *Surrogate samples that Exceed the Laboratory QA/QC criteria*

Report Number	Sample Name	Sample Number	Analyte	Recovery (%)
SE253336	BH1 0.0-0.1	SE253336.001	D4-1,2-dichloroethane (surrogate)	130
	BH6 0.0-0.1	SE253336.009		132
	BH7 0.0-0.1	SE253336.010		141
	BH9 0.5-0.6	SE253336.013		140
	BH10 0.0-0.1	SE253336.014		132
	BH11 1.0-1.1	SE253336.017		134
	BH12 0.0-0.1	SE253336.018		145

The laboratory advised that the at least 2 of 3 surrogates were within the acceptance criteria. In addition, given that phenols were observed below the laboratory LOR in the primary samples, the exceedances were not considered to affect the results of this investigation.

Laboratory Control Sample Results

All laboratory control sample results were within the tolerable limits.

Laboratory Duplicate Results

The duplicate sample RPDs were within the tolerable range with the exception of the following:

Table 12: *Laboratory duplicate samples that exceeded the Laboratory QA/QC criteria*

Report Number	Original	Duplicate Number	Analyte	Recovery (%)
SE253336	SE253336.019	LB290178.024	Lead	45

Based on the comments provided by the laboratory, the exceedances were due to sample heterogeneity. Considering the nature of the material and that lead was below the adopted criteria of this investigation, the exceedance is not considered to have impacted the outcome of this investigation.

Laboratory Blank Results

All method laboratory blanks were below the laboratory LOR and therefore within tolerable limits.

12. Results

The findings from site inspection and laboratory analytical results of the investigation are presented in the following sections.

12.1 Visual Observations / Field Measurements

Fill material was observed in each borehole across the site to depths varying between 0.3 to 3.0 m below ground level (bgl).

Fill material across the site corresponded with the following:

- Topsoil comprised of a sandy silt, pale brown in colour.
- Reworked material comprised mostly of a gravelly clayey sand, dark brown to brown in colour.

The reworked material resembled an extremely weathered granodiorite corresponding with the geology of the site and its surrounding. It is understood that some of the fill material across the site was brought from the Woolworth Village Shopping Centre construction area, located within the Bega town centre.

Traces of road base asphalt were observed across the surface of the site.

Traces of construction materials were observed while drilling and sampling soil across the site including fragments of terracotta pipes, bricks, wood, concrete, and PVC fragments.

No asbestos containing materials (ACM) were observed on the surface of the site and/or drilling and sampling soil across the site.

Natural materials were observed during the advancement of boreholes BH2, BH6, BH9, BH11 and BH12 from 0.2 m bgl. This material was described as a yellow orange – brown sandy clay – clayey sand weathered granodiorite, in accordance with the underlying geology of the area (see **Section 5**).

A weak organic decomposing odour was detected in borehole BH7 at 2.0 m bgl, however, the PID concentrations of collected samples varied from 0.1 to 1.3 ppm, indicating low levels of volatile organic compounds.

Borehole details are provided in **Appendix G**.

12.2 Analytical Results

A total of eighteen (18) primary soil samples were collected for analysis. A summary of the analytical results is presented in **Appendix B: Table 1**, while copies of the laboratory reports, sample receipt and COCs are presented in **Appendix C**.

A brief summary of the results is presented below.

OCP/OPP, PCB, BTEX and Phenols

Concentrations of OCP/OPP, PCB, BTEX and Phenols were below the laboratory limit of reporting (LOR) (see **Appendix B: Table 1**) and therefore below the adopted assessment criteria for commercial/industrial land use.

TRH

Concentrations of TRH compounds were below the laboratory LOR in most samples with the exception of BH3 2.0-2.1, collected from fill material, as follows:

- TRH C15-C28 = 72 mg/kg
- TRH C29-C36 = 120 mg/kg
- TRH >C16-C34 (F3) = 150 mg/kg
- TRH C10-C36 Total = 190 mg/kg

However, these concentrations are below the adopted criteria for commercial/industrial land use.

PAH

Concentrations of PAH compounds were below the laboratory LOR in most samples with the exception of the following:

Table 13: PAH Soil Concentrations

Analyte	ESL Commercial/ Industrial (mg/kg)	HIL D (mg/kg)	BH1 0.0- 0.1 (mg/kg)	BH2 0.5- 0.6 (mg/kg)	BH3 2.0- 2.1 (mg/kg)	BH7 2.0- 2.1 (mg/kg)	BH10 0.0-0.1 (mg/kg)
Phenanthrene	-	-	<0.1	<0.1	0.2	<0.1	<0.1
Fluoranthene	-	-	0.1	0.2	0.5	0.1	0.2
Pyrene	-	-	0.2	0.2	0.6	0.1	0.2
Benzo(a)anthracene	-	-	<0.1	<0.1	0.3	<0.1	0.1
Chrysene	-	-	<0.1	<0.1	0.3	<0.1	0.1
Benzo(b&j)fluoranthene	-	-	0.1	0.1	0.4	<0.1	0.1
Benzo(k)fluoranthene	-	-	<0.1	<0.1	0.2	<0.1	<0.1
Benzo(a)pyrene	0.7	-	0.1	0.1	0.4	<0.1	0.1
Indeno(1,2,3-cd)pyrene	-	-	<0.1	<0.1	0.2	<0.1	0.1
Benzo(ghi)perylene	-	-	<0.1	<0.1	0.2	<0.1	0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	-	40	<0.2	<0.2	0.5	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	-	40	<0.3	<0.3	0.6	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	-	40	<0.2	<0.2	0.6	<0.2	0.2
Total PAH (18)	-	4,000	<0.8	<0.8	3.4	<0.8	1.2

However, these concentrations are below the adopted criteria for commercial/industrial land use.

Heavy Metals

A total of eighteen (18) primary soil samples were analysed for heavy metals across the site. Details of metal concentrations were as follows:

- Concentrations of cadmium and mercury were below the laboratory LOR in each analysed sample.
- Concentrations of arsenic, chromium, copper, lead, nickel and zinc were detected above the laboratory LOR in each sample and the maximum concentrations are provided below:

- Arsenic = 5 mg/kg
- Chromium = 20 mg/kg
- Copper = 9.2 mg/kg
- Lead = 76 mg/kg
- Nickel = 36 mg/kg
- Zinc = 110 mg/kg

Fibrous asbestos (FA) and asbestos fines (AF)

No FA or AF were detected in any of the soil samples analysed. These results are presented in **Appendix B: Table 1**.

13. Revised Conceptual Site Model

Based on the results of the intrusive investigation, the CSM has been revised to reflect information obtained from the site investigation.

13.1 Summary of Site Condition

Fill material was encountered from the surface of the site to a maximum depth of 3.0 m bgl and corresponded with reworked materials across the site and its surrounding. The maximum depth of boreholes was 3.0 m and the depth of fill extended beyond 3m in boreholes BH4, BH5, and BH8.

Concentrations of TRH and PAH detected in samples BH1 0.0-0.1, BH2 0.5-0.6, BH3 2.0-2.1, BH7 2.0-2.1 and BH10 0.0-0.1 were above the laboratory LOR and were likely associated with anthropogenic material such as traces of asphalt in the fill. Each contaminant of potential concern was below the adopted HIL/HSL D criteria for the protection of human health in a commercial/industrial setting.

Contaminants of potential concern were also below the ecological criteria (EIL/ESL) in each analysed sample across the site for commercial/industrial land use.

Other traces of construction materials were observed while drilling and included fragments of terracotta pipes, bricks, wood, concrete, and PVC fragments however the low concentrations of these materials do not pose an aesthetic issue for the site.

No asbestos containing materials (ACM) were observed on the surface of the site or during drilling and sampling soil across the site.

Prior to any soil removal from the site, a soil assessment must be undertaken following the guidelines of the NSW EPA (2014) *'The Excavated Natural Material Order 2014'* if suitable for off-site use as natural excavated material (ENM) or NSW EPA (2014) *'Waste Classification Guidelines, Part 1: Classifying Waste'* for off-site disposal as waste.

13.2 Potential Receptors and Exposure Pathways

Based on the results of the investigation, the revised CSM is presented in the table below:

Table 14: Revised Conceptual Site Model

Pathway	COPCs	Potential Receptors	Exposure Pathway Complete or Potentially Complete	Comments
Direct Contact with Soil including dermal contact and ingestion	TRH, BTEX, PAH, OCP, OPP, PCB, Phenols, Heavy metals	- On-site users - On-site workers - Future workers - Future residents - Ecological receptors	Incomplete	The site investigation did not identify concentration of COPCs in soil that would pose an unacceptable risk to the human health and the environment. Therefore, the pathway associated with these COPCs is considered incomplete.
Direct Contact with Groundwater including	TRH, BTEX, PAH, PCB, Phenols, Heavy metals	- On-site users - On-site workers - Future workers	Incomplete	Based on the nature of the development, which does not include basement levels, and the fact that no abstraction bores are located on or near the site

Pathway	COPCs	Potential Receptors	Exposure Pathway Complete or Potentially Complete	Comments
dermal contact and ingestion		Ecological receptors		the risk of exposure to groundwater is considered negligible.
Inhalation of Asbestos Fibres	Asbestos	- On-site users - On-site workers - Future workers	Incomplete	No asbestos was found during sampling works across the site. Therefore, the exposure pathway is considered incomplete. However, given the size of the site, it is not possible to rule out its existence and a UFP must be prepared in case asbestos containing materials are found during developing works.
Inhalation of gasses and vapour	TRH, BTEX	- On-site users - On-site workers - Future workers - Future residents	Incomplete	Volatile compounds were below the adopted criteria of this investigation. Therefore, the exposure pathway is incomplete.

14. Summary and Conclusions

ACT Geotechnical Engineers engaged Lanterra to undertake a PSI with soil sampling for the proposed National Circularity Centre on the western part of Lot 1 DP1264640, North Bega, NSW.

The site is the proposed location for the National Circulatory Centre and the objective of this PSI was to assess the suitability of the site for the proposed development.

Based on the history of the site and this soil investigation, a summary of the key findings is provided below:

- Fill material was observed in each borehole drilled across the site (BH1 to BH12) to depths varying between 0.3 to 3.0 m below ground level.
- Fill material across the site corresponded with topsoil and reworked material likely sourced from the site and its surrounding. The reworked material corresponded with the geology of the area.
- No fragments of ACM were observed on the surface of the site.
- No asbestos fines or fibrous asbestos were detected in any of the analysed samples across the site.
- Concentrations of TRH, BTEX, PAH, OPP/OCP, PCB, phenols and heavy metals in soil across the site were below the HIL/HSL D and ecological criteria for commercial/industrial land use.

Based on the findings of this contamination assessment, the site is considered suitable for the proposed National Circulatory Centre.

Lanterra notes that prior to any earthwork occurring across the site a construction environmental management plan (CEMP) which includes an unexpected finds protocol (UFP) to manage any unexpected occurrences of contamination must be prepared by a suitably qualified environmental consultant.

Any soil to be removed from the site as part of the development works must be assessed in accordance with the NSW EPA (2014) *'The Excavated Natural Material Order 2014'* if suitable for off-site use as natural excavated material (ENM) or NSW EPA (2014) *'Waste Classification Guidelines, Part 1: Classifying Waste'* for off-site disposal as waste.

15. References

Lewis P.C. and Glen R.A., 1995, Bega - Mallacoota 1:250 000 Geological Sheet SJ/55-04 & part SJ/55-08, 2nd edition, Geological Survey of New South Wales, Sydney

National Environmental Protection Council (NEPC) (2013) '*National Environment Protection (Assessment of Site Contamination) Measure 1999*' (as amended April 2013).

NSW EPA (2014) '*The Excavated Natural Material Order 2014*'

NSW EPA (2014) '*Waste Classification Guidelines, Part 1: Classifying Waste*'

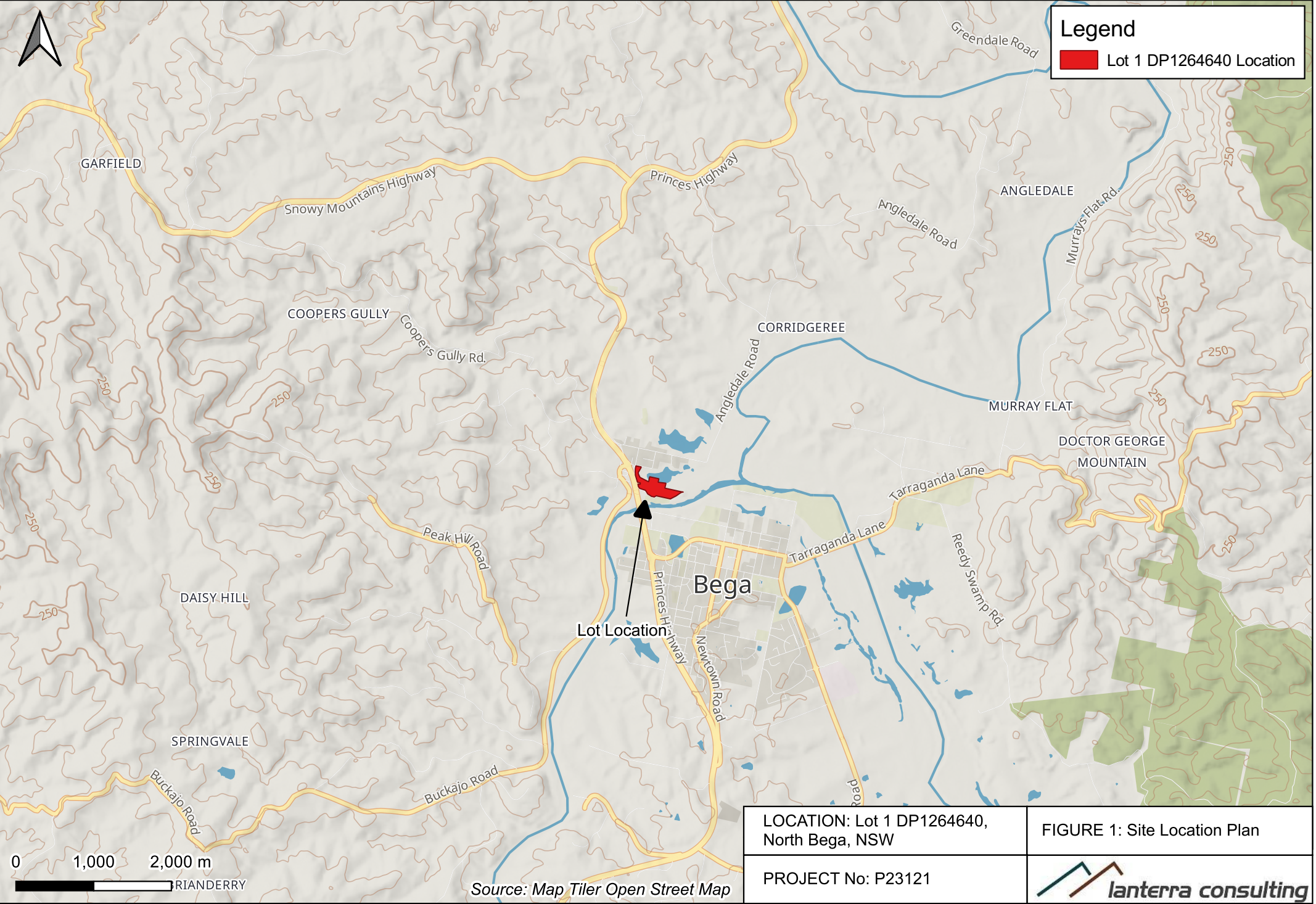
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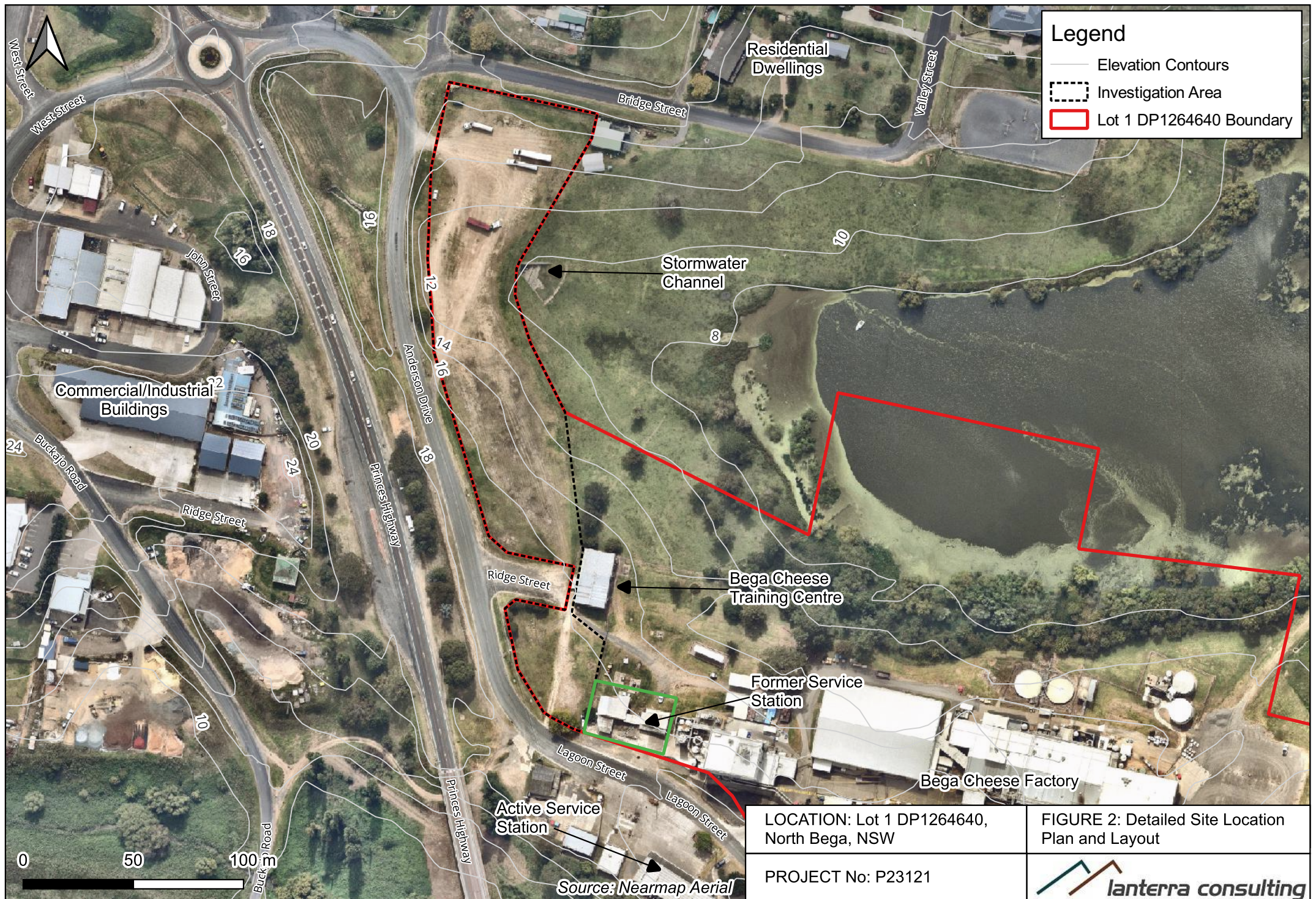
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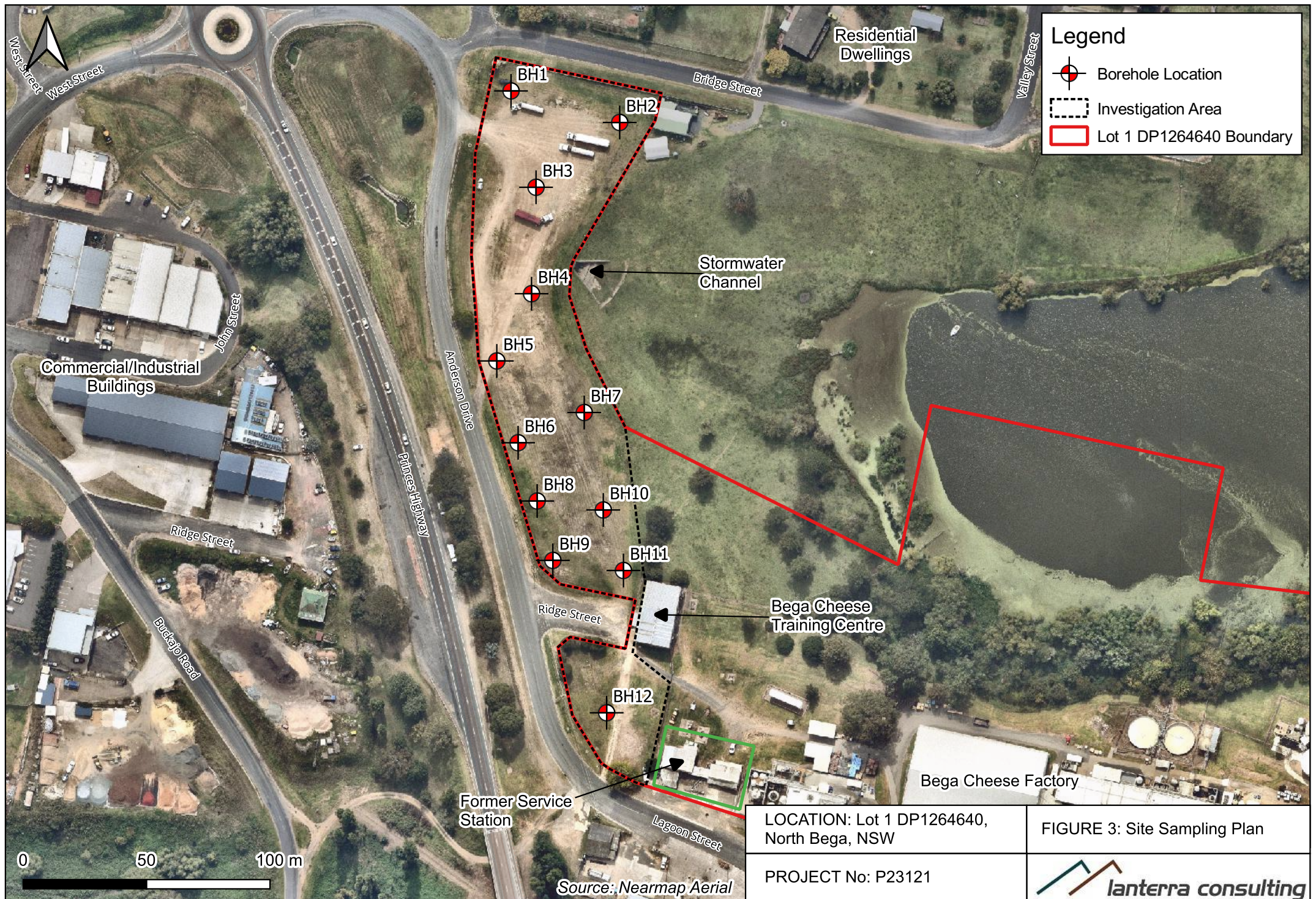
NSW EPA (2022) '*Contaminated Land Guidelines – Sampling Design Part 1 - Application 'Sampling Design Guidelines*'.

Standards Australia (2005) '*Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds AS4482.1 (2005) and Part 2: Volatile substances, AS4482.2 (2005)*'.

Figures







Analytical Results

P23121 - Preliminary Site Investigation, Lot 1 DP1264640, Lagoon Street, North Bega, NSW

Appendix B Table 1: Soil Analytical Results

						Sample Name	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1
						Depth (m)	0.0-0.1	0.5-0.6	0.0-0.1	2.0-2.1	0.5-0.6	2.0-2.1	0.0-0.1	1.0-1.1
						Sampled Date	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023
						Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
						ASC NEPM (2013) EIL/ESL Commercial and Industrial	ASC NEPM (2013) HSL D	ASC NEPM (2013) HIL D						
Method_Type	ChemName	Units	EQL	COARSE	SAND									
Heavy Metals in Soil	Arsenic, As	mg/kg	1	160		3000	3	2	2	5	2	1	2	1
	Cadmium, Cd	mg/kg	0.3			900	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	Chromium, Cr	mg/kg	0.5	530		3600	11	9.6	20	10	15	13	14	13
	Copper, Cu	mg/kg	0.5	150		240,000	5.5	3.7	8	9.2	3.4	2.3	1.8	1.5
	Lead, Pb	mg/kg	1	1800		1500	9	15	5	76	7	3	3	4
	Nickel, Ni	mg/kg	0.5	60		6000	8.5	3.5	36	4.3	6.9	7.3	8.1	5.4
	Zinc, Zn	mg/kg	2	360		400,000	32	22	35	75	110	27	29	25
	Mercury	mg/kg	0.05			730	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorobenzene (HCB)	mg/kg	0.1			80	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Alpha BHC	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
OC (Organochlorine Pesticides) in Soil	Lindane (gamma BHC)	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Heptachlor	mg/kg	0.1			50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Aldrin	mg/kg	0.1			45	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Beta BHC	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Delta BHC	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	p,p'-DDE	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2			2000	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Gamma Chlordane	mg/kg	0.1			530	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Alpha Chlordane	mg/kg	0.1			530	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	trans-Nonachlor	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	p,p'-DDE	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Dieldrin	mg/kg	0.2			45	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Endrin	mg/kg	0.2			100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	p,p'-DDD	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	p,p'-DDT	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Beta Endosulfan	mg/kg	0.2			2000	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	p,p'-DDD	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	p,p'-DDT	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Methoxychlor	mg/kg	0.1			2500	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Endrin ketone	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Isodrin	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Mirex	mg/kg	0.1			100	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total CLP OC Pesticides	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1
OPP (Organophosphorus Pesticides) in Soil	Dichlorvos	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dimethoate	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Diazinon (Dimpylate)	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fenitrothion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Malathion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2			2000	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Parathion-ethyl (Parathion)	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Methidathion	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Ethion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Azinphos-methyl (Guthion)	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Total OP Pesticides	mg/kg	1.7				<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
PAHs (Polynuclear Aromatic Hydrocarbons) in Soil	Naphthalene	mg/kg	0.1	370	NL / NL / NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthylene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluorene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phenanthrene	mg/kg	0.1				<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
	Anthracene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluoranthene	mg/kg	0.1				0.1	0.2	<0.1	0.5	<0.1	<0.1	<0.1	<0.1
	Pyrene	mg/kg	0.1				0.2	0.2	<0.1	0.6	<0.1	<0.1	<0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1				<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1
	Chrysene	mg/kg	0.1				<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1
	Benzo(b,k)fluoranthene	mg/kg	0.1				0.1	0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1
	Benzo(k)fluoranthene	mg/kg	0.1				<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1				0.1	0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1				<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
	Dibenz(a,h)anthracene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(g,h,i)perylene	mg/kg	0.1				<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2			40	<0.2	<0.2	<0.2	0.5	<0.2	<0.2	<0.2	<0.2	
Carcinogenic PAHs, BaP TEQ <LOR=1	TEQ (mg/kg)	0.3			40	<0.3	<0.3	<0.3	0.6	<0.3	<0.3	<0.3	<0.3	
Carcinogenic PAHs, BaP TEQ <LOR=2	TEQ (mg/kg)	0.2			40	<0.2	<0.2	<0.2	0.6	<0.2	<0.2	<0.2	<0.2	
Total PAH (18)	mg/kg	0.8			4000	<0.8	<0.8	<0.8	3.4	<0.8	<0.8	<0.8	<0.8	

P23121 - Preliminary Site Investigation, Lot 1 DP1264640, Lagoon Street, North Bega, NSW

Appendix B Table 1: Soil Analytical Results

				Sample Name																	
				BH1 0.0-0.1		BH2 0.5-0.6		BH3 0.0-0.1		BH3 2.0-2.1		BH4 0.5-0.6		BH4 2.0-2.1		BH5 0.0-0.1		BH5 1.0-1.1			
				0.0-0.1		0.5-0.6		0.0-0.1		2.0-2.1		0.5-0.6		2.0-2.1		0.0-0.1		1.0-1.1			
				Sample Date		4/09/2023		4/09/2023		4/09/2023		4/09/2023		4/09/2023		4/09/2023		4/09/2023			
				Sample Type		Soil		Soil		Soil		Soil		Soil		Soil		Soil			
				ASC NEPM (2013) ELI/ESL Commercial and Industrial		ASC NEPM (2013) HSL D (mg/kg) 0.0-1.0m/1.0-2.0m/2.0-4.0m		ASC NEPM (2013) HSL D													
Method_Type	ChemName	Units	EQL	COARSE																	
PCBs in Soil	Arochlor 1016	mg/kg	0.2																		
	Arochlor 1221	mg/kg	0.2																		
	Arochlor 1232	mg/kg	0.2																		
	Arochlor 1242	mg/kg	0.2																		
	Arochlor 1248	mg/kg	0.2																		
	Arochlor 1254	mg/kg	0.2																		
	Arochlor 1260	mg/kg	0.2																		
	Arochlor 1262	mg/kg	0.2																		
	Arochlor 1268	mg/kg	0.2																		
	Total PCBs (Arochlor)	mg/kg	1					7													
TRH (Total Recoverable Hydrocarbons) in Soil	TRH C10-C14	mg/kg	20																		
	TRH C15-C28	mg/kg	45																		
	TRH C29-C36	mg/kg	45																		
	TRH C37-C40	mg/kg	100																		
	TRH >C10-C16	mg/kg	25																		
	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	170	NL / NL / NL																
	TRH >C16-C34 (F3)	mg/kg	90	1700																	
	TRH >C34-C40 (F4)	mg/kg	120	3300																	
	TRH C10-C36 Total	mg/kg	110																		
	TRH >C10-C40 Total (F bands)	mg/kg	210																		
BTEX + VOC	Benzene	mg/kg	0.1	75	3 / 3 / 3																
	Toluene	mg/kg	0.1	135	NL / NL / NL																
	Ethylbenzene	mg/kg	0.1	165	NL / NL / NL																
	m/p-xylene	mg/kg	0.2																		
	o-xylene	mg/kg	0.1																		
	Total Xylenes	mg/kg	0.1	180	230 / NL / NL																
	Total BTEX	mg/kg	0.3																		
	Benzene (F0)	mg/kg	0.6																		
	TRH C6-C9	mg/kg	0.1																		
	TRH C6-C10	mg/kg	20																		
Speciated Phenols in Soil	TRH C6-C10 minus BTEX (F1)	mg/kg	25	215	260 / 370 / 630																
	Phenol	mg/kg	0.5				240,000														
	2-methyl phenol (o-cresol)	mg/kg	0.5																		
	3/4-methyl phenol (m/p-cresol)	mg/kg	1																		
	Total Cresol	mg/kg	1.5				250,000														
	2-chlorophenol	mg/kg	0.5																		
	2,4-dimethylphenol	mg/kg	0.5																		
	2,6-dichlorophenol	mg/kg	0.5																		
	2,4-dichlorophenol	mg/kg	0.5																		
	2,4,6-trichlorophenol	mg/kg	0.5																		
Asbestos in soil	2-nitrophenol	mg/kg	0.5																		
	4-nitrophenol	mg/kg	1																		
	2,4,5-trichlorophenol	mg/kg	0.5																		
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1																		
	Pentachlorophenol	mg/kg	0.5				660														
	2,4-dinitrophenol	mg/kg	2																		
	4-chloro-3-methylphenol	mg/kg	2																		
	Asbestos Detected	No unit	0																		
	Estimated Fibres	%w/w	0.01																		

P23121 - Preliminary Site Investigation, Lot 1 DP1264640, Lagoon Street, North Bega, NSW

Appendix B Table 1: Soil Analytical Results

Method_Type	ChemName	Units	EQL	COARSE	SAND	Sample Name Depth (m) Sampled Date Sample Type	BH6 0.0-0.1 0.0-0.1 4/09/2023 Soil	BH7 0.0-0.1 2.0-2.1 4/09/2023 Soil	BH7 2.0-2.1 2.0-2.1 4/09/2023 Soil	BH8 0.0-0.1 0.0-0.1 4/09/2023 Soil	BH9 0.5-0.6 0.5-0.6 4/09/2023 Soil	BH10 0.0-0.1 0.0-0.1 4/09/2023 Soil	BH10 0.5-0.6 0.5-0.6 4/09/2023 Soil	BH11 0.0-0.1 0.0-0.1 4/09/2023 Soil	BH11 1.0-1.1 1.0-1.1 4/09/2023 Soil	BH12 0.0-0.1 0.0-0.1 4/09/2023 Soil
Heavy Metals in Soil	Arsenic, As	mg/kg	1	160		3000	1	2	3	3	1	2	2	2	1	<1
	Cadmium, Cd	mg/kg	0.3			900	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	Chromium, Cr	mg/kg	0.5	530		3600	7.8	18	13	9.8	8.6	13	7.9	16	12	6.6
	Copper, Cu	mg/kg	0.5	150		240,000	2.8	2.8	5.2	6.4	0.6	8.1	3.3	3.9	1.3	1.9
	Lead, Pb	mg/kg	1	1800		1500	11	5	20	13	4	19	6	7	4	9
	Nickel, Ni	mg/kg	0.5	60		6000	2.5	7.3	5.8	8.4	2.4	6.8	7.1	9.1	5.6	1.1
	Zinc, Zn	mg/kg	2	360		400,000	29	28	39	54	6.5	53	31	29	16	15
	Mercury	mg/kg	0.05			730	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorobenzene (HCB)	mg/kg	0.1			80	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Alpha BHC	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
OCP (Organochlorine Pesticides) in Soil	Lindane (gamma BHC)	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Heptachlor	mg/kg	0.1			50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Aldrin	mg/kg	0.1			45	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Beta BHC	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Delta BHC	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	o,p'-DDE	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2			2000	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Gamma Chlordane	mg/kg	0.1			530	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Alpha Chlordane	mg/kg	0.1			530	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	trans-Nonachlor	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	p,p'-DDE	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Dieldrin	mg/kg	0.2			45	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Endrin	mg/kg	0.2			100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	p,p'-DDD	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	p,p'-DDT	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Beta Endosulfan	mg/kg	0.2			2000	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	p,p'-DDD	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	p,p'-DDT	mg/kg	0.1			3600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Methoxychlor	mg/kg	0.1			2500	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Endrin Ketone	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Isodrin	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Mirex	mg/kg	0.1			100	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total CLP OC Pesticides	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
OPP (Organophosphorus Pesticides) in Soil	Dichlorvos	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dimethoate	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Diazinon (Dimpylate)	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fenitrothion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Malathion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2			2000	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Parathion-ethyl (Parathion)	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Methidathion	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Ethion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PAHs (Polynuclear Aromatic Hydrocarbons) in Soil	Azinphos-methyl (Guthion)	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Total OP Pesticides	mg/kg	1.7				<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
	Naphthalene	mg/kg	0.1	370	NL / NL / NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthylene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluorene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phenanthrene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Anthracene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)fluoranthene	Fluoranthene	mg/kg	0.1				<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
	Pyrene	mg/kg	0.1				<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Chrysene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(b)fluoranthene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(k)fluoranthene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	0.7			<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Dibenz(ah)anthracene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2			40	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.3			40	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	Carcinogenic PAHs, BaP TEQ <LOR=0/2	TEQ (mg/kg)	0.2			40	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2
	Total PAH (18)	mg/kg	0.8			4000	<0.8	<0.8	<0.8	<0.8	<0.8	1.2	<0.8	<0.8	<0.8	<0.8

P23121 - Preliminary Site Investigation, Lot 1 DP1264640, Lagoon Street, North Bega, NSW

Appendix B Table 1: Soil Analytical Results

					Sample Name	BH6 0.0-0.1	BH7 0.0-0.1	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1		
					Depth (m)	0.0-0.1	0.0-0.1	2.0-2.1	0.0-0.1	0.5-0.6	0.0-0.1	0.5-0.6	0.0-0.1	1.0-1.1	0.0-0.1		
					Sample Date	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023	4/09/2023		
					Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
					ASC NEPM (2013) EIL/ESL Commercial and Industrial	ASC NEPM (2013) HSL D (mg/kg) 0.0-1.0m/1.0-2.0m/2.0-4.0m	ASC NEPM (2013) HIL D										
Method_Type	ChemName	Units	EQL	COARSE	SAND												
PCBs in Soil	Arochlor 1016	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Arochlor 1221	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Arochlor 1232	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Arochlor 1242	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Arochlor 1248	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Arochlor 1254	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Arochlor 1260	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Arochlor 1262	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Arochlor 1268	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Total PCBs (Arochloris)	mg/kg	1			7	<1	<1	<1	<1	<1	<1	<1	<1	<1		
TRH (Total Recoverable Hydrocarbons) in Soil	TRH C10-C14	mg/kg	20				<20	<20	<20	<20	<20	<20	<20	<20	<20		
	TRH C15-C18	mg/kg	45				<45	<45	<45	<45	<45	<45	<45	<45	<45		
	TRH C19-C26	mg/kg	45				<45	<45	<45	<45	<45	<45	<45	<45	<45		
	TRH C27-C40	mg/kg	100				<100	<100	<100	<100	<100	<100	<100	<100	<100		
	TRH >C10-C16	mg/kg	25				<25	<25	<25	<25	<25	<25	<25	<25	<25		
	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	170	NL / NL NL		<25	<25	<25	<25	<25	<25	<25	<25	<25		
	TRH >C16-C34 (F3)	mg/kg	90	1700			<90	<90	<90	<90	<90	<90	<90	<90	<90		
	TRH >C34-C40 (F4)	mg/kg	120	3300			<120	<120	<120	<120	<120	<120	<120	<120	<120		
	TRH C10-C36 Total	mg/kg	110				<110	<110	<110	<110	<110	<110	<110	<110	<110		
	TRH >C10-C40 Total (F bands)	mg/kg	210				<210	<210	<210	<210	<210	<210	<210	<210	<210		
BTEX + VOC	Benzene	mg/kg	0.1	75	3 / 3 / 3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	Toluene	mg/kg	0.1	135	NL / NL / NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	Ethylbenzene	mg/kg	0.1	165	NL / NL / NL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	m/p-xylene	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	o-xylene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	Total Xylenes	mg/kg	0.1	180	230 / NL / NL		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3		
	Total BTEX	mg/kg	0.3				<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6		
	Benzene (F0)	mg/kg	0.6				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	TRH C6-C9	mg/kg	0.1				<20	<20	<20	<20	<20	<20	<20	<20	<20		
	TRH C6-C10	mg/kg	20				<25	<25	<25	<25	<25	<25	<25	<25	<25		
Speciated Phenols in Soil	TRH C6-C10 minus BTEX (F1)	mg/kg	25	215	260 / 370 / 630		<25	<25	<25	<25	<25	<25	<25	<25	<25		
	Phenol	mg/kg	0.5			240,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2-methyl phenol (o-cresol)	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	3/4-methyl phenol (m/p-cresol)	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Total Cresol	mg/kg	1.5			250,000	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5		
	2-chlorophenol	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4-dimethylphenol	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,6-dichlorophenol	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4-dichlorophenol	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4,6-trichlorophenol	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
Asbestos in soil	2-nitrophenol	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	4-nitrophenol	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1	<1		
	2,4,5-trichlorophenol	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Pentachlorophenol	mg/kg	0.5			660	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4-dinitrophenol	mg/kg	2				<2	<2	<2	<2	<2	<2	<2	<2	<2		
	4-chloro-3-methylphenol	mg/kg	2				<2	<2	<2	<2	<2	<2	<2	<2	<2		
	Asbestos Detected	No unit	0				No	No	No	No	No	No	No	No	No		
	Estimated Fibres	sw/w	0.01				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		

Appendix B Table 2: RPD Results

Method_Type	ChemName	Sample Name		RPD	QC2	RPD		
		Depth (m)	0.0-0.1				0.0-0.1	
		Sampled Date	4/09/2023				4/09/2023	
		Sample Type	Soil				Soil	
Units	EQL							
Heavy Metals in Soil	Arsenic, As	mg/kg	1	1	1	0%	<0.1	N.A.
	Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	0%	<0.4	N.A.
	Chromium, Cr	mg/kg	0.5	7.8	9.4	19%	12	42%
	Copper, Cu	mg/kg	0.5	2.8	3.4	19%	4	35%
	Lead, Pb	mg/kg	1	11	15	31%	12	9%
	Nickel, Ni	mg/kg	0.5	2.5	3.4	31%	4	46%
	Zinc, Zn	mg/kg	2	29	37	24%	34	16%
	Mercury	mg/kg	0.05	<0.05	<0.05	0%	<0.1	N.A.
OCP (Organochlorine Pesticides) in Soil	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Alpha BHC	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Heptachlor	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Aldrin	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Beta BHC	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Delta BHC	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	o,p'-DDE	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	p,p'-DDE	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Dieldrin	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Endrin	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	o,p'-DDD	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	o,p'-DDT	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	p,p'-DDD	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	p,p'-DDT	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Methoxychlor	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Endrin Ketone	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Isodrin	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Mirex	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Total CLP OC Pesticides	mg/kg	1	<1	<1	0%	N.A.	N.A.
OPP (Organophosphorus Pesticides) in Soil	Dichlorvos	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	Dimethoate	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	Fenitrothion	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Malathion	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Methidathion	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	Ethion	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Total OP Pesticides	mg/kg	1.7	<1.7	<1.7	0%	N.A.	N.A.
PAHs (Polynuclear Aromatic Hydrocarbons) in Soil	Naphthalene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0%	N.A.	N.A.
	Acenaphthylene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Acenaphthene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Fluorene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Phenanthrene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Anthracene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Fluoranthene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Pyrene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Benzo[a]anthracene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Chrysene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Benzo[b]fluoranthene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Benzo[k]fluoranthene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Benzo[a]pyrene	mg/kg	0.1	<0.1	<0.1	0%	<0.05	0%
	Indeno[1,2,3-cd]pyrene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Dibenzo[ah]anthracene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
	Benzo[ghi]perylene	mg/kg	0.1	<0.1	<0.1	0%	<0.1	0%
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	0%	<0.5	0%	
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	0%	<0.5	0%	
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	0%	<0.5	0%	
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	0%	<0.05	0%	

Appendix B Table 2: RPD Results

Method_Type		ChemName	Sample Name		RPD	QC2		RPD
			Depth (m)	BH6 0.0-0.1		QC1	0.0-0.1	
			Sampled Date	4/09/2023		4/09/2023	4/09/2023	
			Sample Type	Soil		Soil	Soil	
		Units	EQL					
PCBs in Soil	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Arochlor 1221	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Arochlor 1232	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Arochlor 1242	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Arochlor 1248	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Arochlor 1254	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Arochlor 1260	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Arochlor 1262	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Arochlor 1268	mg/kg	0.2	<0.2	<0.2	0%	N.A.	N.A.
	Total PCBs (Arochlors)	mg/kg	1	<1	<1	0%	N.A.	N.A.
TRH (Total Recoverable Hydrocarbons) in Soil	TRH C10-C14	mg/kg	20	<20	<20	0%	<50	0%
	TRH C15-C28	mg/kg	45	<45	<45	0%	<100	0%
	TRH C29-C36	mg/kg	45	<45	<45	0%	<100	0%
	TRH C37-C40	mg/kg	100	<100	<100	0%	N.A.	N.A.
	TRH >C10-C16	mg/kg	25	<25	<25	0%	<50	0%
	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	0%	<50	0%
	TRH >C16-C34 (F3)	mg/kg	90	<90	<90	0%	<100	0%
	TRH >C34-C40 (F4)	mg/kg	120	<120	<120	0%	<100	0%
	TRH C10-C36 Total	mg/kg	110	<110	<110	0%	<50	0%
	TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	0%	<50	0%
BTEx + VOC	Benzene	mg/kg	0.1	<0.1	<0.1	0%	<0.2	0%
	Toluene	mg/kg	0.1	<0.1	<0.1	0%	<0.5	0%
	Ethylbenzene	mg/kg	0.1	<0.1	<0.1	0%	<1	0%
	m/p-xylene	mg/kg	0.2	<0.2	<0.2	0%	<2	0%
	o-xylene	mg/kg	0.1	<0.1	<0.1	0%	<1	0%
	Total Xylenes	mg/kg	0.1	<0.3	<0.3	0%	<1	0%
	Total BTEx	mg/kg	0.3	<0.6	<0.6	0%	N.A.	N.A.
	Benzene (F0)	mg/kg	0.6	<0.1	<0.1	0%	N.A.	N.A.
	TRH C6-C9	mg/kg	0.1	<20	<20	0%	<25	0%
	TRH C6-C10	mg/kg	20	<25	<25	0%	<25	0%
Speciated Phenols in Soil	TRH C6-C10 minus BTEx (F1)	mg/kg	25	<25	<25	0%	<25	0%
	Phenol	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	0%	N.A.	N.A.
	Total Cresol	mg/kg	1.5	<1.5	<1.5	0%	N.A.	N.A.
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
Asbestos in soil	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	4-nitrophenol	mg/kg	1	<1	<1	0%	N.A.	N.A.
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	0%	N.A.	N.A.
	Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	0%	N.A.	N.A.
	2,4-dinitrophenol	mg/kg	2	<2	<2	0%	N.A.	N.A.
	4-chloro-3-methylphenol	mg/kg	2	<2	<2	0%	N.A.	N.A.
	Asbestos Detected	No unit	0	No	N.A.	0%	N.A.	N.A.
	Estimated Fibres	%w/w	0.01	<0.01	N.A.	0%	N.A.	N.A.

Red text denotes RPD > 5x above detection limit and > 30% (i.e. failed RPD)

Laboratory Reports and Chain of Custody Documentation

CLIENT DETAILS

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Project **P23121 - Lagoon St, Bega**
 Order Number **P23121**
 Samples 19

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SGS Reference **SE253336 R0**
 Date Received 5/9/2023
 Date Reported 12/9/2023

COMMENTS

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

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

SIGNATORIES



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 Chemist



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 Metals/Inorganics Team Leader



Ly Kim HA
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VOC's in Soil [AN433] Tested: 6/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.001	4/9/2023 SE253336.002	4/9/2023 SE253336.003	4/9/2023 SE253336.004	4/9/2023 SE253336.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.006	4/9/2023 SE253336.007	4/9/2023 SE253336.008	4/9/2023 SE253336.009	4/9/2023 SE253336.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.011	4/9/2023 SE253336.012	4/9/2023 SE253336.013	4/9/2023 SE253336.014	4/9/2023 SE253336.015
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.016	4/9/2023 SE253336.017	4/9/2023 SE253336.018	4/9/2023 SE253336.019
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 6/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023 SE253336.001	4/9/2023 SE253336.002	4/9/2023 SE253336.003	4/9/2023 SE253336.004	4/9/2023 SE253336.005
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023 SE253336.006	4/9/2023 SE253336.007	4/9/2023 SE253336.008	4/9/2023 SE253336.009	4/9/2023 SE253336.010
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023 SE253336.011	4/9/2023 SE253336.012	4/9/2023 SE253336.013	4/9/2023 SE253336.014	4/9/2023 SE253336.015
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			4/9/2023 SE253336.016	4/9/2023 SE253336.017	4/9/2023 SE253336.018	4/9/2023 SE253336.019
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
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: 5/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.001	4/9/2023 SE253336.002	4/9/2023 SE253336.003	4/9/2023 SE253336.004	4/9/2023 SE253336.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	72	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	120	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	150	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	190	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.006	4/9/2023 SE253336.007	4/9/2023 SE253336.008	4/9/2023 SE253336.009	4/9/2023 SE253336.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.011	4/9/2023 SE253336.012	4/9/2023 SE253336.013	4/9/2023 SE253336.014	4/9/2023 SE253336.015
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 5/9/2023 (continued)

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			- 4/9/2023 SE253336.016	- 4/9/2023 SE253336.017	- 4/9/2023 SE253336.018	- 4/9/2023 SE253336.019
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 5/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.001	4/9/2023 SE253336.002	4/9/2023 SE253336.003	4/9/2023 SE253336.004	4/9/2023 SE253336.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.1	0.2	<0.1	0.5	<0.1
Pyrene	mg/kg	0.1	0.2	0.2	<0.1	0.6	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.3	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	0.3	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.1	0.1	<0.1	0.4	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.1	0.1	<0.1	0.4	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	0.5	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	0.6	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	0.6	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	3.4	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	3.4	<0.8

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.006	4/9/2023 SE253336.007	4/9/2023 SE253336.008	4/9/2023 SE253336.009	4/9/2023 SE253336.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 5/9/2023 (continued)

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.011	4/9/2023 SE253336.012	4/9/2023 SE253336.013	4/9/2023 SE253336.014	4/9/2023 SE253336.015
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.1	<0.1	<0.1	0.2	<0.1
Pyrene	mg/kg	0.1	0.1	<0.1	<0.1	0.2	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	1.2	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	1.2	<0.8

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.016	4/9/2023 SE253336.017	4/9/2023 SE253336.018	4/9/2023 SE253336.019
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Speciated Phenols in Soil [AN420] Tested: 5/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.001	4/9/2023 SE253336.002	4/9/2023 SE253336.003	4/9/2023 SE253336.004	4/9/2023 SE253336.005
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2	<2

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.006	4/9/2023 SE253336.007	4/9/2023 SE253336.008	4/9/2023 SE253336.009	4/9/2023 SE253336.010
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2	<2

Speciated Phenols in Soil [AN420] Tested: 5/9/2023 (continued)

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.011	4/9/2023 SE253336.012	4/9/2023 SE253336.013	4/9/2023 SE253336.014	4/9/2023 SE253336.015
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2	<2

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.016	4/9/2023 SE253336.017	4/9/2023 SE253336.018	4/9/2023 SE253336.019
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

OC Pesticides in Soil [AN420] Tested: 5/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.001	4/9/2023 SE253336.002	4/9/2023 SE253336.003	4/9/2023 SE253336.004	4/9/2023 SE253336.005
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 5/9/2023 (continued)

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.006	4/9/2023 SE253336.007	4/9/2023 SE253336.008	4/9/2023 SE253336.009	4/9/2023 SE253336.010
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 5/9/2023 (continued)

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.011	4/9/2023 SE253336.012	4/9/2023 SE253336.013	4/9/2023 SE253336.014	4/9/2023 SE253336.015
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 5/9/2023 (continued)

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.016	4/9/2023 SE253336.017	4/9/2023 SE253336.018	4/9/2023 SE253336.019
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 5/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023 SE253336.001	4/9/2023 SE253336.002	4/9/2023 SE253336.003	4/9/2023 SE253336.004	4/9/2023 SE253336.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023 SE253336.006	4/9/2023 SE253336.007	4/9/2023 SE253336.008	4/9/2023 SE253336.009	4/9/2023 SE253336.010
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023 SE253336.011	4/9/2023 SE253336.012	4/9/2023 SE253336.013	4/9/2023 SE253336.014	4/9/2023 SE253336.015
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 5/9/2023 (continued)

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.016	SE253336.017	SE253336.018	SE253336.019
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 5/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.001	4/9/2023 SE253336.002	4/9/2023 SE253336.003	4/9/2023 SE253336.004	4/9/2023 SE253336.005
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.006	4/9/2023 SE253336.007	4/9/2023 SE253336.008	4/9/2023 SE253336.009	4/9/2023 SE253336.010
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			4/9/2023 SE253336.011	4/9/2023 SE253336.012	4/9/2023 SE253336.013	4/9/2023 SE253336.014	4/9/2023 SE253336.015
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1



ANALYTICAL RESULTS

SE253336 R0

PCBs in Soil [AN420] Tested: 5/9/2023 (continued)

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			- 4/9/2023 SE253336.016	- 4/9/2023 SE253336.017	- 4/9/2023 SE253336.018	- 4/9/2023 SE253336.019
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 6/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023 SE253336.001	4/9/2023 SE253336.002	4/9/2023 SE253336.003	4/9/2023 SE253336.004	4/9/2023 SE253336.005
Arsenic, As	mg/kg	1	3	2	2	5	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	9.6	20	10	15
Copper, Cu	mg/kg	0.5	5.5	3.7	8.0	9.2	3.4
Lead, Pb	mg/kg	1	9	15	5	76	7
Nickel, Ni	mg/kg	0.5	8.5	3.5	36	4.3	6.9
Zinc, Zn	mg/kg	2	32	22	35	75	110

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023 SE253336.006	4/9/2023 SE253336.007	4/9/2023 SE253336.008	4/9/2023 SE253336.009	4/9/2023 SE253336.010
Arsenic, As	mg/kg	1	1	2	1	1	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	14	13	7.8	18
Copper, Cu	mg/kg	0.5	2.3	1.8	1.5	2.8	2.8
Lead, Pb	mg/kg	1	3	3	4	11	5
Nickel, Ni	mg/kg	0.5	7.3	8.1	5.4	2.5	7.3
Zinc, Zn	mg/kg	2	27	29	25	29	28

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023 SE253336.011	4/9/2023 SE253336.012	4/9/2023 SE253336.013	4/9/2023 SE253336.014	4/9/2023 SE253336.015
Arsenic, As	mg/kg	1	3	3	1	2	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	13	9.8	8.6	13	7.9
Copper, Cu	mg/kg	0.5	5.2	6.4	0.6	8.1	3.3
Lead, Pb	mg/kg	1	20	13	4	19	6
Nickel, Ni	mg/kg	0.5	5.8	8.4	2.4	6.8	7.1
Zinc, Zn	mg/kg	2	39	54	6.5	53	31

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			4/9/2023 SE253336.016	4/9/2023 SE253336.017	4/9/2023 SE253336.018	4/9/2023 SE253336.019
Arsenic, As	mg/kg	1	2	1	<1	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	16	12	6.6	9.4
Copper, Cu	mg/kg	0.5	3.9	1.3	1.9	3.4
Lead, Pb	mg/kg	1	7	4	9	15
Nickel, Ni	mg/kg	0.5	9.1	5.6	1.1	3.4
Zinc, Zn	mg/kg	2	29	16	15	37

Mercury in Soil [AN312] Tested: 7/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.001	SE253336.002	SE253336.003	SE253336.004	SE253336.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.006	SE253336.007	SE253336.008	SE253336.009	SE253336.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.011	SE253336.012	SE253336.013	SE253336.014	SE253336.015
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.016	SE253336.017	SE253336.018	SE253336.019
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 7/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.001	SE253336.002	SE253336.003	SE253336.004	SE253336.005
% Moisture	%w/w	1	5.2	7.8	6.5	16.2	7.3

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.006	SE253336.007	SE253336.008	SE253336.009	SE253336.010
% Moisture	%w/w	1	6.7	5.7	9.4	5.5	8.0

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.011	SE253336.012	SE253336.013	SE253336.014	SE253336.015
% Moisture	%w/w	1	10.9	12.4	8.0	9.5	10.8

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1	QC1
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.016	SE253336.017	SE253336.018	SE253336.019
% Moisture	%w/w	1	7.5	11.2	6.0	5.6

Fibre Identification in soil [AS4964/AN602] Tested: 12/9/2023

PARAMETER	UOM	LOR	BH1 0.0-0.1	BH2 0.5-0.6	BH3 0.0-0.1	BH3 2.0-2.1	BH4 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.001	SE253336.002	SE253336.003	SE253336.004	SE253336.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH4 2.0-2.1	BH5 0.0-0.1	BH5 1.0-1.1	BH6 0.0-0.1	BH7 0.0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.006	SE253336.007	SE253336.008	SE253336.009	SE253336.010
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH7 2.0-2.1	BH8 0.0-0.1	BH9 0.5-0.6	BH10 0.0-0.1	BH10 0.5-0.6
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			4/9/2023	4/9/2023	4/9/2023	4/9/2023	4/9/2023
			SE253336.011	SE253336.012	SE253336.013	SE253336.014	SE253336.015
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH11 0.0-0.1	BH11 1.0-1.1	BH12 0.0-0.1
			SOIL	SOIL	SOIL
			-	-	-
			4/9/2023	4/9/2023	4/9/2023
			SE253336.016	SE253336.017	SE253336.018
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	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 AAS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

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

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

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

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

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

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

Note that in terms of units of radioactivity:

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

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

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

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STATEMENT OF QA/QC PERFORMANCE

SE253336 R0

CLIENT DETAILS

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Project **P23121 - Lagoon St, Bega**
Order Number **P23121**
Samples 19

LABORATORY DETAILS

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SGS Reference **SE253336 R0**
Date Received 05 Sep 2023
Date Reported 12 Sep 2023

COMMENTS

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

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

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

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

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

Surrogate	VOC's in Soil	7 items
	Volatile Petroleum Hydrocarbons in Soil	7 items
Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Sample counts by matrix	19 Soil	Type of documentation received	COC
Date documentation received	5/9/2023	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	16.4°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

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

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

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290473	04 Sep 2023	05 Sep 2023	03 Sep 2024	12 Sep 2023	03 Sep 2024	12 Sep 2023

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023
QC1	SE253336.019	LB290288	04 Sep 2023	05 Sep 2023	02 Oct 2023	07 Sep 2023	02 Oct 2023	12 Sep 2023

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023

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

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

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

Moisture Content (continued)

Method: ME-(AU)-ENVJAN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QC1	SE253336.019	LB290287	04 Sep 2023	05 Sep 2023	18 Sep 2023	07 Sep 2023	12 Sep 2023	11 Sep 2023

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
QC1	SE253336.019	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
QC1	SE253336.019	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH10 0.0-0.1	SE253336.014	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
QC1	SE253336.019	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
QC1	SE253336.019	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023

Speciated Phenols in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023
QC1	SE253336.019	LB290013	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	11 Sep 2023

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023



HOLDING TIME SUMMARY

SE253336 R0

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

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

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

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6 0.0-0.1	SE253336.009	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023
QC1	SE253336.019	LB290178	04 Sep 2023	05 Sep 2023	02 Mar 2024	06 Sep 2023	02 Mar 2024	12 Sep 2023

TRH (Total Recoverable Hydrocarbons) In Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023
QC1	SE253336.019	LB290014	04 Sep 2023	05 Sep 2023	18 Sep 2023	05 Sep 2023	15 Oct 2023	12 Sep 2023

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH3 2.0-2.1	SE253336.004	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
QC1	SE253336.019	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023

Volatile Petroleum Hydrocarbons In Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.0-0.1	SE253336.001	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH2 0.5-0.6	SE253336.002	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH3 0.0-0.1	SE253336.003	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023

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

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

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

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-ENVJAN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH3 2.0-2.1	SE253336.004	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH4 0.5-0.6	SE253336.005	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH4 2.0-2.1	SE253336.006	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH5 0.0-0.1	SE253336.007	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH5 1.0-1.1	SE253336.008	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH6 0.0-0.1	SE253336.009	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH7 0.0-0.1	SE253336.010	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH7 2.0-2.1	SE253336.011	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH8 0.0-0.1	SE253336.012	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH9 0.5-0.6	SE253336.013	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH10 0.0-0.1	SE253336.014	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH10 0.5-0.6	SE253336.015	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH11 0.0-0.1	SE253336.016	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH11 1.0-1.1	SE253336.017	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
BH12 0.0-0.1	SE253336.018	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023
QC1	SE253336.019	LB290176	04 Sep 2023	05 Sep 2023	18 Sep 2023	06 Sep 2023	18 Sep 2023	11 Sep 2023

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

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

OC Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	89
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	91
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	89
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	92
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	90
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	88
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	92
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	91
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	89
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	90
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	89
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	88
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	87
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	88
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	87
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	87
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	87
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	86
	QC1	SE253336.019	%	60 - 130%	86

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	99
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	99
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	98
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	97
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	97
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	98
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	97
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	98
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	98
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	98
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	100
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	98
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	98
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	102
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	99
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	99
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	98
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	99
	QC1	SE253336.019	%	60 - 130%	100
d14-p-terphenyl (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	100
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	101
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	101
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	100
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	99
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	100
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	100
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	101
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	101
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	100
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	102
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	101
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	102
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	103
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	102
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	102
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	101
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	101
	QC1	SE253336.019	%	60 - 130%	102

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1 0.0-0.1	SE253336.001	%	70 - 130%	99
	BH2 0.5-0.6	SE253336.002	%	70 - 130%	99
	BH3 0.0-0.1	SE253336.003	%	70 - 130%	98
	BH3 2.0-2.1	SE253336.004	%	70 - 130%	97
	BH4 0.5-0.6	SE253336.005	%	70 - 130%	97
	BH4 2.0-2.1	SE253336.006	%	70 - 130%	98
	BH5 0.0-0.1	SE253336.007	%	70 - 130%	97
	BH5 1.0-1.1	SE253336.008	%	70 - 130%	98
	BH6 0.0-0.1	SE253336.009	%	70 - 130%	98
	BH7 0.0-0.1	SE253336.010	%	70 - 130%	98
	BH7 2.0-2.1	SE253336.011	%	70 - 130%	100
	BH8 0.0-0.1	SE253336.012	%	70 - 130%	98
	BH9 0.5-0.6	SE253336.013	%	70 - 130%	98
	BH10 0.0-0.1	SE253336.014	%	70 - 130%	102
	BH10 0.5-0.6	SE253336.015	%	70 - 130%	99
	BH11 0.0-0.1	SE253336.016	%	70 - 130%	99
	BH11 1.0-1.1	SE253336.017	%	70 - 130%	98
	BH12 0.0-0.1	SE253336.018	%	70 - 130%	99
	QC1	SE253336.019	%	70 - 130%	100
d14-p-terphenyl (Surrogate)	BH1 0.0-0.1	SE253336.001	%	70 - 130%	100
	BH2 0.5-0.6	SE253336.002	%	70 - 130%	101
	BH3 0.0-0.1	SE253336.003	%	70 - 130%	101
	BH3 2.0-2.1	SE253336.004	%	70 - 130%	100
	BH4 0.5-0.6	SE253336.005	%	70 - 130%	99
	BH4 2.0-2.1	SE253336.006	%	70 - 130%	100
	BH5 0.0-0.1	SE253336.007	%	70 - 130%	100
	BH5 1.0-1.1	SE253336.008	%	70 - 130%	101
	BH6 0.0-0.1	SE253336.009	%	70 - 130%	101
	BH7 0.0-0.1	SE253336.010	%	70 - 130%	100
	BH7 2.0-2.1	SE253336.011	%	70 - 130%	102
	BH8 0.0-0.1	SE253336.012	%	70 - 130%	101
	BH9 0.5-0.6	SE253336.013	%	70 - 130%	102
	BH10 0.0-0.1	SE253336.014	%	70 - 130%	103
	BH10 0.5-0.6	SE253336.015	%	70 - 130%	102
	BH11 0.0-0.1	SE253336.016	%	70 - 130%	102
	BH11 1.0-1.1	SE253336.017	%	70 - 130%	101
	BH12 0.0-0.1	SE253336.018	%	70 - 130%	101
	QC1	SE253336.019	%	70 - 130%	102
d5-nitrobenzene (Surrogate)	BH1 0.0-0.1	SE253336.001	%	70 - 130%	101
	BH2 0.5-0.6	SE253336.002	%	70 - 130%	101
	BH3 0.0-0.1	SE253336.003	%	70 - 130%	100
	BH3 2.0-2.1	SE253336.004	%	70 - 130%	100
	BH4 0.5-0.6	SE253336.005	%	70 - 130%	100
	BH4 2.0-2.1	SE253336.006	%	70 - 130%	100
	BH5 0.0-0.1	SE253336.007	%	70 - 130%	98
	BH5 1.0-1.1	SE253336.008	%	70 - 130%	98
	BH6 0.0-0.1	SE253336.009	%	70 - 130%	98
	BH7 0.0-0.1	SE253336.010	%	70 - 130%	99
	BH7 2.0-2.1	SE253336.011	%	70 - 130%	99
	BH8 0.0-0.1	SE253336.012	%	70 - 130%	98
	BH9 0.5-0.6	SE253336.013	%	70 - 130%	98
	BH10 0.0-0.1	SE253336.014	%	70 - 130%	101
	BH10 0.5-0.6	SE253336.015	%	70 - 130%	99
	BH11 0.0-0.1	SE253336.016	%	70 - 130%	99
	BH11 1.0-1.1	SE253336.017	%	70 - 130%	97
	BH12 0.0-0.1	SE253336.018	%	70 - 130%	98
	QC1	SE253336.019	%	70 - 130%	99

PCBs in Soil

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

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

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

PCBs in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	94
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	96
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	94
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	96
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	96
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	92
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	96
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	96
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	94
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	95
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	93
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	93
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	92
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	93
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	92
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	92
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	92
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	90
	QC1	SE253336.019	%	60 - 130%	90

Speciated Phenols in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-Tribromophenol (Surrogate)	BH1 0.0-0.1	SE253336.001	%	70 - 130%	88
	BH2 0.5-0.6	SE253336.002	%	70 - 130%	95
	BH3 0.0-0.1	SE253336.003	%	70 - 130%	97
	BH3 2.0-2.1	SE253336.004	%	70 - 130%	99
	BH4 0.5-0.6	SE253336.005	%	70 - 130%	97
	BH4 2.0-2.1	SE253336.006	%	70 - 130%	96
	BH5 0.0-0.1	SE253336.007	%	70 - 130%	93
	BH5 1.0-1.1	SE253336.008	%	70 - 130%	94
	BH6 0.0-0.1	SE253336.009	%	70 - 130%	91
	BH7 0.0-0.1	SE253336.010	%	70 - 130%	93
	BH7 2.0-2.1	SE253336.011	%	70 - 130%	90
	BH8 0.0-0.1	SE253336.012	%	70 - 130%	93
	BH9 0.5-0.6	SE253336.013	%	70 - 130%	96
	BH10 0.0-0.1	SE253336.014	%	70 - 130%	98
	BH10 0.5-0.6	SE253336.015	%	70 - 130%	96
	BH11 0.0-0.1	SE253336.016	%	70 - 130%	93
	BH11 1.0-1.1	SE253336.017	%	70 - 130%	92
	BH12 0.0-0.1	SE253336.018	%	70 - 130%	89
	QC1	SE253336.019	%	70 - 130%	93
d5-phenol (Surrogate)	BH1 0.0-0.1	SE253336.001	%	50 - 130%	100
	BH2 0.5-0.6	SE253336.002	%	50 - 130%	107
	BH3 0.0-0.1	SE253336.003	%	50 - 130%	107
	BH3 2.0-2.1	SE253336.004	%	50 - 130%	110
	BH4 0.5-0.6	SE253336.005	%	50 - 130%	110
	BH4 2.0-2.1	SE253336.006	%	50 - 130%	108
	BH5 0.0-0.1	SE253336.007	%	50 - 130%	103
	BH5 1.0-1.1	SE253336.008	%	50 - 130%	108
	BH6 0.0-0.1	SE253336.009	%	50 - 130%	100
	BH7 0.0-0.1	SE253336.010	%	50 - 130%	104
	BH7 2.0-2.1	SE253336.011	%	50 - 130%	102
	BH8 0.0-0.1	SE253336.012	%	50 - 130%	102
	BH9 0.5-0.6	SE253336.013	%	50 - 130%	106
	BH10 0.0-0.1	SE253336.014	%	50 - 130%	111
	BH10 0.5-0.6	SE253336.015	%	50 - 130%	107
	BH11 0.0-0.1	SE253336.016	%	50 - 130%	105
	BH11 1.0-1.1	SE253336.017	%	50 - 130%	106
	BH12 0.0-0.1	SE253336.018	%	50 - 130%	99
	QC1	SE253336.019	%	50 - 130%	105

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

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

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	107
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	106
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	100
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	95
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	106
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	101
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	104
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	106
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	107
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	102
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	102
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	102
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	105
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	102
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	104
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	99
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	106
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	108
	QC1	SE253336.019	%	60 - 130%	101
d4-1,2-dichloroethane (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	130 Ⓢ
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	128
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	122
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	112
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	127
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	126
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	127
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	127
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	132 Ⓢ
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	141 Ⓢ
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	122
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	130
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	140 Ⓢ
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	132 Ⓢ
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	130
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	122
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	134 Ⓢ
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	145 Ⓢ
	QC1	SE253336.019	%	60 - 130%	129
d8-toluene (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	93
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	92
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	88
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	83
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	91
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	91
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	92
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	91
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	95
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	98
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	92
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	94
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	97
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	97
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	96
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	89
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	96
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	99
	QC1	SE253336.019	%	60 - 130%	91

Volatile Petroleum Hydrocarbons in Soil

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

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

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

Volatile Petroleum Hydrocarbons in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	107
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	106
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	100
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	95
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	106
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	101
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	104
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	106
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	107
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	102
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	102
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	102
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	105
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	102
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	104
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	99
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	106
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	108
	QC1	SE253336.019	%	60 - 130%	101
d4-1,2-dichloroethane (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	130 Ⓢ
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	128
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	122
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	112
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	127
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	126
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	127
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	127
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	132 Ⓢ
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	141 Ⓢ
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	122
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	130
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	140 Ⓢ
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	132 Ⓢ
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	130
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	122
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	134 Ⓢ
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	145 Ⓢ
	QC1	SE253336.019	%	60 - 130%	129
d8-toluene (Surrogate)	BH1 0.0-0.1	SE253336.001	%	60 - 130%	93
	BH2 0.5-0.6	SE253336.002	%	60 - 130%	92
	BH3 0.0-0.1	SE253336.003	%	60 - 130%	88
	BH3 2.0-2.1	SE253336.004	%	60 - 130%	83
	BH4 0.5-0.6	SE253336.005	%	60 - 130%	91
	BH4 2.0-2.1	SE253336.006	%	60 - 130%	91
	BH5 0.0-0.1	SE253336.007	%	60 - 130%	92
	BH5 1.0-1.1	SE253336.008	%	60 - 130%	91
	BH6 0.0-0.1	SE253336.009	%	60 - 130%	95
	BH7 0.0-0.1	SE253336.010	%	60 - 130%	98
	BH7 2.0-2.1	SE253336.011	%	60 - 130%	92
	BH8 0.0-0.1	SE253336.012	%	60 - 130%	94
	BH9 0.5-0.6	SE253336.013	%	60 - 130%	97
	BH10 0.0-0.1	SE253336.014	%	60 - 130%	97
	BH10 0.5-0.6	SE253336.015	%	60 - 130%	96
	BH11 0.0-0.1	SE253336.016	%	60 - 130%	89
	BH11 1.0-1.1	SE253336.017	%	60 - 130%	96
	BH12 0.0-0.1	SE253336.018	%	60 - 130%	99
	QC1	SE253336.019	%	60 - 130%	91

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

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

Mercury in Soil

Method: ME-(AU)-ENVJAN312

Sample Number	Parameter	Units	LOR	Result
LB290288.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB290014.001	Alpha BHC	mg/kg	0.1	<0.1
	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Lindane (gamma BHC)	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	Endrin aldehyde	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endrin ketone	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	84

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB290014.001	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	2-fluorobiphenyl (Surrogate)	%	-	101
	d14-p-terphenyl (Surrogate)	%	-	103
Surrogates				

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB290014.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB290014.001	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates			
	d5-nitrobenzene (Surrogate)	%	-	104
	2-fluorobiphenyl (Surrogate)	%	-	101
	d14-p-terphenyl (Surrogate)	%	-	103

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB290014.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochors)	mg/kg	1	<1
Surrogates	TCMX (Surrogate)	%	-	89

Speciated Phenols in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB290013.001	Phenol	mg/kg	0.5	<0.5
	2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5
	3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1
	2-chlorophenol	mg/kg	0.5	<0.5
	2,4-dimethylphenol	mg/kg	0.5	<0.5
	2,6-dichlorophenol	mg/kg	0.5	<0.5
	2,4-dichlorophenol	mg/kg	0.5	<0.5
	4-chloro-3-methylphenol	mg/kg	2	<2
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5
	2-nitrophenol	mg/kg	0.5	<0.5
	4-nitrophenol	mg/kg	1	<1
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1
	Pentachlorophenol	mg/kg	0.5	<0.5
	2,4-dinitrophenol	mg/kg	2	<2
	Surrogates			
	2,4,6-Tribromophenol (Surrogate)	%	-	92
	d5-phenol (Surrogate)	%	-	113

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

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

Sample Number	Parameter	Units	LOR	Result
LB290178.001	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
LB290014.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

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

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

VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB290176.001	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)	%	-	111
		d8-toluene (Surrogate)	%	-	101
		Bromofluorobenzene (Surrogate)	%	-	112
	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
LB290176.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	111

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

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

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

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

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

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290288.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE253336.019	LB290288.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290287.011	% Moisture	%w/w	1	8.0	8.0	43	1
SE253336.019	LB290287.021	% Moisture	%w/w	1	5.6	6.1	47	8

OC Pesticides in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290014.014	Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
SE253336.019	LB290014.024	Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates						
		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.13	30	4
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

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

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

OC Pesticides in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.019	LB290014.024	Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
		Total OC VIC EPA	mg/kg	1	<1	<1	200	0
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)		mg/kg	-	0.13	0.13	30	4

OP Pesticides in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290014.014	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		Surrogates						
SE253336.019	LB290014.024	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	3
		Surrogates						

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290014.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates						

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$
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: $MAD = 100 \times SDL / Mean + LR$
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 identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290014.014	Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	1
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
SE253336.019	LB290014.024	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	1
		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	2
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	3

PCBs in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290014.014	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		TCMX (Surrogate)	mg/kg	-	0	0	30	4
SE253336.019	LB290014.024	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		TCMX (Surrogate)	mg/kg	-	0	0	30	4

Speciated Phenols in Soil

Method: ME-(AU)-ENVJAN420

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

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

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

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

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

Speciated Phenols in Soil (continued)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290013.014	Phenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	200	0
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	200	0
		Total Cresol	mg/kg	1.5	<1.5	<1.5	200	0
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	200	0
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	200	0
		4-nitrophenol	mg/kg	1	<1	<1	200	0
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	200	0
		Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dinitrophenol	mg/kg	2	<2	<2	200	0
		2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.7	4.8	30	2
		d5-phenol (Surrogate)	mg/kg	-	2.1	2.1	30	0
		Phenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	200	0
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	200	0
SE253336.019	LB290013.024	Total Cresol	mg/kg	1.5	<1.5	<1.5	200	0
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	200	0
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	200	0
		4-nitrophenol	mg/kg	1	<1	<1	200	0
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	200	0
		Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dinitrophenol	mg/kg	2	<2	<2	200	0
		2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.7	4.7	30	0
		d5-phenol (Surrogate)	mg/kg	-	2.1	2.1	30	1

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290178.014	Arsenic, As	mg/kg	1	2	2	89	15
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	18	17	33	8
		Copper, Cu	mg/kg	0.5	2.8	1.8	52	43
		Nickel, Ni	mg/kg	0.5	7.3	7.5	37	3
		Lead, Pb	mg/kg	1	5	5	49	3
		Zinc, Zn	mg/kg	2	28	29	37	6
		Arsenic, As	mg/kg	1	1	1	103	5
SE253336.019	LB290178.024	Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	9.4	8.7	35	8
		Copper, Cu	mg/kg	0.5	3.4	2.7	46	21
		Nickel, Ni	mg/kg	0.5	3.4	3.5	45	1
		Lead, Pb	mg/kg	1	15	9	38	45 @
		Zinc, Zn	mg/kg	2	37	29	36	22

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290014.014	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

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

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

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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-ENVJAN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290014.014	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
SE253336.019	LB290014.024		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)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290176.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic						
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	14.1	13.7	50	3
			d8-toluene (Surrogate)	mg/kg	-	9.8	9.6	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.2	10.6	50	4
			Totals						
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE253336.019	LB290176.024	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic						
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.9	13.7	50	7
			d8-toluene (Surrogate)	mg/kg	-	9.1	9.9	50	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.1	10.5	50	5
			Totals						
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-ENVJAN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE253336.010	LB290176.014		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	-	14.1	13.7	50	3
		VPH F Bands	d8-toluene (Surrogate)	mg/kg	-	9.8	9.6	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.2	10.6	50	4
			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
SE253336.019	LB290176.024		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	-	12.9	13.7	50	7
		VPH F Bands	d8-toluene (Surrogate)	mg/kg	-	9.1	9.9	50	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.1	10.5	50	5
			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 %
LB290288.002	Mercury	mg/kg	0.05	0.22	0.2	80 - 120	108

OC Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB290014.002	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	82
	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	88
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	83
	Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	87
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	93
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	78
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.15	40 - 130	83

OP Pesticides in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB290014.002	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	93
	Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	60 - 140	96
	Dichlorvos	mg/kg	0.5	1.5	2	60 - 140	76
	Ethion	mg/kg	0.2	1.6	2	60 - 140	82
Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	103

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB290014.002	Naphthalene	mg/kg	0.1	3.9	4	60 - 140	96
	Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	99
	Acenaphthene	mg/kg	0.1	4.1	4	60 - 140	102
	Phenanthrene	mg/kg	0.1	4.0	4	60 - 140	101
	Anthracene	mg/kg	0.1	4.0	4	60 - 140	100
	Fluoranthene	mg/kg	0.1	3.9	4	60 - 140	97
	Pyrene	mg/kg	0.1	4.0	4	60 - 140	101
	Benzo(a)pyrene	mg/kg	0.1	4.0	4	60 - 140	99
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	103

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB290014.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	118

Speciated Phenols in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB290013.002	Phenol	mg/kg	0.5	1.1	1	70 - 130	112
	2,4-dichlorophenol	mg/kg	0.5	0.9	1	70 - 130	92
	2,4,6-trichlorophenol	mg/kg	0.5	0.8	1	70 - 130	78
	Pentachlorophenol	mg/kg	0.5	0.7	1	70 - 130	70
	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.9	5	40 - 130	98
Surrogates	d5-phenol (Surrogate)	mg/kg	-	2.2	2	40 - 130	109

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB290178.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	109
	Cadmium, Cd	mg/kg	0.3	5.2	4.81	70 - 130	109
	Chromium, Cr	mg/kg	0.5	42	38.31	80 - 120	111
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	111
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	103
	Lead, Pb	mg/kg	1	94	89.9	80 - 120	104
	Zinc, Zn	mg/kg	2	280	273	80 - 120	103

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR
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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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB290014.002	TRH C10-C14	mg/kg	20	48	40	60 - 140	119
	TRH C15-C28	mg/kg	45	49	40	60 - 140	123
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	96
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	49	40	60 - 140	122
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	111
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	102

VOC's in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB290176.002	Monocyclic						
	Benzene	mg/kg	0.1	4.8	5	60 - 140	96
	Aromatic						
	Toluene	mg/kg	0.1	4.3	5	60 - 140	86
	Ethylbenzene	mg/kg	0.1	4.5	5	60 - 140	90
	m/p-xylene	mg/kg	0.2	9.6	10	60 - 140	96
	o-xylene	mg/kg	0.1	4.8	5	60 - 140	96
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.7	10	70 - 130	107
	d8-toluene (Surrogate)	mg/kg	-	8.7	10	70 - 130	87
	Bromofluorobenzene (Surrogate)	mg/kg	-	10.5	10	70 - 130	105

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB290176.002	TRH C6-C10	mg/kg	25	78	92.5	60 - 140	84
	TRH C6-C9	mg/kg	20	67	80	60 - 140	84
	Surrogates						
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.7	10	70 - 130	107
	Bromofluorobenzene (Surrogate)	mg/kg	-	10.5	10	70 - 130	105
	VPH F Bands						
	TRH C6-C10 minus BTEX (F1)	mg/kg	25	50	62.5	60 - 140	80

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

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

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290288.004	Mercury	mg/kg	0.05	0.19	<0.05	0.2	92

OC Pesticides in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290014.004	Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	88
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	94
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	88
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	<0.2	<0.2	0.2	90
		Endrin	mg/kg	0.2	<0.2	<0.2	0.2	97
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	82
		Endrin ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Total OC VIC EPA	mg/kg	1	1	<1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.13	-	92

OP Pesticides in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290014.004	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.8	<0.2	2	92
		Diazinon (Dimpylate)	mg/kg	0.5	1.9	<0.5	2	94
		Dichlorvos	mg/kg	0.5	1.4	<0.5	2	71
		Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
		Ethion	mg/kg	0.2	1.6	<0.2	2	81
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
		Malathion	mg/kg	0.2	<0.2	<0.2	-	-
		Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
		Total OP Pesticides*	mg/kg	1.7	6.8	<1.7	-	-
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	100
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290014.004	Naphthalene	mg/kg	0.1	4.0	<0.1	4	99
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.1	<0.1	4	101
		Acenaphthene	mg/kg	0.1	4.2	<0.1	4	105
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290014.004	Phenanthrene	mg/kg	0.1	4.2	<0.1	4	104
		Anthracene	mg/kg	0.1	4.1	<0.1	4	102
		Fluoranthene	mg/kg	0.1	4.3	0.1	4	104
		Pyrene	mg/kg	0.1	4.4	0.2	4	105
		Benzo(a)anthracene	mg/kg	0.1	0.2	<0.1	-	-
		Chrysene	mg/kg	0.1	0.2	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.2	0.1	4	103
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.3	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.4	<0.2	-	-
	Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.4	<0.3	-	-	
	Total PAH (18)	mg/kg	0.8	34	<0.8	-	-	
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	102
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	100
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	100

PCBs in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290014.004	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.5	<0.2	0.4	131
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
	Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	-	97

Speciated Phenols in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290013.004	Phenol	mg/kg	0.5	1.0	<0.5	1	98
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	-	-
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	-	-
		Total Cresol	mg/kg	1.5	<1.5	<1.5	-	-
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,4-dichlorophenol	mg/kg	0.5	0.8	<0.5	1	84
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	-	-
		2,4,6-trichlorophenol	mg/kg	0.5	0.8	<0.5	1	76
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	-	-
		4-nitrophenol	mg/kg	1	<1	<1	-	-
		2,4,5-trichlorophenol	mg/kg	0.5	0.7	<0.5	-	-
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	-	-
		Pentachlorophenol	mg/kg	0.5	0.7	<0.5	1	70
		2,4-dinitrophenol	mg/kg	2	<2	<2	-	-
		Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.5	4.4	-
	d5-phenol (Surrogate)	mg/kg	-	2.0	2.0	-	101	

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%
SE253336.001	LB290178.004	Arsenic, As	mg/kg	1	44	3	50	81
		Cadmium, Cd	mg/kg	0.3	38	<0.3	50	75
		Chromium, Cr	mg/kg	0.5	51	11	50	80
		Copper, Cu	mg/kg	0.5	46	5.5	50	81
		Nickel, Ni	mg/kg	0.5	47	8.5	50	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 identifier 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%
SE253336.001	LB290178.004	Lead, Pb	mg/kg	1	45	9	50	72
		Zinc, Zn	mg/kg	2	73	32	50	81

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290014.004	TRH C10-C14	mg/kg	20	47	<20	40	110
		TRH C15-C28	mg/kg	45	67	<45	40	99
		TRH C29-C36	mg/kg	45	67	<45	40	98
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	180	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
	TRH F Bands	TRH >C10-C16	mg/kg	25	48	<25	40	110
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	48	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	90
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290176.004	Monocyclic	Benzene	mg/kg	0.1	4.9	<0.1	5	97
			Aromatic	Toluene	mg/kg	0.1	4.5	<0.1	5
			Ethylbenzene	mg/kg	0.1	4.6	<0.1	5	92
			m/p-xylene	mg/kg	0.2	9.7	<0.2	10	97
			o-xylene	mg/kg	0.1	4.9	<0.1	5	97
			Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.5	13.0	10	105
			d8-toluene (Surrogate)	mg/kg	-	8.8	9.3	10	88
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.2	10.7	10	102
		Totals	Total BTEX*	mg/kg	0.6	29	<0.6	-	-
Total Xylenes*	mg/kg		0.3	15	<0.3	-	-		

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE253336.001	LB290176.004	TRH C6-C10	mg/kg	25	77	<25	92.5	82
		TRH C6-C9	mg/kg	20	66	<20	80	82
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.5	13.0	10	105
		d8-toluene (Surrogate)	mg/kg	-	8.8	9.3	10	88
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.2	10.7	-	102
		VPH F						
		Benzene (F0)	mg/kg	0.1	4.9	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	48	<25	62.5	76

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

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

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

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

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

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

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

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

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Project **P23121 - Lagoon St, Bega**
 Order Number **P23121**
 Samples 18

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SGS Reference **SE253336 R0**
 Date Received 05 Sep 2023
 Date Reported 12 Sep 2023

COMMENTS

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

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

SIGNATORIES



Ravee SIVASUBRAMANIAM
 Hygiene Team Leader

RESULTS

Fibre Identification in soil

Method AS4964/AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE253336.001	BH1 0.0-0.1	Soil	292g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.002	BH2 0.5-0.6	Soil	254g Clay, Sand, Soil, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE253336.003	BH3 0.0-0.1	Soil	295g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.004	BH3 2.0-2.1	Soil	262g Clay, Sand, Soil, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.005	BH4 0.5-0.6	Soil	339g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.006	BH4 2.0-2.1	Soil	336g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.007	BH5 0.0-0.1	Soil	320g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.008	BH5 1.0-1.1	Soil	267g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.009	BH6 0.0-0.1	Soil	425g Clay, Sand, Soil, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.010	BH7 0.0-0.1	Soil	329g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.011	BH7 2.0-2.1	Soil	277g Clay, Sand, Soil, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.012	BH8 0.0-0.1	Soil	288g Clay, Sand, Rocks, Cement Mixture	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.013	BH9 0.5-0.6	Soil	339g Clay, Sand, Soil, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.014	BH10 0.0-0.1	Soil	290g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.015	BH10 0.5-0.6	Soil	204g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.016	BH11 0.0-0.1	Soil	232g Clay, Sand, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.017	BH11 1.0-1.1	Soil	266g Clay, Sand, Soil, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01
SE253336.018	BH12 0.0-0.1	Soil	235g Clay, Sand, Soil, Rocks	04 Sep 2023	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD

METHODOLOGY SUMMARY

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

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.

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Page 1 of 5

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Contact Name: Chris Gunton

Email Results: chris@lanterra.com.au

SGS EHS Sydney COC
SE253336



Comments:



CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 2 of 5

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

Company Name: Lanterra Consulting Pty Limited

Address: Unit 13/ 71 Leichhardt Street, Kingston ACT 2604

Contact Name: Chris Gunton

Project Name/No: P23121 – Lagoon St, Bega

Purchase Order No: P23121

Results Required By: Standard TAT

Telephone:

Facsimile:

Email Results: chris@lanterra.com.au

Client Sample ID	Date Sampled	Lab Sample ID	LIQUID	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL15	Asbestos ID												
BH4 0.0-0.1	31/08/2023			X		2														
BH4 0.5-0.6	31/08/2023	5		X		2	X	X												
BH4 1.0-1.1	31/08/2023			X		2														
BH4 2.0-2.1	31/08/2023	6		X		2	X	X												
BH5 0.0-0.1	31/08/2023	7		X		2	X	X												
BH5 0.5-0.6	31/08/2023			X		2														
BH5 1.0-1.1	31/08/2023	8		X		2	X	X												
BH5 2.0-2.1	31/08/2023			X		2														
BH6 0.0-0.1	31/08/2023	9		X		2	X	X												
BH6 0.5-0.6	31/08/2023			X		2														
BH6 1.0-1.1	31/08/2023			X		2														

Relinquished By: C. Gunton

Date/Time: 4/09/2023

Received By: 

Date/Time 5-9-23 10:45

Relinquished By:

Date/Time:

Received By:

Date/Time

Samples Intact: Yes/No

Temperature: Ambient / Chilled 16.4

Sample Cooler Sealed: Yes/No

Laboratory Quotation No: LANTE MPP 140

Comments:



CHAIN OF CUSTODY & ANALYSIS REQUEST

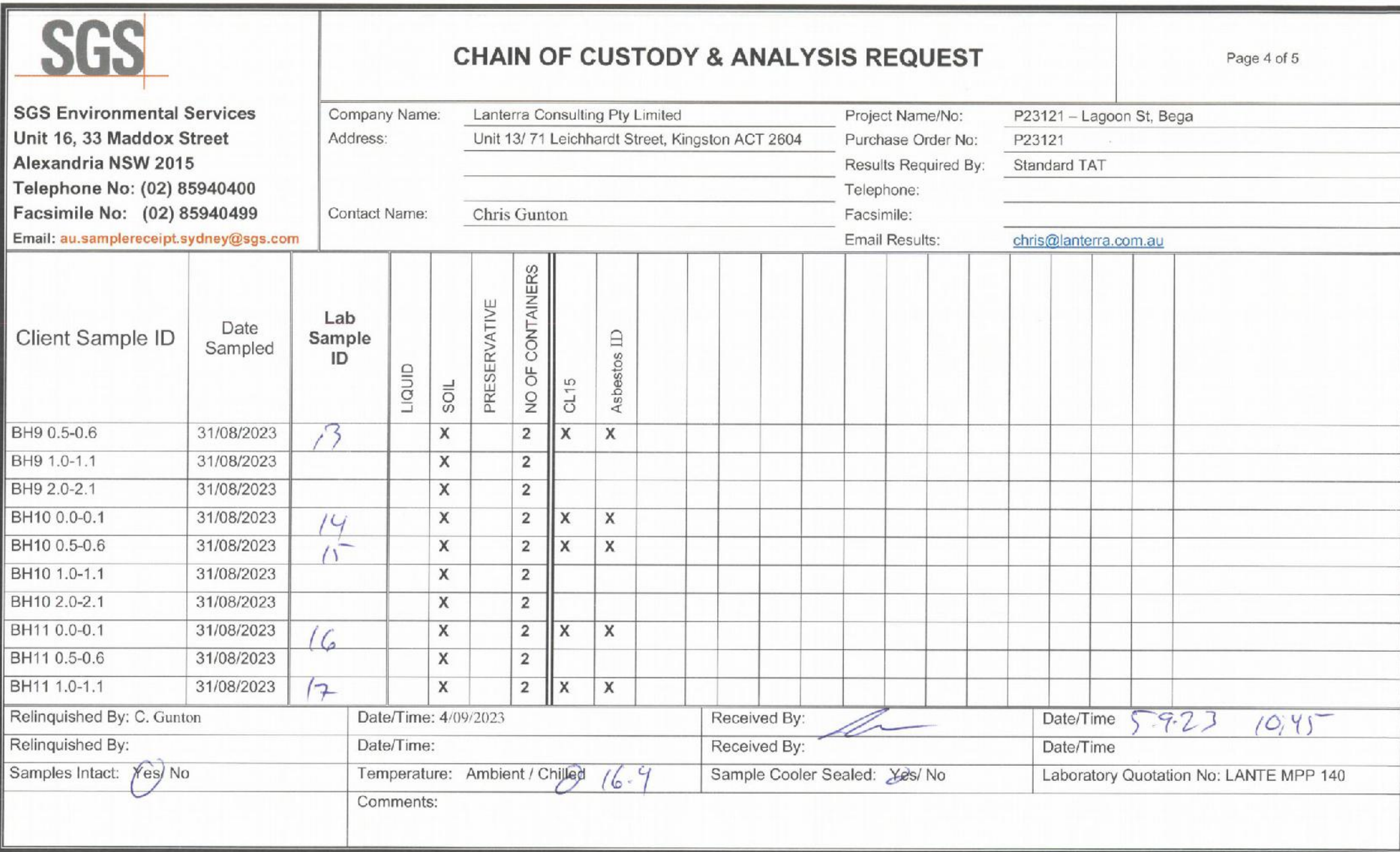
Page 3 of 5

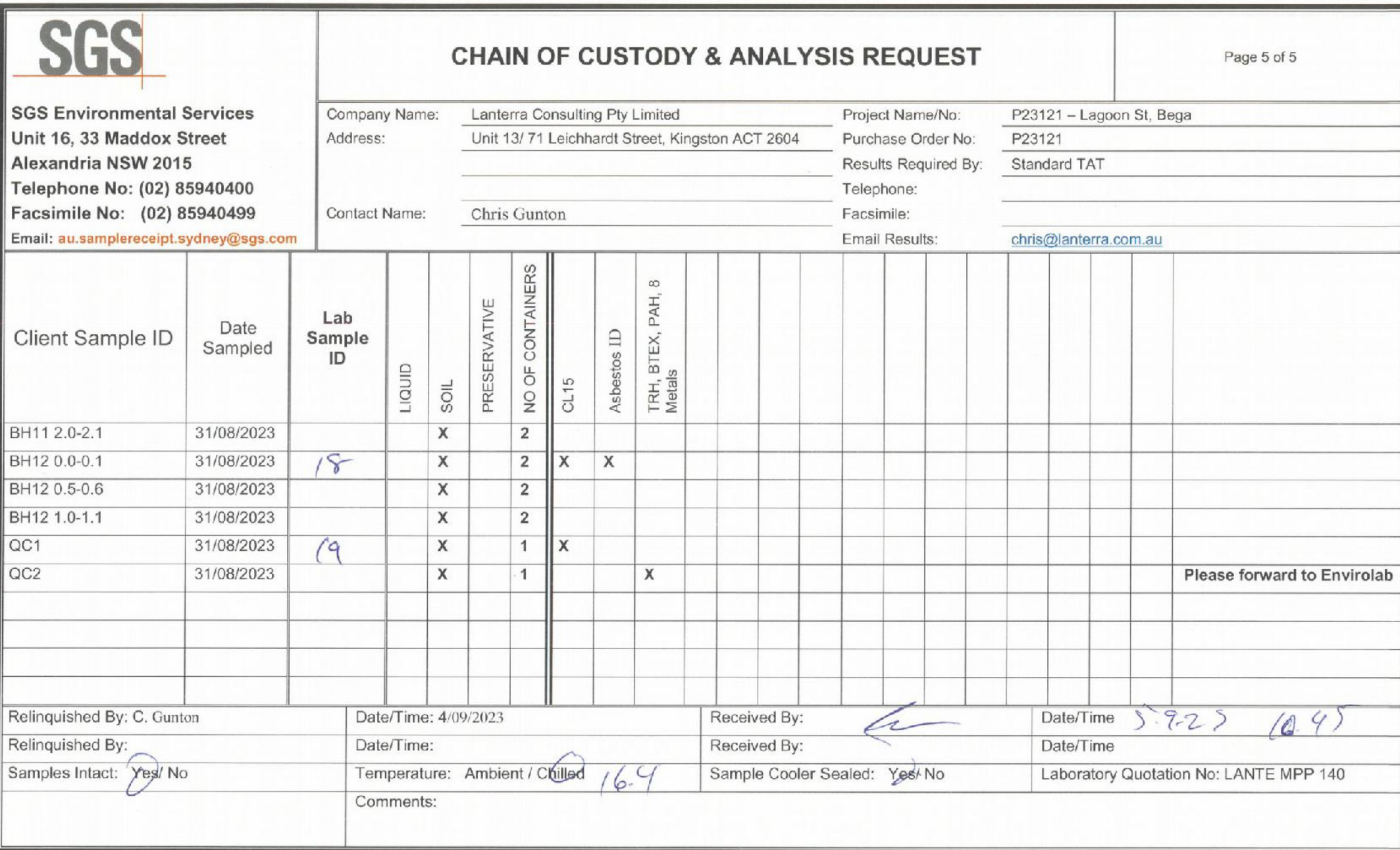
SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplerreceipt.sydney@sgs.com

Company Name: Lanterra Consulting Pty Limited Project Name/No: P23121 – Lagoon St, Bega
Address: Unit 13/ 71 Leichhardt Street, Kingston ACT 2604 Purchase Order No: P23121
Results Required By: Standard TAT
Contact Name: Chris Gunton Telephone: _____
Facsimile: _____
Email Results: chris@lanterra.com.au

Client Sample ID	Date Sampled	Lab Sample ID	LIQUID	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL15	Asbestos ID												
BH6 2.0-2.1	31/08/2023			X		2														
BH7 0.0-0.1	31/08/2023	10		X		2	X	X												
BH7 0.5-0.6	31/08/2023			X		2														
BH7 1.0-1.1	31/08/2023			X		2														
BH7 2.0-2.1	31/08/2023	11		X		2	X	X												
BH8 0.0-0.1	31/08/2023	12		X		2	X	X												
BH8 0.5-0.6	31/08/2023			X		2														
BH8 1.0-1.1	31/08/2023			X		2														
BH8 2.0-2.1	31/08/2023			X		2														
BH9 0.0-0.1	31/08/2023			X		2														

Relinquished By: C. Gunton	Date/Time: 4/09/2023	Received By: 	Date/Time: 5.9.23 10:45
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: Yes/ No 	Temperature: Ambient / Chilled  16.9	Sample Cooler Sealed: Yes/ No 	Laboratory Quotation No: LANTE MPP 140
Comments:			







SAMPLE RECEIPT ADVICE

SE253336

CLIENT DETAILS

Contact Chris Gunton
Client LANTERRA CONSULTING PTY LTD
Address Unit 13, 71 Leichhardt Street
Kingston
ACT 2604

Telephone 0432 324 348
Facsimile (Not specified)
Email chris@lanterra.com.au

Project **P23121 - Lagoon St, Bega**
Order Number **P23121**
Samples 19

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Tue 5/9/2023
Report Due Tue 12/9/2023
SGS Reference **SE253336**

SUBMISSION DETAILS

This is to confirm that 19 samples were received on Tuesday 5/9/2023. Results are expected to be ready by COB Tuesday 12/9/2023. Please quote SGS reference SE253336 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	19 Soil	Type of documentation received	COC
Date documentation received	5/9/2023	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	16.4°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

26 Soil samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

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



SAMPLE RECEIPT ADVICE

SE253336

CLIENT DETAILS

Client LANTERRA CONSULTING PTY LTD

Project P23121 - Lagoon St, Bega

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Speciated Phenols in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH1 0.0-0.1	30	14	26	11	18	10	11	7
002	BH2 0.5-0.6	30	14	26	11	18	10	11	7
003	BH3 0.0-0.1	30	14	26	11	18	10	11	7
004	BH3 2.0-2.1	30	14	26	11	18	10	11	7
005	BH4 0.5-0.6	30	14	26	11	18	10	11	7
006	BH4 2.0-2.1	30	14	26	11	18	10	11	7
007	BH5 0.0-0.1	30	14	26	11	18	10	11	7
008	BH5 1.0-1.1	30	14	26	11	18	10	11	7
009	BH6 0.0-0.1	30	14	26	11	18	10	11	7
010	BH7 0.0-0.1	30	14	26	11	18	10	11	7
011	BH7 2.0-2.1	30	14	26	11	18	10	11	7
012	BH8 0.0-0.1	30	14	26	11	18	10	11	7
013	BH9 0.5-0.6	30	14	26	11	18	10	11	7
014	BH10 0.0-0.1	30	14	26	11	18	10	11	7
015	BH10 0.5-0.6	30	14	26	11	18	10	11	7
016	BH11 0.0-0.1	30	14	26	11	18	10	11	7
017	BH11 1.0-1.1	30	14	26	11	18	10	11	7
018	BH12 0.0-0.1	30	14	26	11	18	10	11	7
019	QC1	30	14	26	11	18	10	11	7

CONTINUED OVERLEAF

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



SAMPLE RECEIPT ADVICE

SE253336

CLIENT DETAILS

Client LANTERRA CONSULTING PTY LTD

Project P23121 - Lagoon St, Bega

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
001	BH1 0.0-0.1	2	1	1	7
002	BH2 0.5-0.6	2	1	1	7
003	BH3 0.0-0.1	2	1	1	7
004	BH3 2.0-2.1	2	1	1	7
005	BH4 0.5-0.6	2	1	1	7
006	BH4 2.0-2.1	2	1	1	7
007	BH5 0.0-0.1	2	1	1	7
008	BH5 1.0-1.1	2	1	1	7
009	BH6 0.0-0.1	2	1	1	7
010	BH7 0.0-0.1	2	1	1	7
011	BH7 2.0-2.1	2	1	1	7
012	BH8 0.0-0.1	2	1	1	7
013	BH9 0.5-0.6	2	1	1	7
014	BH10 0.0-0.1	2	1	1	7
015	BH10 0.5-0.6	2	1	1	7
016	BH11 0.0-0.1	2	1	1	7
017	BH11 1.0-1.1	2	1	1	7
018	BH12 0.0-0.1	2	1	1	7
019	QC1	-	1	1	7

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details .

Testing as per this table shall commence immediately unless the client intervenes with a correction .

Lotsearch Report



LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 04 Sep 2023 09:53:03

Reference: LS047587 EP

Address: 10 Lagoon Street, Bega, NSW 2550

Disclaimer:

The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.

You should obtain independent advice before you make any decision based on the information within the report.

The detailed terms applicable to use of this report are set out at the end of this report.

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Customer Service - Spatial Services	17/05/2023	17/05/2023	Quarterly	-	-	-	-
Topographic Data	NSW Department of Customer Service - Spatial Services	22/08/2022	22/08/2022	Annually	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	26/07/2023	10/07/2023	Monthly	1000m	0	1	3
Contaminated Land Records of Notice	Environment Protection Authority	28/06/2023	28/06/2023	Monthly	1000m	0	0	0
Former Gasworks	Environment Protection Authority	10/05/2023	14/07/2021	Quarterly	1000m	0	0	0
Notices under the POEO Act 1997	Environment Protection Authority	26/07/2023	26/07/2023	Monthly	1000m	1	1	1
National Waste Management Facilities Database	Geoscience Australia	26/05/2022	07/03/2017	Annually	1000m	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	23/08/2022	13/07/2012	Annually	1000m	0	2	3
EPA PFAS Investigation Program	Environment Protection Authority	16/08/2023	23/09/2022	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	16/08/2023	16/08/2023	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	16/08/2023	16/08/2023	Monthly	2000m	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	18/08/2023	18/08/2023	Monthly	2000m	0	0	0
Defence Controlled Areas	Department of Defence	08/06/2023	08/06/2023	Quarterly	2000m	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	16/06/2023	02/09/2022	Quarterly	2000m	0	0	0
National Unexploded Ordnance (UXO)	Department of Defence	08/06/2023	08/06/2023	Quarterly	2000m	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	16/02/2022	13/12/2018	Annually	1000m	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	15/08/2023	15/08/2023	Monthly	1000m	1	1	1
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	15/08/2023	15/08/2023	Monthly	1000m	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	15/08/2023	15/08/2023	Monthly	1000m	3	3	3
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150m	1	3	3
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150m	-	105	105
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500m	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500m	-	12	14
Points of Interest	NSW Department of Customer Service - Spatial Services	19/10/2022	19/10/2022	Quarterly	1000m	1	3	31
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	19/10/2022	19/10/2022	Quarterly	1000m	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	19/10/2022	19/10/2022	Quarterly	1000m	0	0	1
Major Easements	NSW Department of Customer Service - Spatial Services	23/05/2023	23/05/2023	Quarterly	1000m	0	0	5
State Forest	Forestry Corporation of NSW	16/08/2022	14/08/2022	Annually	1000m	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	16/02/2023	31/12/2022	Annually	1000m	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	29/08/2022	19/08/2019	As required	1000m	1	1	1

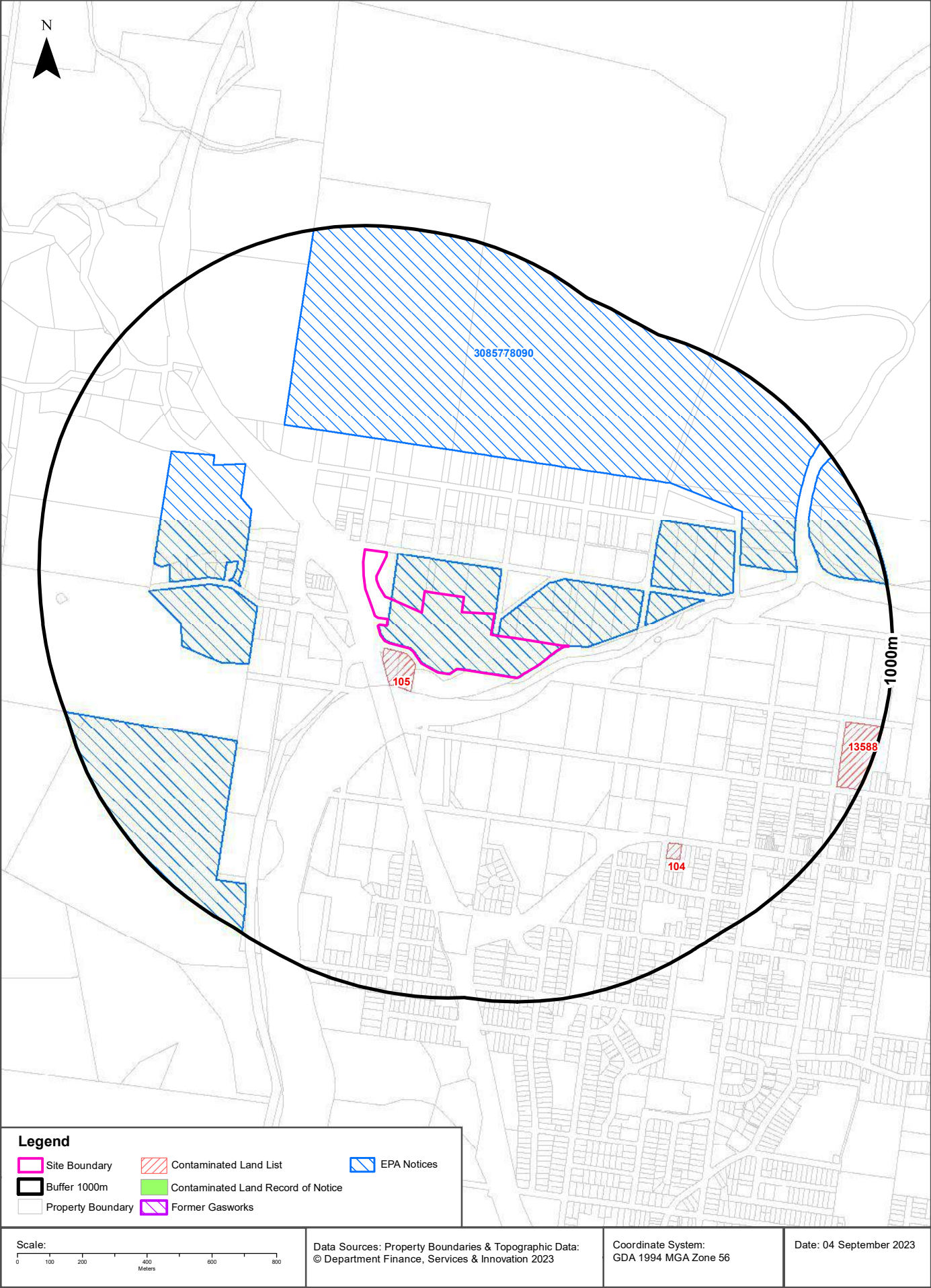
Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018	NSW Department of Planning, Industry and Environment	09/05/2023	23/02/2018	Annually	1000m	0	0	0
National Groundwater Information System (NGIS) Boreholes	Bureau of Meteorology; Water NSW	18/04/2023	13/07/2022	Annually	2000m	2	5	47
NSW Seamless Geology Single Layer: Rock Units	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	4	5	9
NSW Seamless Geology – Single Layer: Trendlines	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	0	0	0
NSW Seamless Geology – Single Layer: Geological Boundaries and Faults	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	0	0	0
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000m	0	0	0
Atlas of Australian Soils	Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES)	19/05/2017	17/02/2011	As required	1000m	1	1	1
Soil Landscapes of Central and Eastern NSW	NSW Department of Planning, Industry and Environment	18/08/2022	27/07/2020	Annually	1000m	3	5	5
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	31/08/2023	30/06/2023	Monthly	500m	0	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000m	1	1	2
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000m	0	0	0
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	15/05/2023	15/05/2023	Quarterly	1000m	0	0	0
Current Mining Titles	NSW Department of Industry	25/08/2023	25/08/2023	Monthly	1000m	0	0	0
Mining Title Applications	NSW Department of Industry	25/08/2023	25/08/2023	Monthly	1000m	0	0	0
Historic Mining Titles	NSW Department of Industry	25/08/2023	25/08/2023	Monthly	1000m	4	4	5
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	31/08/2023		Monthly	1000m	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	31/08/2023	25/08/2023	Monthly	1000m	2	6	24
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000m	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000m	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	18/10/2022	01/07/2022	Quarterly	1000m	0	0	1
Environmental Planning Instrument Local Heritage	NSW Department of Planning, Industry and Environment	31/08/2023	25/08/2023	Monthly	1000m	0	0	69
Bush Fire Prone Land	NSW Rural Fire Service	18/08/2023	31/05/2023	Monthly	1000m	2	2	2
NSW Native Vegetation Type Map	NSW Department of Planning and Environment	26/05/2023	12/12/2022	Quarterly	1000m	4	7	8
Ramsar Wetlands of Australia	Australian Government Department of Agriculture, Water and the Environment	09/05/2023	01/11/2022	Annually	1000m	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000m	2	3	8
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000m	2	4	10
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	13/06/2023	13/06/2023	Weekly	10000m	-	-	-

Site Diagram

10 Lagoon Street, Bega, NSW 2550



Legend Site Boundary Internal Parcel Boundaries	Total Area: 90792m ² Total Perimeter: 1.98km		Scale: 0 25 50 100 150 200 Meters	
	Disclaimers: Measurements are approximate only and may have been simplified or smaller lengths removed for readability. Parcels that make up a small percentage of the total site area have not been labelled for increased legibility.		Data Sources: Aerial Imagery: © NSW Department of Finance, Services & Innovation	
	Coordinate System: GDA 1994 MGA Zone 56		Date: 04 September 2023	



Contaminated Land

10 Lagoon Street, Bega, NSW 2550

List of NSW contaminated sites notified to EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer:

Map Id	Site	Address	Suburb	Activity	Management Class	Status	Location Confidence	Dist	Direction
105	Caltex Service Station	36-40 Lagoon Street	Bega	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	20m	South West
104	Coles Express (former Caltex) Service Station	2-6 Swan (Corner Carp) STREET	Bega	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	682m	South East
13588	Spenco Site - owned by Bega Spotlight Property 2 Pty Ltd	53-65 Bega Street	BEGA	Other Industry	Regulation under CLM Act not required	Current EPA List	Premise Match	884m	East

The values within the EPA site management class in the table above, are given more detailed explanations in the table below:

EPA site management class	Explanation
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the Environmental Planning and Assessment Act 1979 (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record of Notices.
Contamination currently regulated under POEO Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register.
Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the Protection of the Environment Operations Act 1997 (POEO Act).
Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record of Notices.
Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997. A regulatory approach is being finalised.
Regulation under the CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the Contaminated Land Management Act 1997 is not required.
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or Protection of the Environment Operations Act 1997. Alternatively, the EPA may require information via a notice issued under s77 of the Contaminated Land Management Act 1997 or issue a Preliminary Investigation Order.

Contaminated Land

10 Lagoon Street, Bega, NSW 2550

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

Map Id	Name	Address	Suburb	Notices	Area No	Location Confidence	Distance	Direction
N/A	No records in buffer							

Contaminated Land Records of Notice Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority
Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit
<http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm>

Former Gasworks

Former Gasworks within the dataset buffer:

Map Id	Location	Council	Further Info	Location Confidence	Distance	Direction
N/A	No records in buffer					

Former Gasworks Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Contaminated Land

10 Lagoon Street, Bega, NSW 2550

EPA Notices

Penalty Notices, s.91 & s.92 Clean up Notices and s.96 Prevention Notices within the dataset buffer:

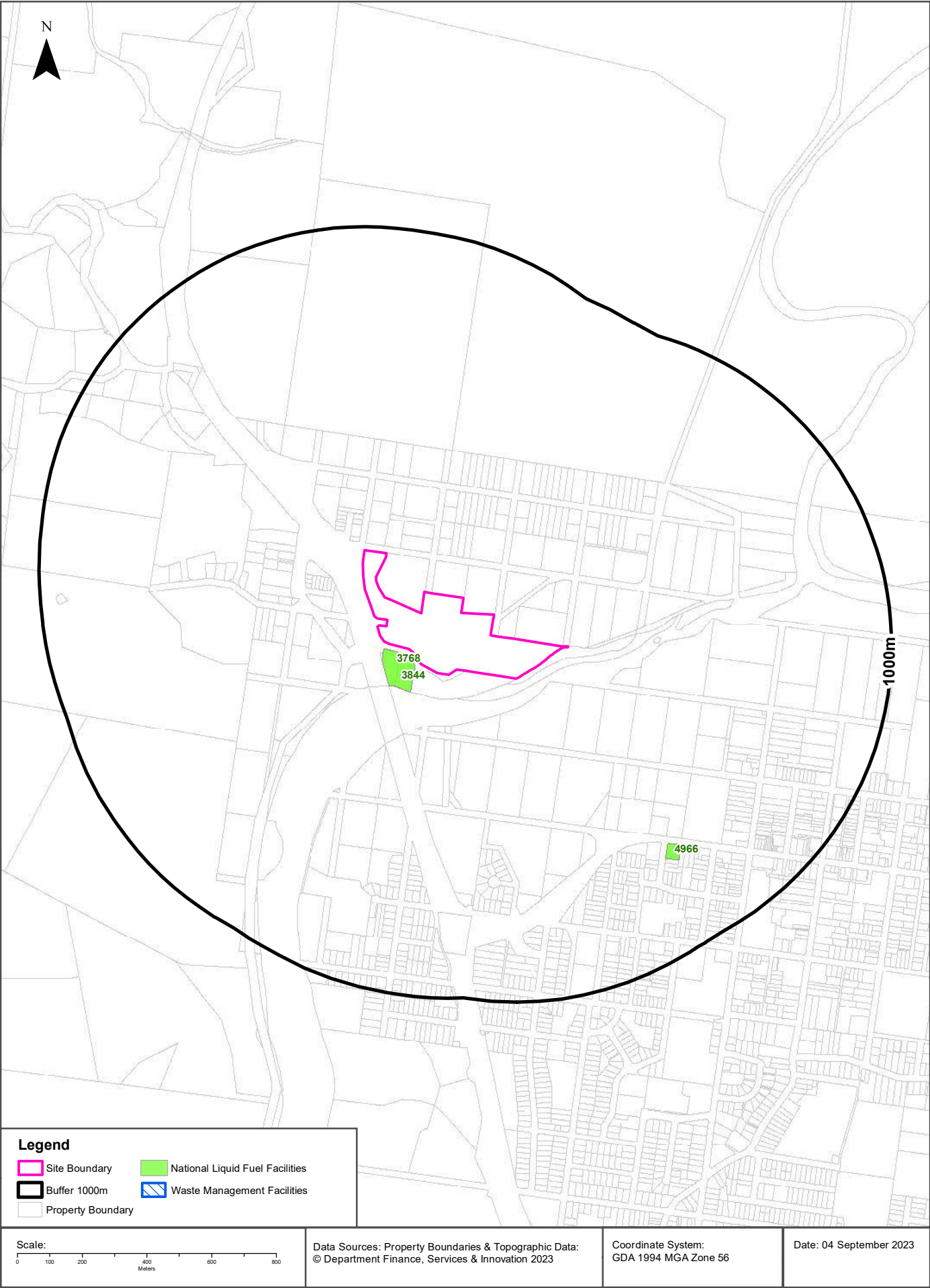
Number	Type	Name	Address	Status	Issued Date	Act	Offence	Offence Date	Loc Conf	Dist	Dir
3085778090	Penalty Notice	BEGA CHEESE LIMITED	LAGOON STREET, RIDGE STREET, BUCKAJO ROAD AND ANGLEDAL ROAD , BEGA, NSW 2550	Issued	15/12/2015	Protection of the Environment Operations Act 1997 - 64(1)	Contravene condition of licence - Corporation	01/09/2015	Premise Match	0m	On-site

NSW EPA Notice Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Waste Management & Liquid Fuel Facilities

10 Lagoon Street, Bega, NSW 2550



Waste Management & Liquid Fuel Facilities

10 Lagoon Street, Bega, NSW 2550

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

Site Id	Owner	Name	Address	Suburb	Class	Landfill	Reprocess	Transfer	Comments	Loc Conf	Dist	Direction
N/A	No records in buffer											

Waste Management Facilities Data Source: Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

National Liquid Fuel Facilities

National Liquid Fuel Facilities within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist	Direction
3768	Caltex	Bega	36 Lagoon Street	Bega	Fuel Depot	Operational		04/10/2012	Premise Match	20m	South West
3844	Caltex	CPS Bega	36 Lagoon Street	Bega	Petrol Station	Operational		25/07/2011	Premise Match	20m	South West
4966	7-Eleven Pty Ltd	Caltex Bega	280 Carp Street	Bega	Petrol Station	Operational		13/07/2012	Premise Match	682m	South East

National Liquid Fuel Facilities Data Source: Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

PFAS Investigation & Management Programs

10 Lagoon Street, Bega, NSW 2550

EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer:

Map ID	Site	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

EPA PFAS Investigation Program: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Defence PFAS Investigation Program

Sites being investigated by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Investigation Program Data Custodian: Department of Defence, Australian Government

Defence PFAS Management Program

Sites being managed by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Management Program Data Custodian: Department of Defence, Australian Government

Airservices Australia National PFAS Management Program

Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map ID	Site Name	Impacts	Loc Conf	Dist	Dir
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites and Unexploded Ordnance

10 Lagoon Street, Bega, NSW 2550

Defence Controlled Areas (DCA)

Defence Controlled Areas provided by the Department of Defence within the dataset buffer:

Site ID	Location Name	Loc Conf	Dist	Dir
N/A	No records in buffer			

Defence Controlled Areas, Data Custodian: Department of Defence, Australian Government

Defence 3 Year Regional Contamination Investigation Program (RCIP)

Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property ID	Base Name	Address	Known Contamination	Loc Conf	Dist	Dir
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

National Unexploded Ordnance (UXO)

Sites which have been assessed by the Department of Defence for the potential presence of unexploded ordnance within the dataset buffer:

Site ID	Location Name	Category	Area Description	Additional Information	Commonwealth	Loc Conf	Dist	Dir
N/A	No records in buffer							

National Unexploded Ordnance (UXO), Data Custodian: Department of Defence, Australian Government

EPA Other Sites with Contamination Issues

10 Lagoon Street, Bega, NSW 2550

EPA Other Sites with Contamination Issues

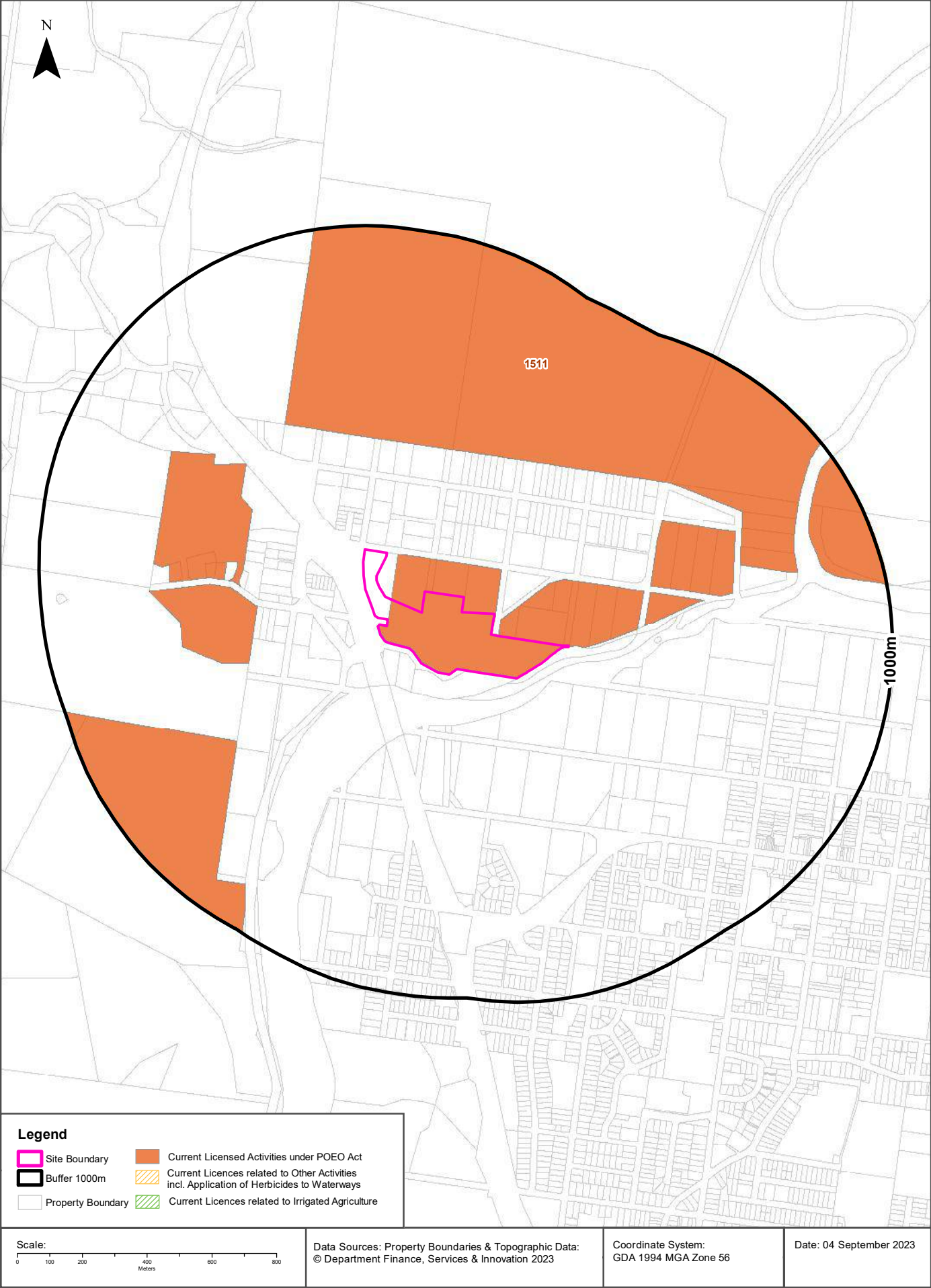
This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill
- Pasminco Lead Abatement Strategy Area

Sites within the dataset buffer:

Site Id	Site Name	Site Address	Dataset	Comments	Location Confidence	Distance	Direction
N/A	No records in buffer						

EPA Other Sites with Contamination Issues: Environment Protection Authority
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EPA Activities

10 Lagoon Street, Bega, NSW 2550

Licensed Activities under the POEO Act 1997

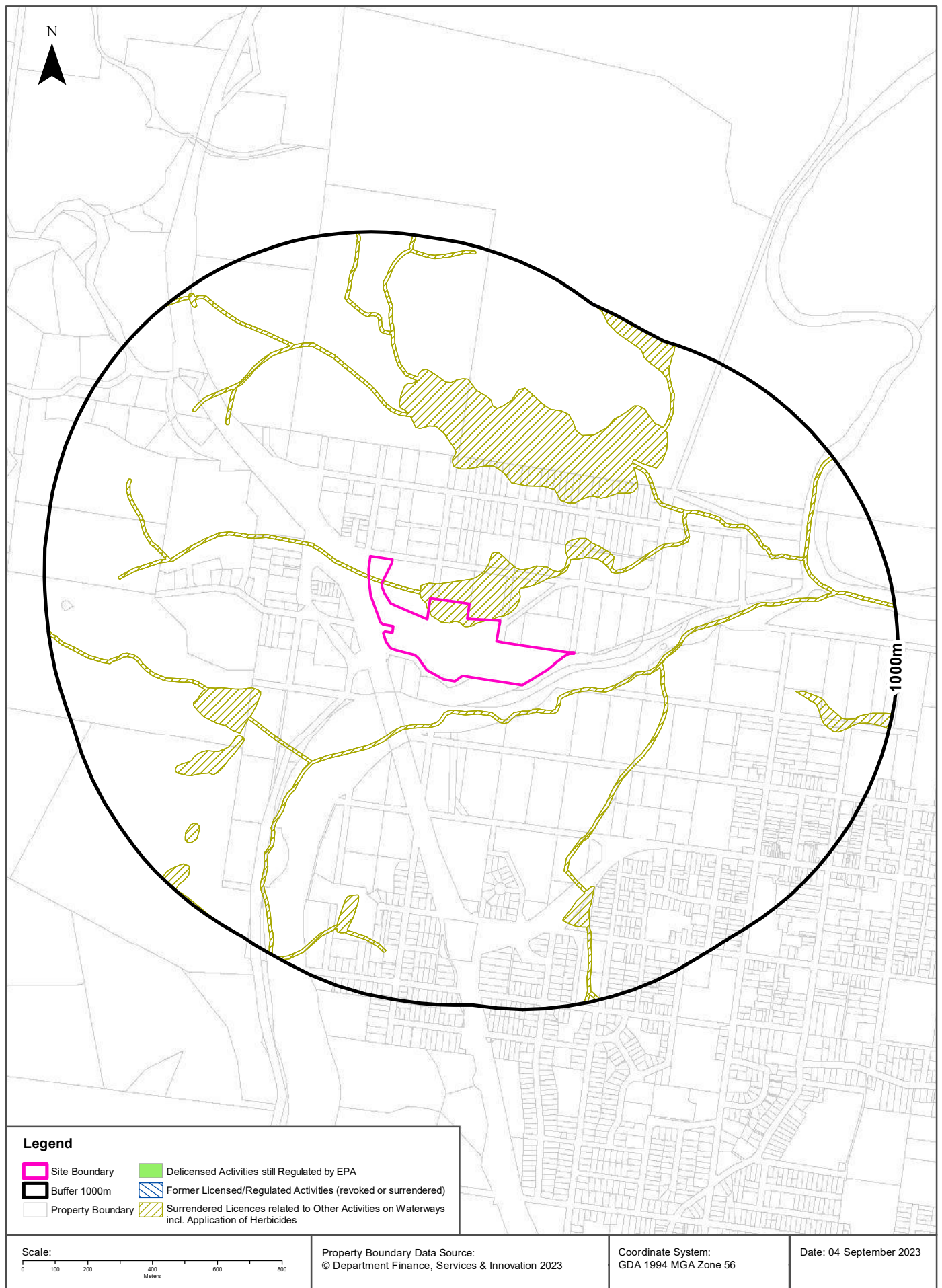
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
1511	BEGA CHEESE LIMITED	BEGA CHEESE LIMITED	LAGOON STREET, RIDGE STREET, BUCKAJO ROAD AND ANGLEDAL ROAD , BEGA, NSW 2550	BEGA	Dairy processing	Premise Match	0m	On-site

POEO Licence Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Delicensed & Former Licensed EPA Activities

10 Lagoon Street, Bega, NSW 2550



EPA Activities

10 Lagoon Street, Bega, NSW 2550

Delicensed Activities still regulated by the EPA

Delicensed activities still regulated by the EPA, within the dataset buffer:

Licence No	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
N/A	No records in buffer							

Delicensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

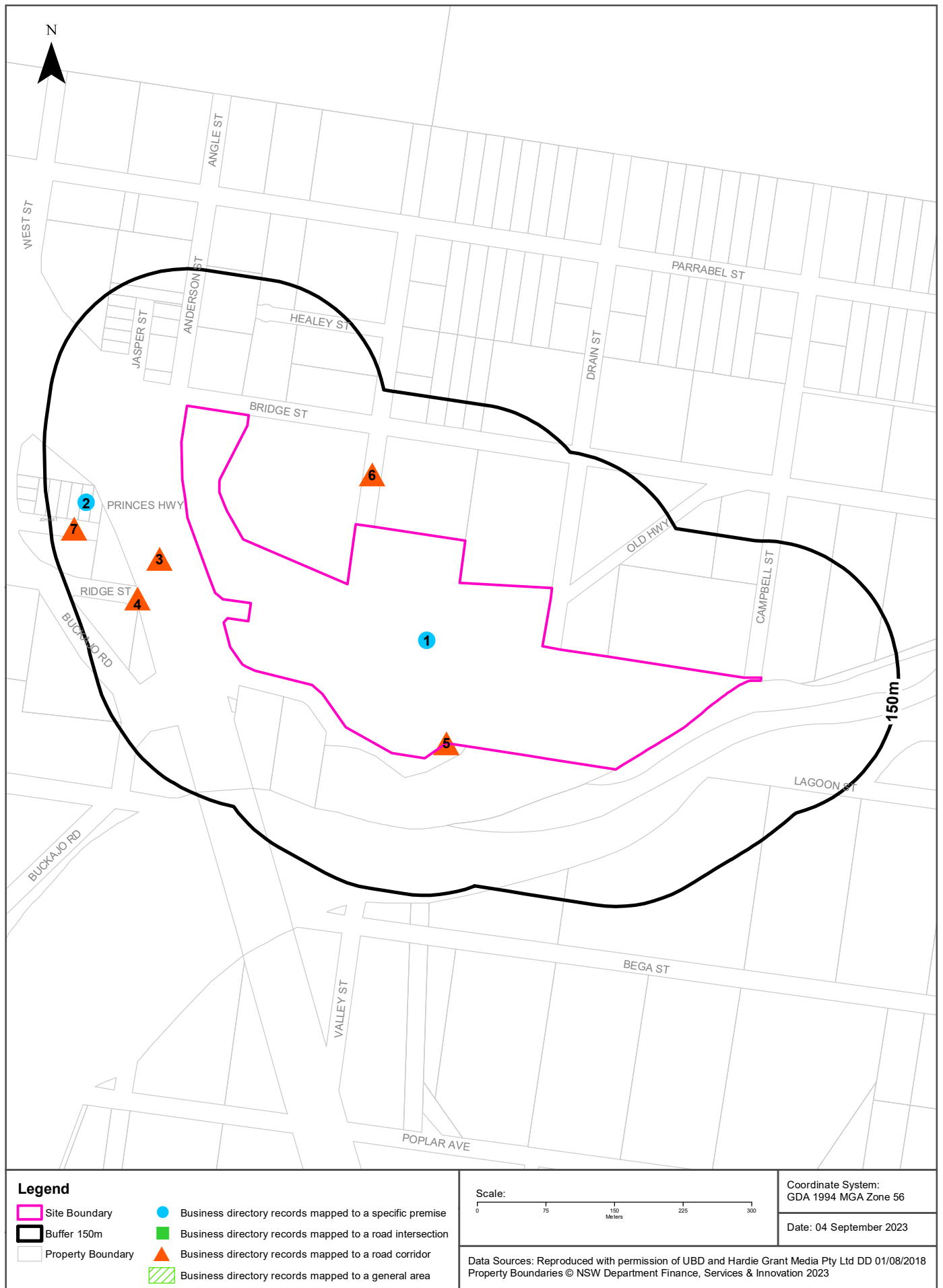
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered	07/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered	09/11/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site

Former Licensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Historical Business Directories

10 Lagoon Street, Bega, NSW 2550



Historical Business Directories

10 Lagoon Street, Bega, NSW 2550

Business Directory Records 1950-1991 Premise or Road Intersection Matches

Universal Business Directory records from years 1991, 1982, 1970, 1961 & 1950, mapped to a premise or road intersection within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
1	CHEESE MFRS. &/OR DISTS.	Bega Co-Op Society Ltd., Old Princes Hwy., Bega North., 2550	136144	1991	Premise Match	0m	On-site
2	ENGINEERS - GENERAL &/OR MANUFACTURING &/OR MECHANICAL	Bega Valley Engineering, 7 John St, Bega North 2550	146250	1982	Premise Match	97m	West
	ENGINEERS - GENERAL &/OR MANUFACTURING &/OR MECHANICAL	Bega Valley Engineering, 7 John St., Bega 2550	146249	1982	Premise Match	97m	West

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Business Directory Records 1950-1991

Road or Area Matches

Universal Business Directory records from years 1991, 1982, 1970, 1961 & 1950, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
3	MOTOR OIL, SPIRIT & GREASE MFRS. &/OR IMPS. &/OR DIST.	Ampol., Princes Hwy.,Bega., 2550	136327	1991	Road Match	0m
	CAMPING GROUNDS &/OR CARAVAN PARKS.	Bega Caravan Park., Princes Hwy.,Bega., 2550	136134	1991	Road Match	0m
	MOTELS.	Grand Motel (Bega) Pty. Ltd., Princes Hwy.,Bega., 2550	136295	1991	Road Match	0m
	CARRIERS &/OR CARTAGE CONTRACTORS.	Hayes Removals & Storage., Princes Hwy.,Bega., 2550	136139	1991	Road Match	0m
	FURNITURE REMOVALISTS &/OR STORAGE.	Hayes Removals & Storage., Princes Hwy.,Bega., 2550	136198	1991	Road Match	0m
	MOTELS.	Northside Motel., Princes Hwy., Bega North., 2550	136296	1991	Road Match	0m
	MOTELS.	Princes Motel., Princes Hwy.,Bega., 2550	136297	1991	Road Match	0m
	RESTAURANTS.	Princes Motel., Princes Hwy.,Bega., 2550	136371	1991	Road Match	0m
	MOTOR GARAGES & SERVICE STATIONS.	Slater Max & Co. Pty. Ltd., Princes Hwy., Bega North., 2550	136325	1991	Road Match	0m
	MOTELS.	South Town Motor Inn., Princes Hwy.,Bega., 2550	136298	1991	Road Match	0m
	CAMPING GROUNDS &/OR CARAVAN PARKS.	Willows Caravan Park., Princes Hwy.,Bega., 2550	136135	1991	Road Match	0m
	SPORTS GOODS - RETAIL.	Willows Caravan Park., Princes Hwy.,Bega., 2550	136396	1991	Road Match	0m
	MOTOR OIL. &/OR SPIRIT DEPOTS	Ampol, Princes Highway., Bega 2550	146393	1982	Road Match	0m
	CAMPING GROUNDS &/OR CARAVAN PARKS	Bega Caravan Park, Princes Highway., Bega 2550	146200	1982	Road Match	0m
	CHEESE MFRS. &/OR DIST.	Bega Co-op Society Ltd., Princes Highway., Bega North 2550	146215	1982	Road Match	0m
	GROCERS &/OR SELF SERVICE STORES	Eaton, P. & V., Princes Highway., Bega North 2550	146296	1982	Road Match	0m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS	Eaton, P. & V., Princes Highway., Bega North 2550	146384	1982	Road Match	0m
	MOTELS	Grand Motel. (Bega) Pty. Ltd., Princes Highway., Bega 2550	146351	1982	Road Match	0m
	FURNITURE REMOVALISTS &/OR STORAGE	Hayes Removal & Storage Princes Highway, Bega 2550	146272	1982	Road Match	0m
	CARRIERS &/OR CARTAGE CONTRACTORS	Hayes Removals & Storage, Princes Highway., Bega 2550	146208	1982	Road Match	0m
	FURNITURE REMOVAUSTS &/OR STORAGE	Hayes Removals & Storage, Princes Highway., Bega 2550	146273	1982	Road Match	0m
	HIRING SERVICES	Haysair Plant Hire, Princes Highway., Bega North 2550	146310	1982	Road Match	0m
	PLANT HIRERS	Haysair Plant Hire, Princes Highway., Bega North 2550	146422	1982	Road Match	0m
	MOTELS	Northside Motel, Princes Highway., Bega North 2550	146352	1982	Road Match	0m
	Post Office	Post Office, Princes Highway., Bega North 2550	146288	1982	Road Match	0m
	MOTELS	Princes Motel, Princes Highway., Bega 2550	146353	1982	Road Match	0m
	RESTAURANTS	Princes Motel. Princes Highway., Bega 2550	146438	1982	Road Match	0m

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
3	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS	Slater Max & Co. Pty. Ltd., Princes Highway., Bega North 2550	146390	1982	Road Match	0m
	CAMPING GROUNDS &/OR CARAVAN PARKS	Willows Caravan Park, Princes Highway., Bega 2550	146201	1982	Road Match	0m
	SPORTING &/OR TRAVEL GOODS - RETAIL	Willows Caravan Park, Princes Highway., Bega 2550	146462	1982	Road Match	0m
	CAMPING GROUNDS &/OR CARAVAN PARKS	Bega Caravan Park, Princes Hghwy. Bega 2550	570877	1970	Road Match	0m
	MOTOR OIL &/OR SPIRIT DEPOTS	British Petroleum (Aust.) Ltd., Princes Hghwy. Bega 2550	571122	1970	Road Match	0m
	AGRICULTURAL MACHINERY DEALERS	Curtis Farming & Engineering Supply Co., Princes Hghwy., North Bega	570768	1970	Road Match	0m
	IRRIGATION SYSTEMS/EQUIPMENT-MFRS. & DISTRIBUTORS	Curtis Farming & Engineering Supply Co., Princes Hghwy., North Bega	571038	1970	Road Match	0m
	PUMP MANUFACTURERS &/OR DISTRIBUTORS	Curtis Farming & Engineering Supply Co., Princes Hghwy., North Bega	571179	1970	Road Match	0m
	STEEL FABRICATORS	Curtis, Stan Pty. Ltd., Princes Hghwy. Bega 2550	571219	1970	Road Match	0m
	AGRICULTURAL MACHINERY REPAIRERS	Curtis, Stan Pty. Ltd., Princes Hghwy., North Bega	570776	1970	Road Match	0m
	BOILERMAKERS	Curtis, Stan Pty. Ltd., Princes Hghwy., North Bega	570842	1970	Road Match	0m
	ENGINEERS-GENERAL &/OR MFRG. &/OR MECHANICAL	Curtis, Stan Pty. Ltd., Princes Hghwy., North Bega	570934	1970	Road Match	0m
	ENGINEERS-STRUCTURAL	Curtis, Stan Pty. Ltd., Princes Hghwy., North Bega	570937	1970	Road Match	0m
	WELDERS-ELECTRIC & OXY	Curtis, Stan Pty. Ltd., Princes Hghwy., North Bega	571254	1970	Road Match	0m
	WROUGHT IRON WORKERS	Curtis, Stan Pty. Ltd., Princes Hghwy., North Bega	571263	1970	Road Match	0m
	ENGINEERS-FABRICATING	Curtis, Stan Pty. Ltd., Princes Hghwy., North Bega 2550	570931	1970	Road Match	0m
	MOTELS	Grand Motel, Princes Hghwy. Bega 2550	571079	1970	Road Match	0m
	RESTAURANTS	Grand Motel, Princes Hghwy. Bega 2550	571191	1970	Road Match	0m
	MOTOR GARAGES &/OR ENGINEERS	Northside Service Centre, Princes Hghwy., North Bega	571115	1970	Road Match	0m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Northside Service Centre, Princes Hghwy., North Bega	571137	1970	Road Match	0m
	Post Office	Post Office, Princes Hghwy. Bega 2550	570977	1970	Road Match	0m
	MOTELS	Princes Motel, Princes Hghwy. Bega 2550	571080	1970	Road Match	0m
	RESTAURANTS	Princes Motel, Princes Hghwy. Bega 2550	571192	1970	Road Match	0m
	SAWS-GENERAL-SALES &/OR SERVICE	Sapphire Service Station (The), Princes Hghwy. Bega 2550	571198	1970	Road Match	0m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Sapphire Service Station (The), Princes Hghwy. Bega 2250	571138	1970	Road Match	0m
	CAFES, TEA ROOMS & COFFEE LOUNGES	Sapphire Service Station, The, Princes Hghwy. Bega 2550	570870	1970	Road Match	0m
	MIXED BUSINESSES	Sapphire Service Station, The, Princes Hghwy. Bega 2550	571077	1970	Road Match	0m
	MOTOR ACCESSORIES SPARE PARTS DEALERS	Sapphire Service Station, The, Princes Hghwy. Bega 2550	571086	1970	Road Match	0m
	MIXED BUSINESSES	Slater, M., Princes Hghwy, North Bega	571078	1970	Road Match	0m
	CARRIERS & CARTAGE CONTRACTORS	Slater, M., Princes Hghwy., North Bega	570891	1970	Road Match	0m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Slater, M., Princes Hghwy., North Bega	571139	1970	Road Match	0m
	GROCERS & SELF SERVICE STORES	Slater, M., Princes Hghwy., North Bega 2550	570985	1970	Road Match	0m
	CAMPING GROUNDS &/OR CARAVAN PARKS	Willow's Caravan Park, Princes Hghwy. Bega 2550	570878	1970	Road Match	0m

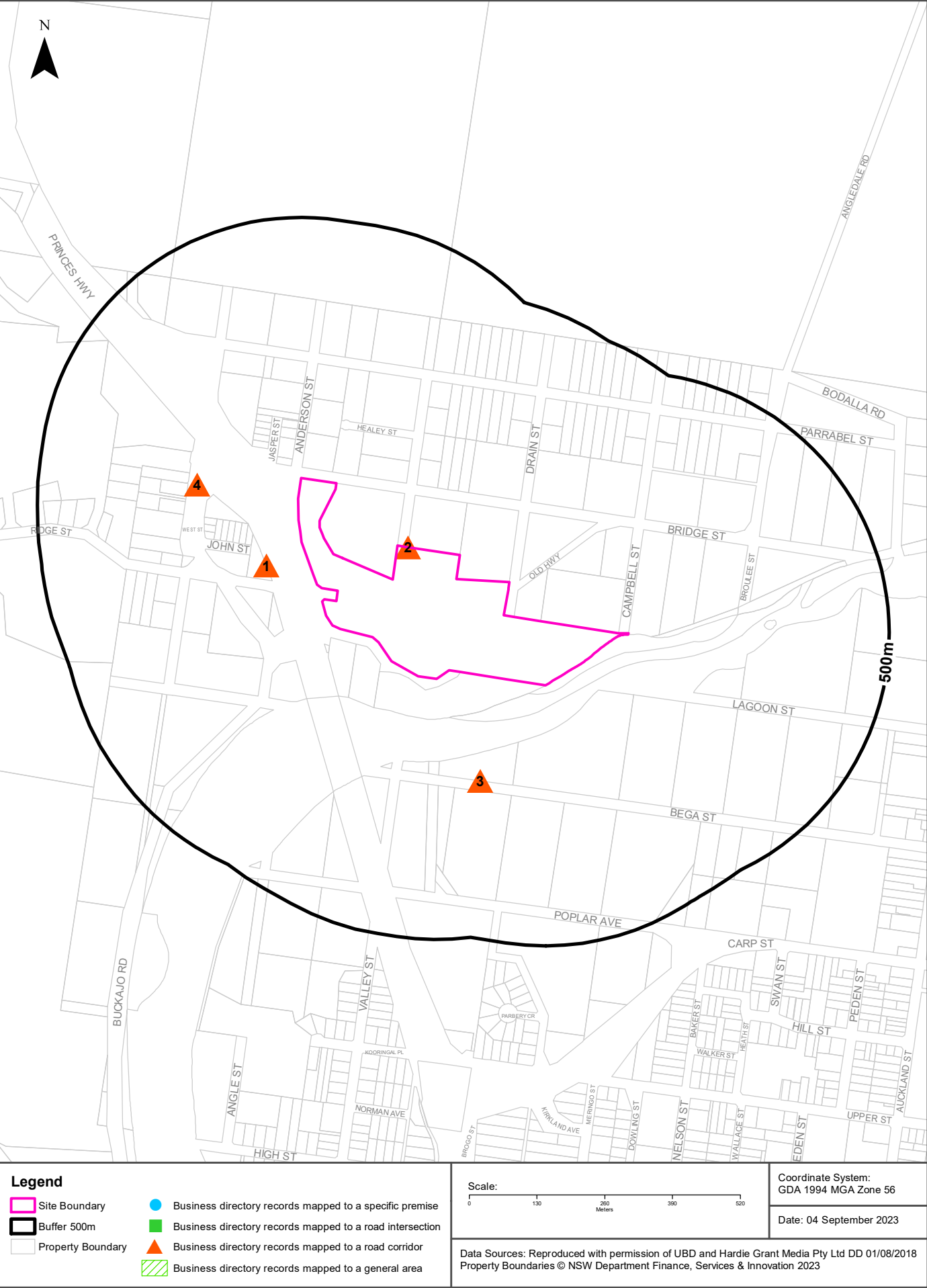
Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
3	HOLIDAY ACCOMMODATION	Willow's Caravan Park, Princes Hwy. Bega 2550	571006	1970	Road Match	0m
	MOTOR OIL & SPIRIT DEPOTS	B.P. (Aust.) Limited., Princes Highway., Bega	187237	1961	Road Match	0m
	MOTOR GARAGES & ENGINEERS	Bega Service Station, Princes Highway, Bega	187231	1961	Road Match	0m
	BATTERY SERVICE STATIONS	Bega Service Station, Princes Highway., Bega	186948	1961	Road Match	0m
	MOTOR ENGINE RECONDITIONERS	Bega Service Station, Princes Highway., Bega	187218	1961	Road Match	0m
	MOTOR GARAGES & ENGINEERS	Bega Service Station, Princes Highway., Bega	187223	1961	Road Match	0m
	MOTOR SERVICE STATIONS- PETROL, OIL, ETC.	Bega Service Station, Princes Highway., Bega	187253	1961	Road Match	0m
	TYRE & TUBE DEALERS	Bega Service Station, Princes Highway., Bega	187351	1961	Road Match	0m
	TYRE DEALERS, RETREADERS & VULCANIZERS	Bega Service Station, Princes Highway., Bega	187345	1961	Road Match	0m
	MOTOR OIL & SPIRIT DEPOTS	British Petroleum (Aust.) Limited., Princes Highway., Bega	187240	1961	Road Match	0m
	MOTOR OIL & SPIRIT DEPOTS	Caltex Oil Depot, Monaro Highway., North Bega	187241	1961	Road Match	0m
	CARRIERS & CARTAGE CONTRACTORS	Finucane, J. W., Princes Highway., Bega	186996	1961	Road Match	0m
	MOTELS	Grand Motel, Princes Highway., Bega	187196	1961	Road Match	0m
	CARRIERS & CARTAGE CONTRACTORS	Herbert, Norman H., Princes Highway., Bega	187000	1961	Road Match	0m
	EARTH MOVING MACHINERY HIRERS	Herbert, Norman H., Princes Highway., Bega	187045	1961	Road Match	0m
	GRAVEL, SAND & SOIL SUPPLIER	Herbert, Norman H., Princes Highway., Bega	187106	1961	Road Match	0m
	MOTELS	Princes Motel, Princes Highway., Bega	187197	1961	Road Match	0m
	DELICATESSENS	Slater, M., Monaro Highway. North, Bega	187034	1961	Road Match	0m
	FRUITERERS & GREENGROCERS-RETAIL	Slater, M., Monaro Highway. North, Bega	187086	1961	Road Match	0m
	GROCERS & GENERAL STOREKEEPERS	Slater, M., Monaro Highway. North, Bega	187110	1961	Road Match	0m
	HARDWARE DEALERS & IRONMONGERS	Slater, M., Monaro Highway. North, Bega	187123	1961	Road Match	0m
	MOTOR SERVICE STATIONS- PETROL, OIL, ETC.	Slater, M., Monaro Highway., North Bega	187257	1961	Road Match	0m
	CARRIERS & CARTAGE CONTRACTORS	Slater, Max, Monaro Highway., North Bega	187004	1961	Road Match	0m
	EARTH MOVING & ROAD MAKING CONTRACTORS	Tooker, R. P. and Son Pty. Ltd., Princes Highway., Bega	187049	1961	Road Match	0m
	EARTH MOVING MACHINERY HIRERS	Tooker, R. P. and Son Pty. Ltd., Princes Highway., Bega	187047	1961	Road Match	0m
	MOTOR OIL & SPIRIT DEPOTS	Tooker, R. P. and Son Pty. Ltd., Princes Highway., Bega	187244	1961	Road Match	0m
	HOSPITALS	Bega District Hospital, Princes Highway. Bega	139723	1950	Road Match	0m
	CARRIERS & CARTAGE CONTRACTORS	Slater, Max, Monaro Highway., North Bega	139587	1950	Road Match	0m
	ACCOUNTANTS	Snowdon, H., Princes Highway. Bega	139458	1950	Road Match	0m
4	ELECTRICAL CONTRACTORS.	Illawarra County Council., Ridge St.,Bega., 2550	136180	1991	Road Match	0m
	ELECTRICAL SUPPLIES &/OR APPLIANCES - RETAIL.	Illawarra County Council., Ridge St.,Bega., 2550	136181	1991	Road Match	0m
	LOCAL BODIES.	Illawarra County Council., Ridge St.,Bega., 2550	136275	1991	Road Match	0m
	STOVE &/OR RANGE MFRS. &/OR DIST. - ELECTRIC.	Illawarra County Council., Ridge St.,Bega., 2550	136400	1991	Road Match	0m
	WASHING MACHINE SALES &/OR SERVICE.	Illawarra County Council., Ridge St.,Bega., 2550	136423	1991	Road Match	0m

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
4	CONCRETE REINFORCEMENTS.	Tubemakers Metal Centre., Ridge St.,Bega., 2550	136158	1991	Road Match	0m
	ROOFING MATERIAL MFRS. &/OR DIST.	Tubemakers Metal Centre., Ridge St.,Bega., 2550	136373	1991	Road Match	0m
	STEEL MERCHANTS - GENERAL.	Tubemakers Metal Centre., Ridge St.,Bega., 2550	136398	1991	Road Match	0m
	TUBE - STEEL - MFRS. &/OR DIST.	Tubemakers Metal Centre., Ridge St.,Bega., 2550	136417	1991	Road Match	0m
5	GOVERNMENT DEPARTMENTS.	Post Office., Old Princes Hwy., Bega North., 2550	136228	1991	Road Match	0m
6	PAINTERS, PAPERHANGERS & DECORATORS	Lavington, J. W., Valley St. Bega	139888	1950	Road Match	0m
	MOTOR GARAGES & ENGINEERS	Momsen, W. J., Valley St., North Bega	139833	1950	Road Match	0m
7	CARRIERS &/OR CARTAGE CONTRACTORS.	Comet & TNT Roadfast., Lot 5., John St.,Bega., 2550	136138	1991	Road Match	96m
	PLUMBERS SUPPLIES	Glitheroe Plumbing & Hardware, John St., Bega North 2550	146426	1982	Road Match	96m
	BOAT, LAUNCH &/OR YACHT ACCESSORIES MFRS. &/OR DIST	Saphire Coast Marine, John St, Bega North 2550	146182	1982	Road Match	96m
	OUTBOARD MOTOR MFRS. &/OR DIST	Saphire Coast Marine, John St, Bega North 2550	146413	1982	Road Match	96m

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Dry Cleaners, Motor Garages & Service Stations

10 Lagoon Street, Bega, NSW 2550



Historical Business Directories

10 Lagoon Street, Bega, NSW 2550

Dry Cleaners, Motor Garages & Service Stations Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a premise or road intersection, within the dataset buffer.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
N/A	No records in buffer						

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Dry Cleaners, Motor Garages & Service Stations Road or Area Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
1	MOTOR GARAGES & SERVICE STATIONS.	Slater Max & Co. Pty. Ltd., Princes Hwy., Bega North., 2550	136325	1991	Road Match	0m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS	Eaton, P. & V., Princes Highway., Bega North 2550	146384	1982	Road Match	0m
	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS	Slater Max & Co. Pty. Ltd., Princes Highway., Bega North 2550	146390	1982	Road Match	0m
	MOTOR GARAGES &/OR ENGINEERS	Northside Service Centre, Princes Hghwy., North Bega	571115	1970	Road Match	0m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Northside Service Centre, Princes Hghwy., North Bega	571137	1970	Road Match	0m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Sapphire Service Station (The), Princes Hghwy. Bega 2250	571138	1970	Road Match	0m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Slater, M., Princes Hghwy., North Bega	571139	1970	Road Match	0m
	MOTOR GARAGES & ENGINEERS	Bega Service Station, Princes Highway, Bega	187231	1961	Road Match	0m
	MOTOR GARAGES & ENGINEERS	Bega Service Station, Princes Highway., Bega	187223	1961	Road Match	0m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Bega Service Station, Princes Highway., Bega	187253	1961	Road Match	0m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Slater, M., Monaro Highway., North Bega	187257	1961	Road Match	0m
2	MOTOR GARAGES & ENGINEERS	Momsen, W. J., Valley St., North Bega	139833	1950	Road Match	0m
3	MOTOR SERVICE STATIONS	Fair Deal Service Station, Bega St. Bega	139859	1950	Road Match	166m
4	MOTOR GARAGES & SERVICE STATIONS.	Northside Machinery., West St., Bega North., 2550	136323	1991	Road Match	175m

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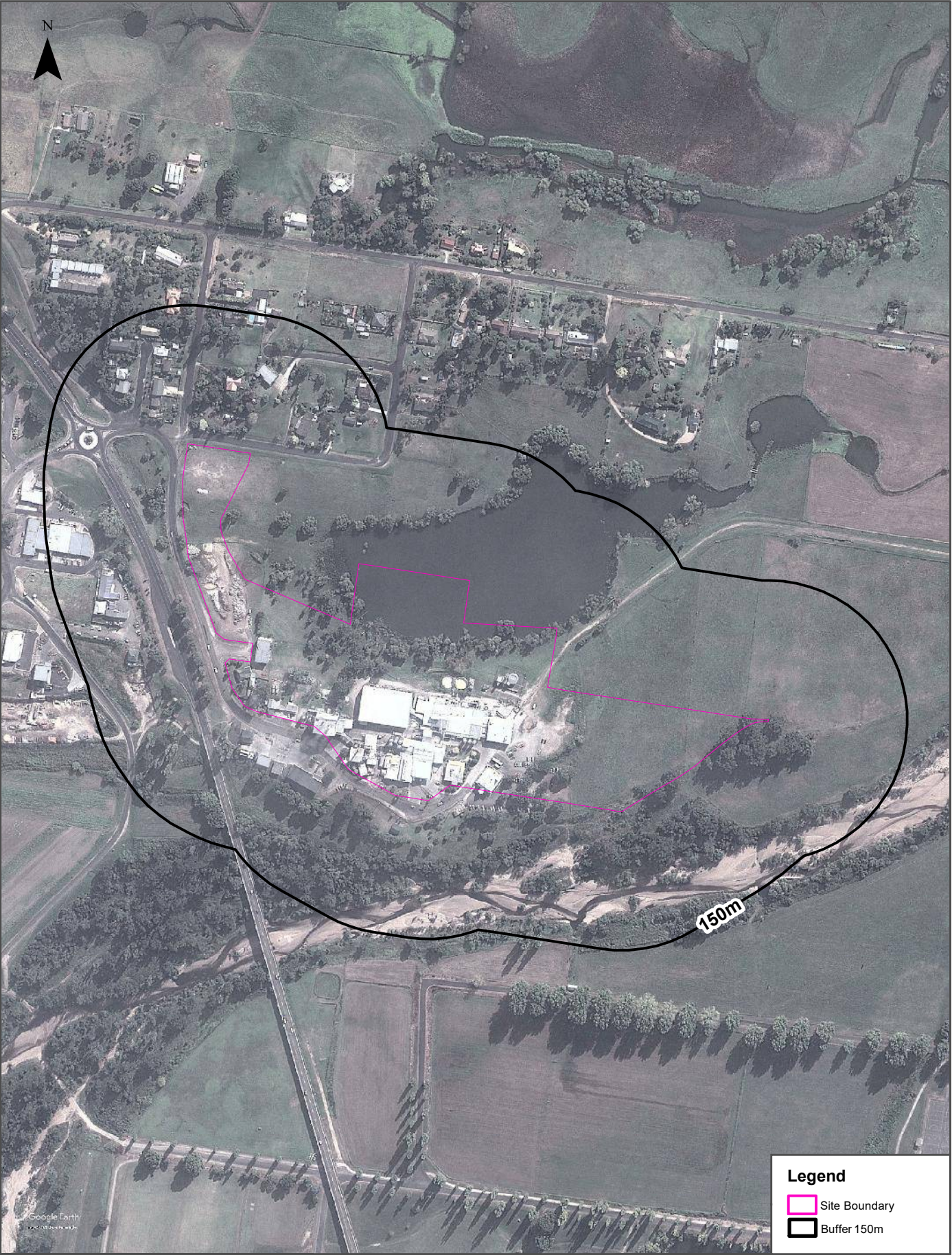


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Aerial Imagery 2003

10 Lagoon Street, Bega, NSW 2550



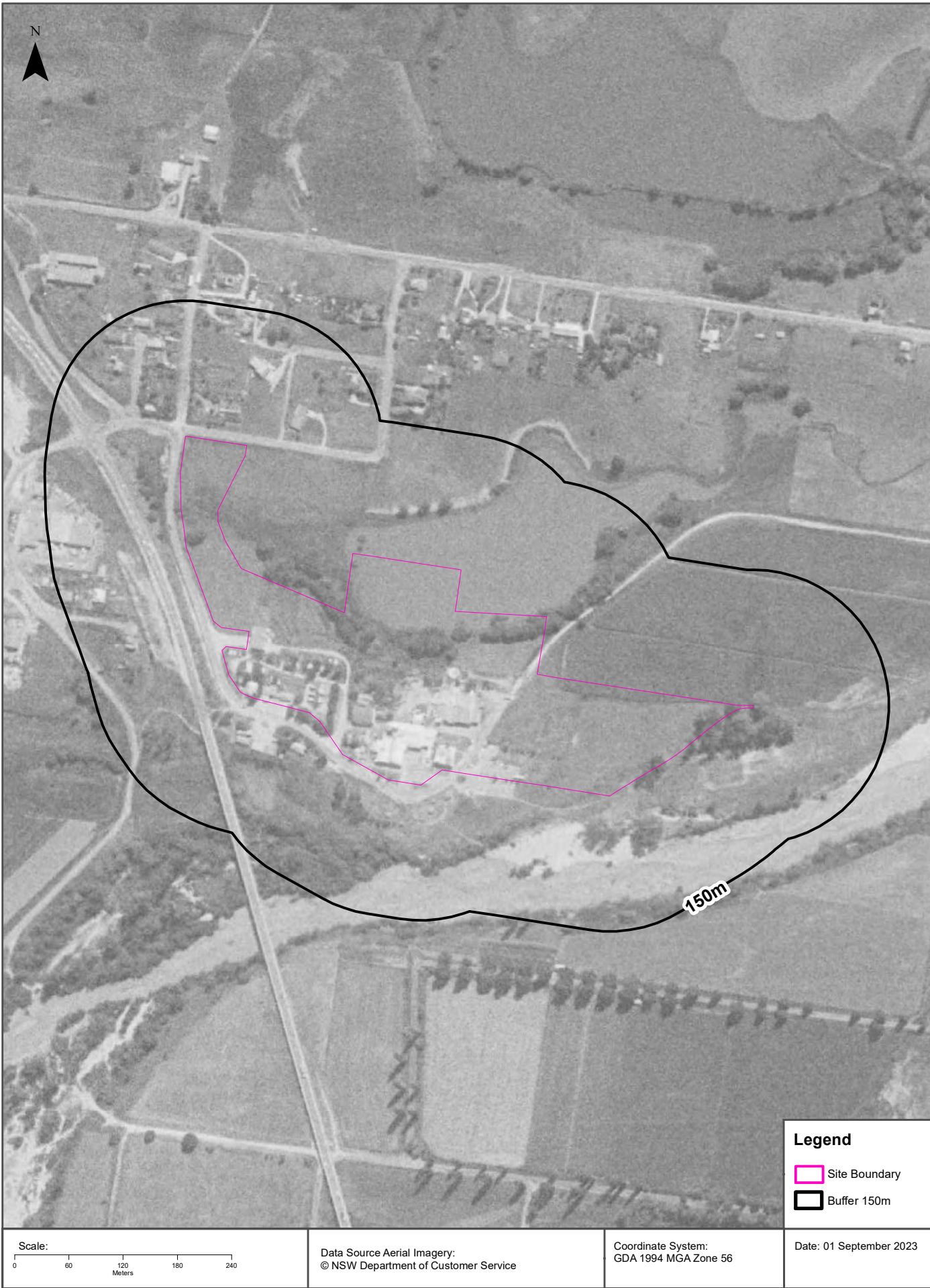
Aerial Imagery 1994

10 Lagoon Street, Bega, NSW 2550



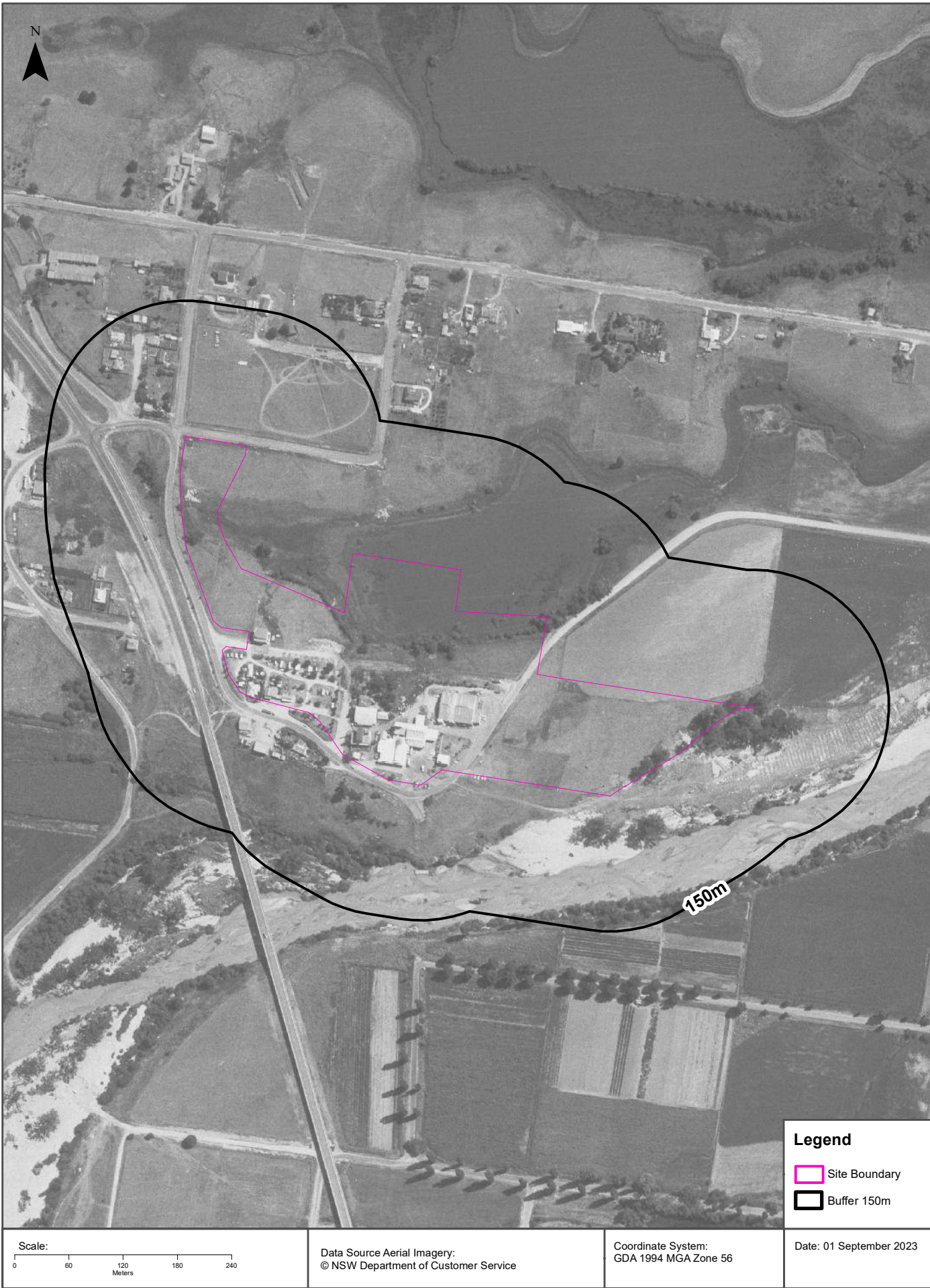
Aerial Imagery 1987

10 Lagoon Street, Bega, NSW 2550



Aerial Imagery 1979

10 Lagoon Street, Bega, NSW 2550



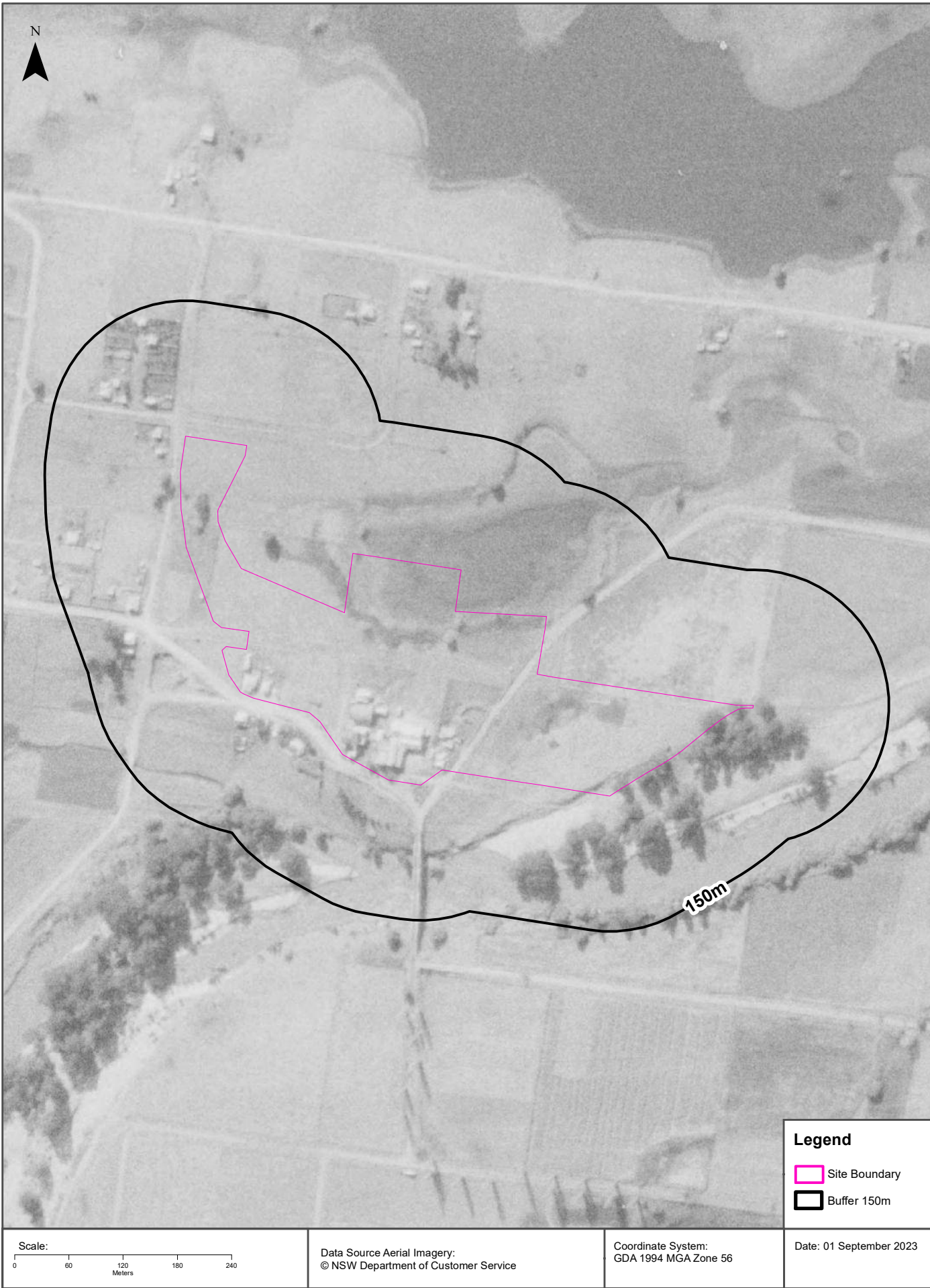
Aerial Imagery 1967

10 Lagoon Street, Bega, NSW 2550



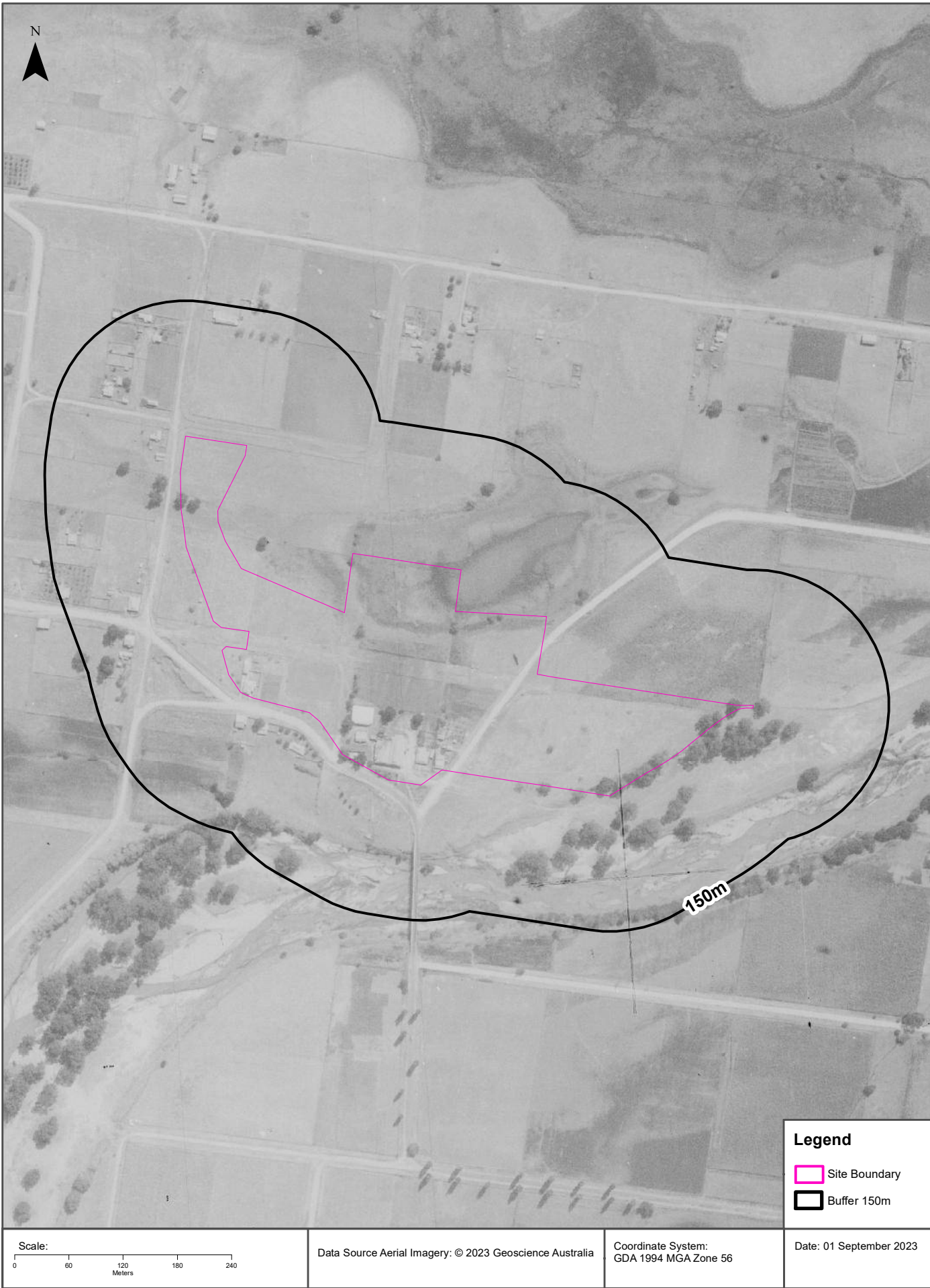
Aerial Imagery 1957

10 Lagoon Street, Bega, NSW 2550



Aerial Imagery 1944

10 Lagoon Street, Bega, NSW 2550

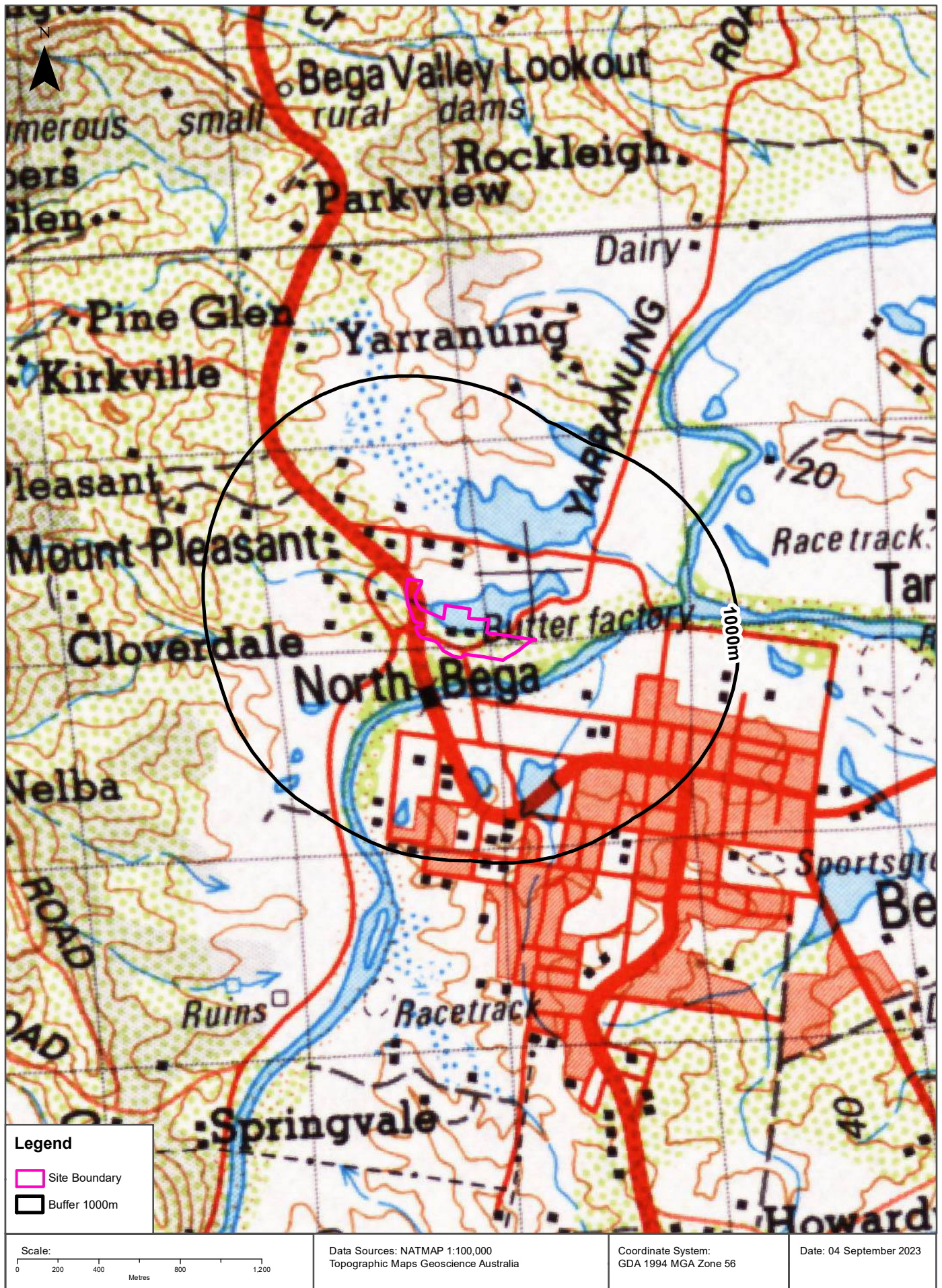


10 Lagoon Street, Bega, NSW 2550



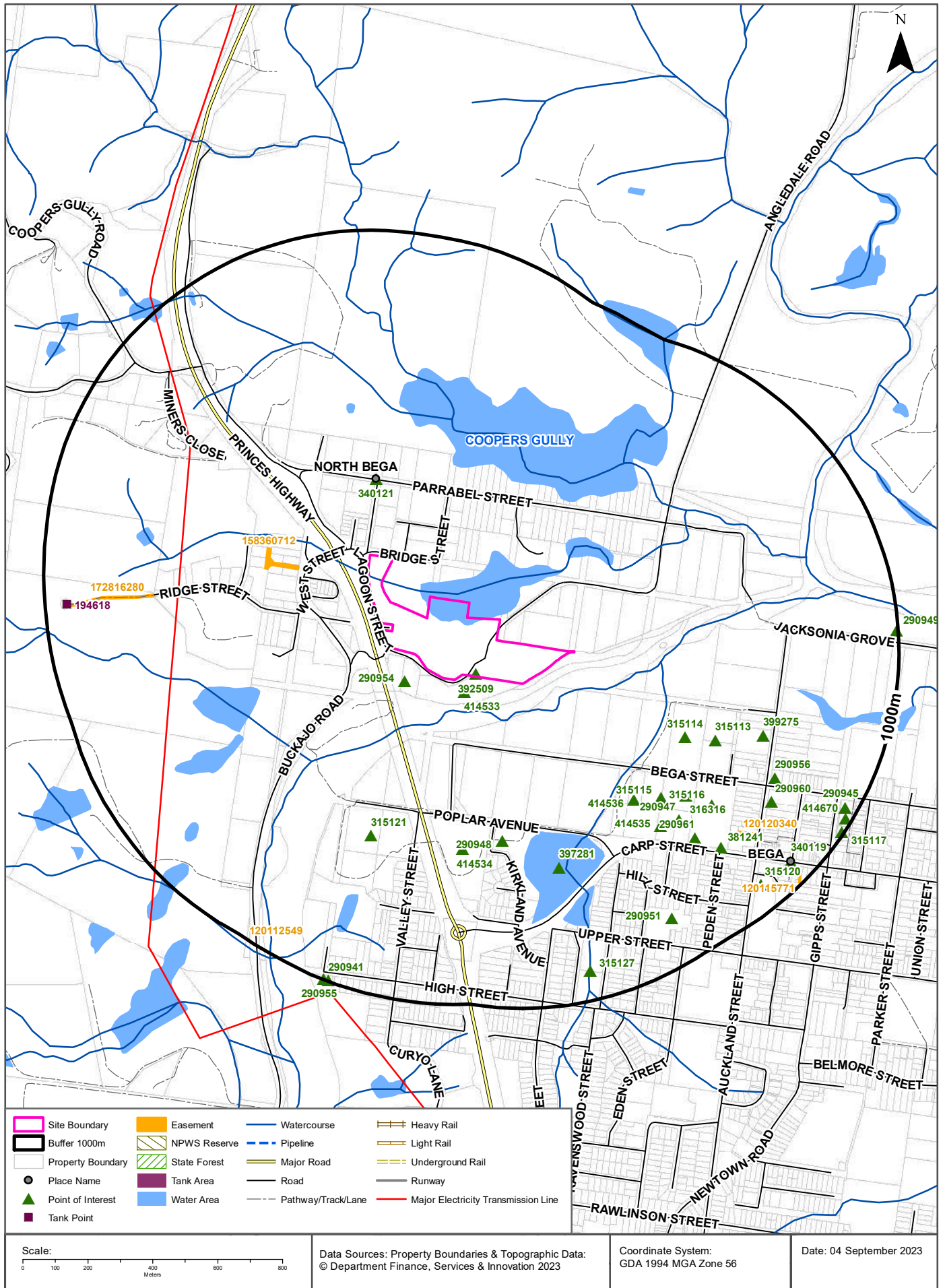
Historical Map 1979

10 Lagoon Street, Bega, NSW 2550



Topographic Features

10 Lagoon Street, Bega, NSW 2550



Topographic Features

10 Lagoon Street, Bega, NSW 2550

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
392509	Tourist Information Centre	BEGA VISITOR INFORMATION CENTRE	0m	On-site
414533	Park	BEGA CHEESE APEX PARK	46m	South
290954	Park	RIVERSIDE PARK	77m	South West
340121	Village	NORTH BEGA	235m	North West
315114	Sports Field	Sports Field	431m	South East
414536	Sports Court	BEGA NETBALL COURTS	484m	South East
290948	Park	APEX PARK	487m	South
315113	Sports Field	OVAL	512m	East
315115	Sports Field	GEORGE GRIFFIN OVAL	521m	South East
414534	Sports Field	ROY HOWARD FIELD	522m	South
315121	Sports Field	KEITH MITCHELL SPORTSGROUND	534m	South West
316316	Sports Centre	BASKETBALL CENTRE	560m	South East
397281	Manmade Waterbody	KISSES LAGOON	577m	South East
414535	Sports Court	BEGA SKATEBOWL	598m	South East
290947	Park	BEGA RECREATION GROUND	610m	South East
315116	Sports Field	RECREATION GROUND 1	634m	South East
399275	Primary School	BEGA VALLEY PUBLIC SCHOOL	637m	East
290961	Sports Court	BEGA TENNIS COURTS	683m	South East
290956	Museum	BEGA PIONEERS MUSEUM	729m	South East
381241	Monument	WAR MEMORIAL	753m	South East
290960	Place Of Worship	ANGLICAN CHURCH	763m	South East
290951	Nursing Home	HILLGROVE HOUSE	855m	South East
315127	Park	Park	908m	South
315120	Shopping Centre	BEGA CENTRE ARCADE	918m	South East
340119	Town	BEGA	927m	South East
290945	Sports Field	BOWLING GREEN	961m	South East
414670	Club	CLUB BEGA	980m	South East
315117	Sports Field	BOWLING GREEN	993m	South East
290949	Park	BEGA RIVER RESERVE	994m	East
290941	Filtration Plant	BEGA WATER TREATMENT PLANT	996m	South
290955	Pumping Station	Pumping Station	996m	South

Topographic Data Source: © Land and Property Information (2015)

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Topographic Features

10 Lagoon Street, Bega, NSW 2550

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?

Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
N/A	No records in buffer					

Tanks (Points)

What are the Tank Points located within the dataset buffer?

Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
194618	Water	Operational		01/03/2020	932m	West

Tanks Data Source: © Land and Property Information (2015)

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Major Easements

What Major Easements exist within the dataset buffer?

Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
158360712	Primary	Right of way	variable	215m	North West
172816280	Primary	Right of way	6m	664m	West
120120340	Primary	Undefined		746m	South East
120115771	Primary	Undefined		977m	South East
120112549	Primary	Undefined		995m	South West

Easements Data Source: © Land and Property Information (2015)

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Topographic Features

10 Lagoon Street, Bega, NSW 2550

State Forest

What State Forest exist within the dataset buffer?

State Forest Number	State Forest Name	Distance	Direction
N/A	No records in buffer		

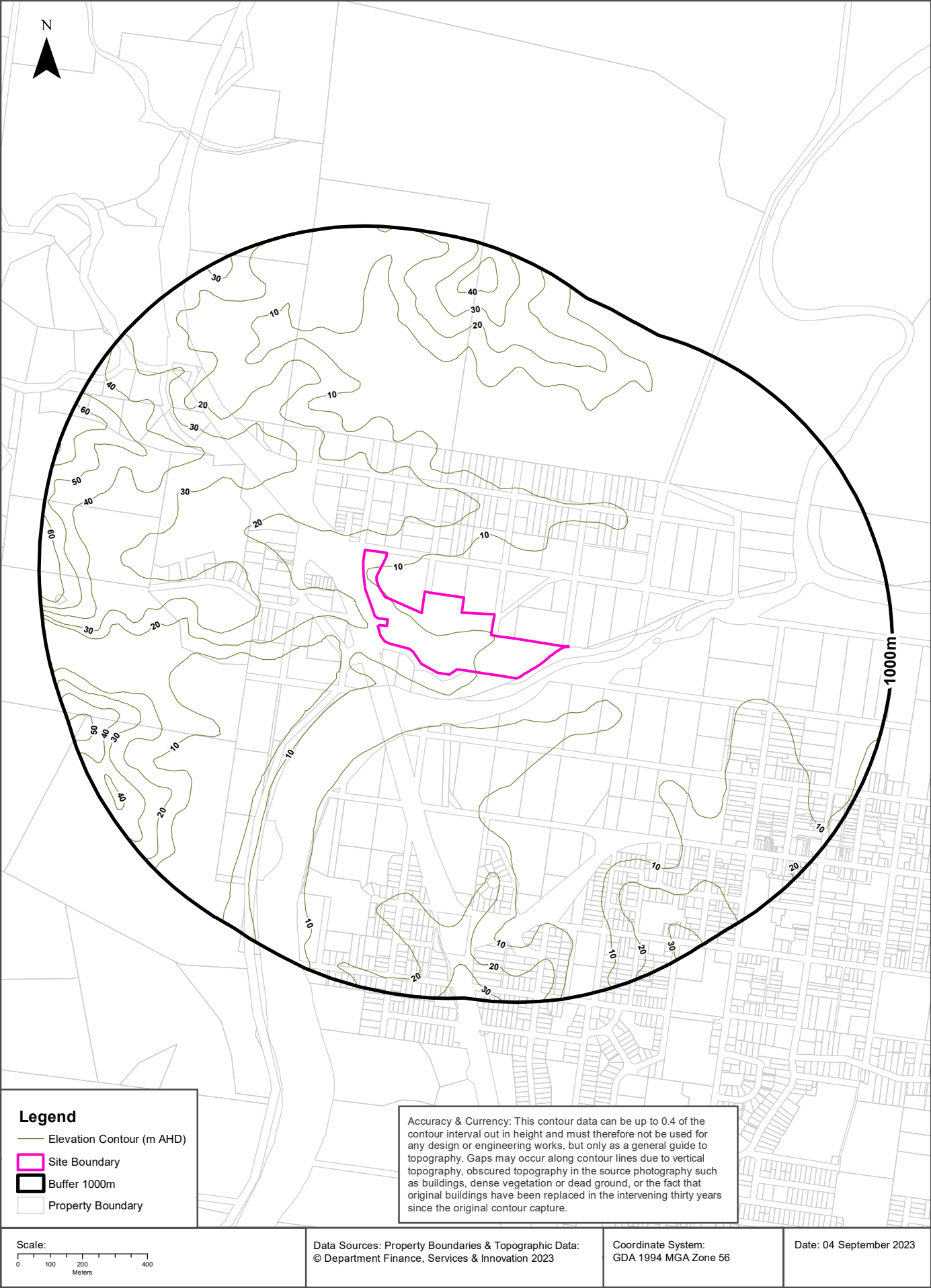
State Forest Data Source: © NSW Department of Finance, Services & Innovation (2018)
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National Parks and Wildlife Service Reserves

What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N/A	No records in buffer				

NPWS Data Source: © NSW Department of Finance, Services & Innovation (2018)
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Hydrogeology & Groundwater

10 Lagoon Street, Bega, NSW 2550

Hydrogeology

Description of aquifers within the dataset buffer:

Description	Distance	Direction
Porous, extensive highly productive aquifers	0m	On-site

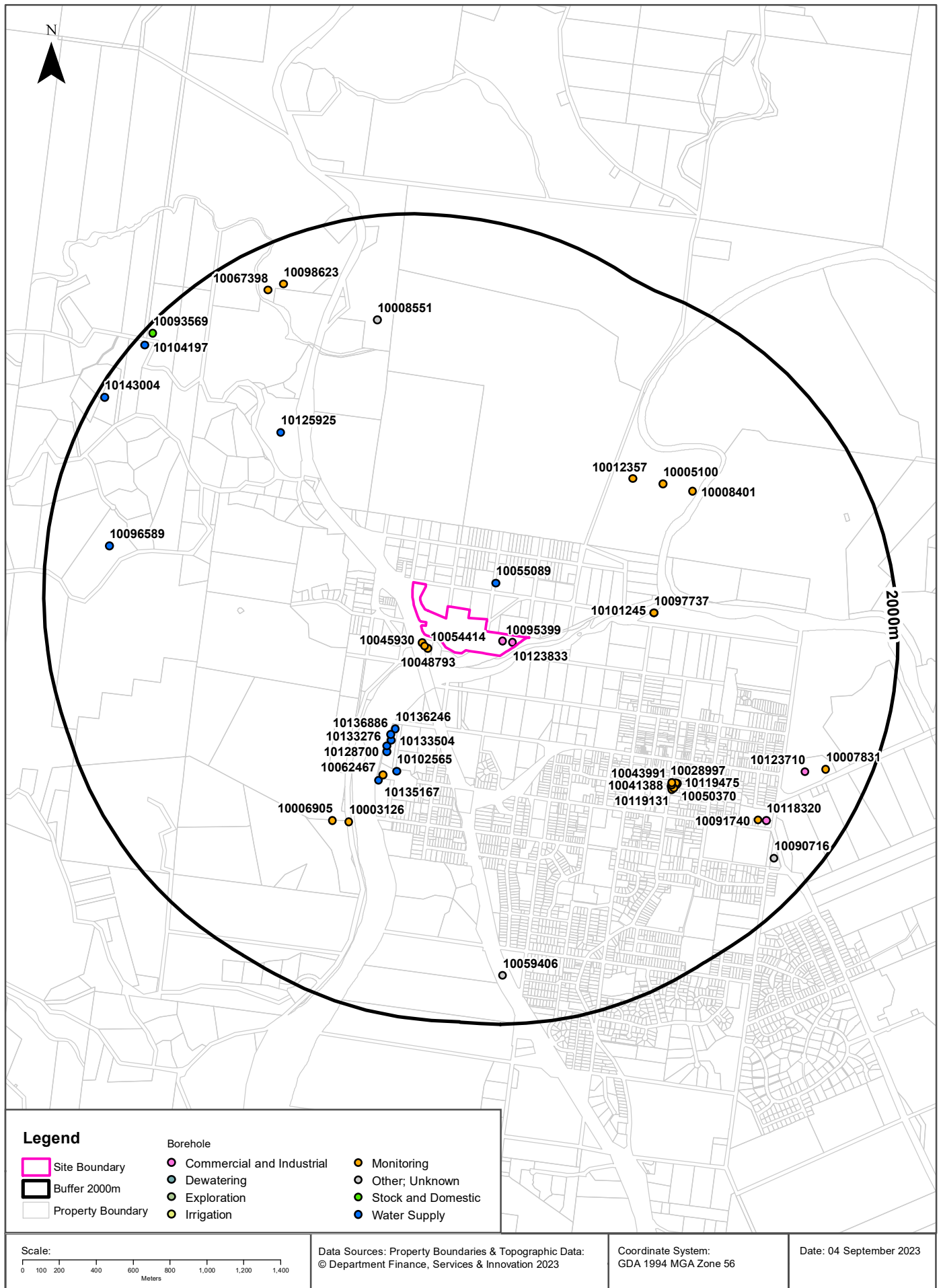
Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018

Temporary water restrictions relating to the Botany Sands aquifer within the dataset buffer:

Prohibition Area No.	Prohibition	Distance	Direction
N/A	No records in buffer		

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018 Data Source : NSW Department of Primary Industries



Hydrogeology & Groundwater

10 Lagoon Street, Bega, NSW 2550

Groundwater Boreholes

Boreholes within the dataset buffer:

NGIS Bore ID	NSW Bore ID	Bore Type	Status	Drill Date	Bore Depth (m)	Reference Elevation	Height Datum	Salinity (mg/L)	Yield (L/s)	SWL (mbgl)	Distance	Direction
10095399	GW100590	Commercial and Industrial	Functioning	26/09/1996	23.60		AHD			5.90	0m	On-site
10123833	GW103592	Commercial and Industrial	Functioning	19/04/1996	25.20		AHD				0m	On-site
10045930	GW110473	Monitoring	Proposed	23/08/2009	8.50		AHD				46m	West
10054414	GW110474	Monitoring	Proposed	28/10/2009	8.50		AHD				59m	South West
10048793	GW110475	Monitoring	Proposed	28/10/2009	8.50		AHD				66m	South West
10055089	GW023575	Water Supply	Unknown	01/03/1966	2.10		AHD	Fair			199m	North East
10136246	GW047892	Water Supply	Unknown	01/01/1978	21.20	10.50	AHD	0-500 ppm			520m	South West
10136886	GW047893	Water Supply	Unknown	01/01/1978	22.00	10.80	AHD	0-500 ppm			560m	South West
10133504	GW047894	Water Supply	Unknown	01/01/1978	21.30	11.70	AHD	0-500 ppm			586m	South West
10133276	GW047895	Water Supply	Unknown	01/01/1979	21.50	12.10	AHD	0-500 ppm			625m	South West
10128700	GW047896	Water Supply	Unknown	01/01/1979	21.50	12.10	AHD	0-500 ppm			651m	South West
10097737	GW075048	Monitoring	Unknown	02/06/1999	35.00	7.63	AHD	174.08		4.00	689m	East
10101245	GW075048	Monitoring	Unknown	02/06/1999		7.63	AHD	174.08		4.00	689m	East
10102565	GW100458	Water Supply	Functioning	17/01/1996	24.00		AHD	Good	0.310	8.00	719m	South West
10062467	GW051895	Monitoring	Proposed	01/05/1977	15.00		AHD				770m	South West
10135167	GW101420	Water Supply	Functioning	08/02/1997	18.00		AHD	Good	0.480	6.00	809m	South West
10012357	GW039003	Monitoring	Unknown	01/08/1969	35.20	10.48	AHD	0-500 ppm			1027m	North East
10003126	GW039001	Monitoring	Unknown	24/07/1969	18.90	11.73	AHD				1083m	South West
10125925	GW100248	Water Supply	Functioning	14/07/1993	18.00		AHD	Good	1.000	9.00	1084m	North West
10005100	GW039004	Monitoring	Unknown	01/08/1969	26.80	10.62	AHD	0-500 ppm			1103m	North East
10043991	GW110602	Monitoring	Unknown	27/05/2009	12.00		AHD			12.00	1105m	South East
10133174	GW114736	Monitoring	Functional	26/09/2012	8.00		AHD			3.70	1106m	South East
10125860	GW114735	Monitoring	Functional	26/09/2012	8.00		AHD			3.90	1114m	South East
10041388	GW110604	Monitoring	Unknown	27/05/2009	13.50		AHD				1117m	South East
10028997	GW114741	Monitoring	Functional	26/09/2012	8.00		AHD			6.00	1118m	South East
10006905	GW039002	Monitoring	Unknown	01/07/1969	23.00	11.84	AHD				1123m	South West
10122092	GW114740	Monitoring	Functional	26/09/2012	13.00		AHD			11.80	1124m	South East
10050370	GW110603	Monitoring	Unknown	27/05/2009	9.00		AHD				1125m	South East
10119131	GW114734	Monitoring	Functional	26/09/2012	8.00		AHD			4.80	1126m	South East

NGIS Bore ID	NSW Bore ID	Bore Type	Status	Drill Date	Bore Depth (m)	Reference Elevation	Height Datum	Salinity (mg/L)	Yield (L/s)	SWL (mbgl)	Distance	Direction
10121807	GW114739	Monitoring	Functional	26/09/2012	13.50		AHD			11.20	1130m	South East
10119475	GW114738	Monitoring	Functional	26/09/2012	8.00		AHD			4.20	1132m	South East
10122952	GW114733	Monitoring	Functional	26/09/2012	8.00		AHD			5.90	1132m	South East
10125281	GW114737	Monitoring	Functional	26/09/2012	7.50		AHD			4.00	1133m	South East
10008401	GW039005	Monitoring	Unknown	01/08/1969	21.60	8.71	AHD	0-500 ppm			1189m	North East
10008551	GW050328	Unknown	Functioning	01/01/1910	2.00		AHD	Hard			1436m	North
10091740	GW109377	Monitoring	Proposed	02/10/2008	11.00		AHD				1590m	South East
10118320	GW110531	Commercial and Industrial	Functioning	21/10/2009	62.00		AHD		1.120	8.00	1626m	South East
10096589	GW110758	Water Supply	Unknown	02/05/2006	37.50		AHD	Good	0.100	2.10	1659m	West
10123710	GW105486	Commercial and Industrial	Unknown	17/12/2003	9.00		AHD		0.500	9.00	1665m	South East
10059406	GW108334	Unknown	Unknown	22/08/2007			AHD				1737m	South
10007831	GW039006	Monitoring	Unknown	01/08/1969	14.60	9.05	AHD	501-1000 ppm			1761m	East
10098623	GW104408	Monitoring	Functioning	10/04/1999	7.90		AHD			2.10	1765m	North West
10067398	GW104407	Monitoring	Functioning	09/04/1999	31.40		AHD	Good	0.350	2.10	1771m	North West
10090716	GW111389	Other	Proposed	25/02/2011	37.50		AHD	good		3.50	1790m	South East
10104197	GW105809	Water Supply	Functioning	03/03/2003	74.00		AHD		0.170	4.20	1944m	North West
10143004	GW035804	Water Supply	Unknown		24.30		AHD				1952m	North West
10093569	GW056474	Stock and Domestic	Unknown	01/01/1982	53.30		AHD	Good			1955m	North West

Borehole Data Source: Bureau of Meteorology; Water NSW. Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Hydrogeology & Groundwater

10 Lagoon Street, Bega, NSW 2550

Driller's Logs

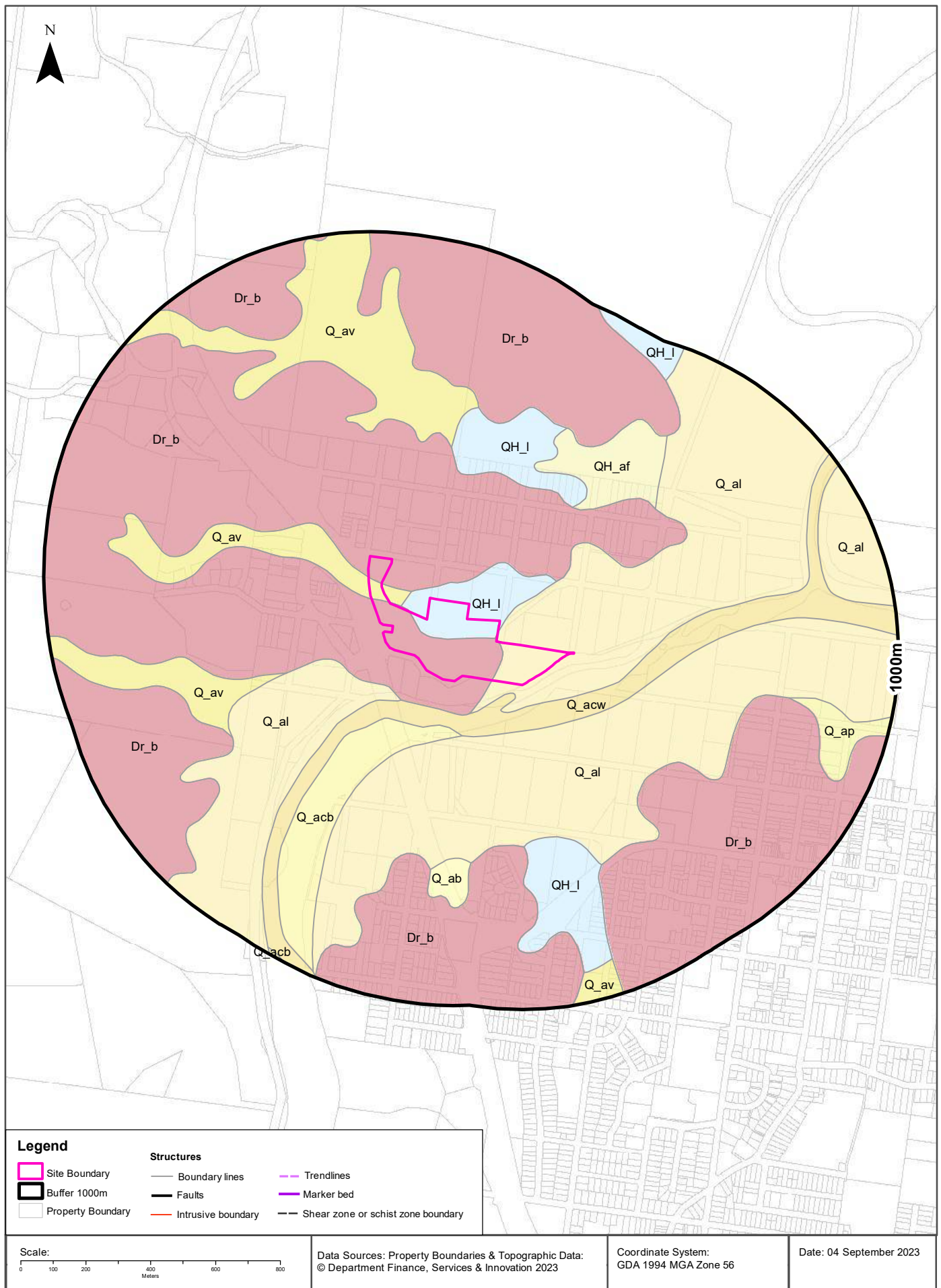
Drill log data relevant to the boreholes within the dataset buffer:

NGIS Bore ID	Drillers Log	Distance	Direction
10095399	0.00m-9.70m DARK SILT AND LOAM 9.70m-12.80m RED MEDIUM SAND AND GRAVEL 12.80m-19.60m GREY MEDIUM SANDSTONE WITH SILT BANDS 19.60m-22.60m GREY COARSE SAND 22.60m-27.00m SILTY GREY SAND	0m	On-site
10123833	0.00m-9.70m DARK SILT AND LOAM 9.70m-12.80m RED MED. SAND AND GRAVEL 12.80m-19.80m GREY MED. SAND WITH SILT BANDS 19.80m-24.20m GREY COARSE SAND 24.20m-27.00m SILTY GREY SAND	0m	On-site
10055089	0.00m-2.13m Gravel Clayey Water Supply	199m	North East
10136246	0.00m-2.00m Loam Silty 2.00m-8.00m Sand Fine Water Supply 8.00m-10.00m Sand Coarse Water Supply 10.00m-14.00m Gravel Water Supply 14.00m-20.00m Gravel Coarse Water Supply 20.00m-21.20m Rock Solid	520m	South West
10136886	0.00m-2.00m Loam Silty 2.00m-8.00m Sand Fine Water Supply 8.00m-9.00m Sand Water Supply 9.00m-12.00m Sand Coarse Water Supply 12.00m-16.00m Gravel Water Supply 16.00m-22.00m Gravel Coarse Water Supply 22.00m-22.50m Clay Black	560m	South West
10133504	0.00m-2.00m Loam Silty 2.00m-8.00m Sand Fine Water Supply 8.00m-12.00m Gravel Water Supply 12.00m-20.00m Gravel Coarse Water Supply 20.00m-21.75m Gravel Coarse Rock	586m	South West
10133276	0.00m-4.00m Loam Silty 4.00m-10.00m Sand Coarse Water Supply 10.00m-12.00m Gravel Coarse Water Supply 12.00m-21.50m Gravel Water Supply	625m	South West
10128700	0.00m-4.00m Loam Silty 4.00m-8.00m Silt Sandy Water Supply 8.00m-12.00m Sand Coarse Water Supply 12.00m-21.50m Gravel Coarse Water Supply	651m	South West
10097737	0.00m-3.00m 3.00m-7.00m SILTY SAND & GRAVEL 7.00m-11.00m GRAVEL 11.00m-18.00m SILTY TO CLAYEY GRAVEL 18.00m-35.50m SILTY SAND & GRAVEL 35.50m-36.00m GRANITE	689m	East
10101245	0.00m-3.00m 3.00m-7.00m SILTY SAND & GRAVEL 7.00m-11.00m GRAVEL 11.00m-18.00m SILTY TO CLAYEY GRAVEL 18.00m-35.50m SILTY SAND & GRAVEL 35.50m-36.00m GRANITE	689m	East
10102565	0.00m-0.60m SOIL 0.60m-17.00m DECOMPOSED GRANITE 17.00m-24.00m GRANITE	719m	South West
10062467	0.00m-3.00m Loam Grey Sandy 3.00m-3.50m Sand Black Silty 3.50m-6.85m Clay Sandy 6.85m-12.30m Sand Coarse Water Bearing 12.30m-14.57m Gravel Fine Water Bearing 14.57m-15.00m Shale 15.00m-15.01m Granite	770m	South West
10135167	0.00m-0.80m SOIL 0.80m-2.00m CLAY 2.00m-12.00m GRANITE, DECOMPOSED 12.00m-18.00m GRANITE	809m	South West

NGIS Bore ID	Drillers Log	Distance	Direction
10012357	0.00m-0.91m Topsoil 0.91m-4.57m Sand Clay 4.57m-12.19m Clay 12.19m-12.50m Clay Black 12.50m-14.02m Gravel Black 14.02m-27.74m Sand Black Fine 27.74m-35.05m Gravel Black Water Bearing 35.05m-35.20m Granite	1027m	North East
10125925	0.00m-15.00m DECOMPOSED GRANITE 15.00m-18.00m GRANITE	1084m	North West
10005100	0.00m-1.52m Topsoil Black 1.52m-4.57m Silt Sandy 4.57m-7.62m Clay Dry 7.62m-12.50m Sand 12.50m-16.15m Gravel Dry Sand 16.15m-25.91m Sand Black Fine Dry 25.91m-26.52m Sand Coarse Water Bearing 25.91m-26.52m Clay Black 26.52m-32.61m Basalt Yellow Decomposed 32.61m-36.88m Basalt Black 36.88m-38.71m Granite	1103m	North East
10043991	0.00m-6.00m CLAY 6.00m-12.00m GRANITE CLAY	1105m	South East
10133174	0.00m-0.80m FILL 0.80m-8.00m GRAVEL	1106m	South East
10125860	0.00m-4.50m FILL 4.50m-8.00m GRAVEL	1114m	South East
10041388	0.00m-5.00m CLAY 5.00m-13.50m GRANITE / CLAY	1117m	South East
10028997	0.00m-1.00m FILL 1.00m-8.00m CLAY	1118m	South East
10006905	0.00m-1.52m BLACK SOIL 1.52m-4.57m VERY FINE SANDY SOIL, CLAY 4.57m-9.14m FINE SANDY GREY SOIL 9.14m-10.67m FINE GREY SAND 10.67m-20.12m GREY SAND, COARSE GRAVEL - Water Bearing 20.12m-20.73m GREY ROCK 20.73m-22.86m GREY LARGE GRAVEL 22.86m-23.01m GRANITE	1123m	South West
10122092	0.00m-4.00m FILL 4.00m-13.00m SANDY GRAVEL	1124m	South East
10050370	0.00m-5.00m CLAY 5.00m-9.00m GRANITE / CLAY	1125m	South East
10119131	0.00m-8.00m GRAVEL	1126m	South East
10121807	0.00m-4.00m FILL 4.00m-12.50m SANDY GRAVEL 12.50m-13.50m GRANODIORITE	1130m	South East
10119475	0.00m-4.00m FILL 4.00m-8.00m SANDY GRAVEL	1132m	South East
10122952	0.00m-1.50m FILL 1.50m-8.00m GRAVEL	1132m	South East
10125281	0.00m-5.50m FILL 5.50m-7.00m GRAVEL 7.00m-7.50m GRANODIORITE	1133m	South East
10008401	0.00m-1.52m Loam Black Sandy 1.52m-20.12m Loam Black Fine Sandy 20.12m-21.34m Sand Fine Water Bearing 21.34m-22.56m Clay Grey Puggy 22.56m-22.71m Granite	1189m	North East
10008551	0.00m-2.00m Soil Black Clayey	1436m	North
10091740	0.00m-2.00m TOPSOIL 2.00m-4.00m SILTY SAND 4.00m-6.00m COARSE SAND 6.00m-8.00m SILTY MUD 8.00m-9.00m GREY SANDY CLAY 9.00m-11.00m GREY SAND AND GRAVEL, WB, ROCK BOTTOM	1590m	South East
10118320	0.00m-1.00m TOPSOIL 1.00m-8.50m CLAY SANDY 8.50m-15.00m WHITE SAND 15.00m-18.00m WEATHERED GRANITE 18.00m-62.00m GRANITE ROCK	1626m	South East
10096589	0.00m-1.50m GRANITE DECOMPOSED 1.50m-28.00m GRANITE BLUE, SOME FAULTED ZONES 28.00m-37.50m GRANITE BLUE	1659m	West

NGIS Bore ID	Drillers Log	Distance	Direction
10007831	0.00m-1.52m Loam Black 1.52m-4.57m Loam Grey Sandy 4.57m-6.10m Sand Fine Dry 6.10m-10.67m Sand Medium Dry 10.67m-12.50m Sand Grey Fine Water Bearing 12.50m-13.72m Sand Grey Coarse Water Bearing 13.72m-14.63m Sand Grey Medium Water Bearing 14.63m-20.42m Sand Grey Fine Clay 20.42m-21.03m Sand Grey Coarse Clay 21.03m-22.25m Rock Green Decomposed 22.25m-22.56m Clay Light Brown 22.56m-22.71m Granite	1761m	East
10098623	0.00m-3.00m BLACK SILTY LOAM 3.00m-4.50m COARSE SILTY SAND 4.50m-7.60m BLACK CLAY 7.60m-7.90m DECOMPOSED GRANITE	1765m	North West
10067398	0.00m-4.50m BLACK SILTY LOAM 4.50m-6.70m COARSE SAND 6.70m-7.60m BLACK CLAY 7.60m-9.70m DECOMPOSED GRANITE 9.70m-31.40m DECOMPOSED GRANITE	1771m	North West
10090716	0.00m-0.60m TOPSOIL 0.60m-7.60m SOFT, DECOMPOSED GRANITE 7.60m-13.10m GRANITE WEATHERED 13.10m-33.00m BLUE GRANITE, SOME FAULTED ZONES 33.00m-37.50m BLUE GRANITE	1790m	South East
10104197	0.00m-3.50m clay, sandy 3.50m-14.10m granite, decomposed 14.10m-36.20m granite, blue 36.20m-48.00m granite, blue with faulted bonds 48.00m-74.00m granite, blue	1944m	North West
10143004	0.00m-0.60m Topsoil 0.60m-9.44m Granite Decomposed 9.44m-24.38m Granite Hard	1952m	North West
10093569	0.00m-0.30m Topsoil 0.30m-11.60m Granite Decomposed Water Supply 11.60m-53.30m Granite Water Supply	1955m	North West

Drill Log Data Source: Bureau of Meteorology; Water NSW. Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>



Geology

10 Lagoon Street, Bega, NSW 2550

Geological Units

What are the Geological Units within the dataset buffer?

Unit Code	Unit Name	Description	Unit Stratigraphy	Age	Dominant Lithology	Distance
Dr_b	Brogo Granodiorite	Uniform, massive, fine-grained biotite hornblende, K-feldspar, quartz-plagioclase granodiorite.	Cobargo Supersuite///Brogo Granodiorite//	Early Devonian (base) to Early Devonian (top)	Granodiorite	0m
QH_l	Claypan and lacustrine deposits	Friable to plastic, finely laminated grey clay, silty clay, humic clay, grey paleosols; locally includes medium- to fine-grained sand.	/Claypan and lacustrine deposits///	Holocene (base) to Now (top)	Clastic sediment	0m
Q_al	Alluvial levee/overbank deposits	Fluvially deposited fine- to medium-grained lithic to quartz-rich sand, silt, clay.	/Alluvium//Alluvial levee/overbank deposits//	Quaternary (base) to Now (top)	Clastic sediment	0m
Q_av	Alluvial valley deposits	Silt, clay, (fluvially deposited) lithic to quartz-lithic sand, gravel.	/Alluvium//Alluvial valley deposits//	Quaternary (base) to Now (top)	Clastic sediment	0m
Q_acw	Alluvial channel deposits - subaqueous	Fluvially deposited sand, gravel, silt, clay.	/Alluvium//Alluvial channel deposits//Alluvial channel deposits-subaqueous/	Quaternary (base) to Now (top)	Clastic sediment	29m
Q_acb	Alluvial channel deposits - in-channel bar	Polymictic to lithic to quartz-rich sand and gravel; silt and clay; polymictic pebble- to cobble- in-channel imbricated lag and bar deposits with interstitial sand, silt and clay.	/Alluvium//Alluvial channel deposits//Alluvial channel deposits - in-channel bar/	Quaternary (base) to Now (top)	Clastic sediment	141m
QH_af	Alluvial floodplain deposits	Silt, very fine- to medium-grained lithic to quartz-rich sand, clay.	/Alluvium//Alluvial floodplain deposits//	Holocene (base) to Now (top)	Clastic sediment	415m
Q_ab	Alluvial backswamp deposits	Organic-rich mud, peat, silt, clay.	/Alluvium//Alluvial backswamp deposits//	Quaternary (base) to Now (top)	Organic rich sediment	546m
Q_ap	Alluvial palaeochannel deposits	Poorly sorted gravels, clayey sand and variably magnetic pisoliths.	/Alluvium//Alluvial palaeochannel deposits//	Quaternary (base) to Now (top)	Gravel	677m

Linear Geological Structures

What are the Dyke, Sill, Fracture, Lineament and Vein trendlines within the dataset buffer?

Map ID	Feature Description	Map Sheet Name	Distance
No Features			

What are the Faults, Shear zones or Schist zones, Intrusive boundaries & Marker beds within the dataset buffer?

Map ID	Boundary Type	Description	Map Sheet Name	Distance
No Features				

Geological Data Source: Statewide Seamless Geology v2.1, Department of Regional NSW

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Naturally Occurring Asbestos Potential

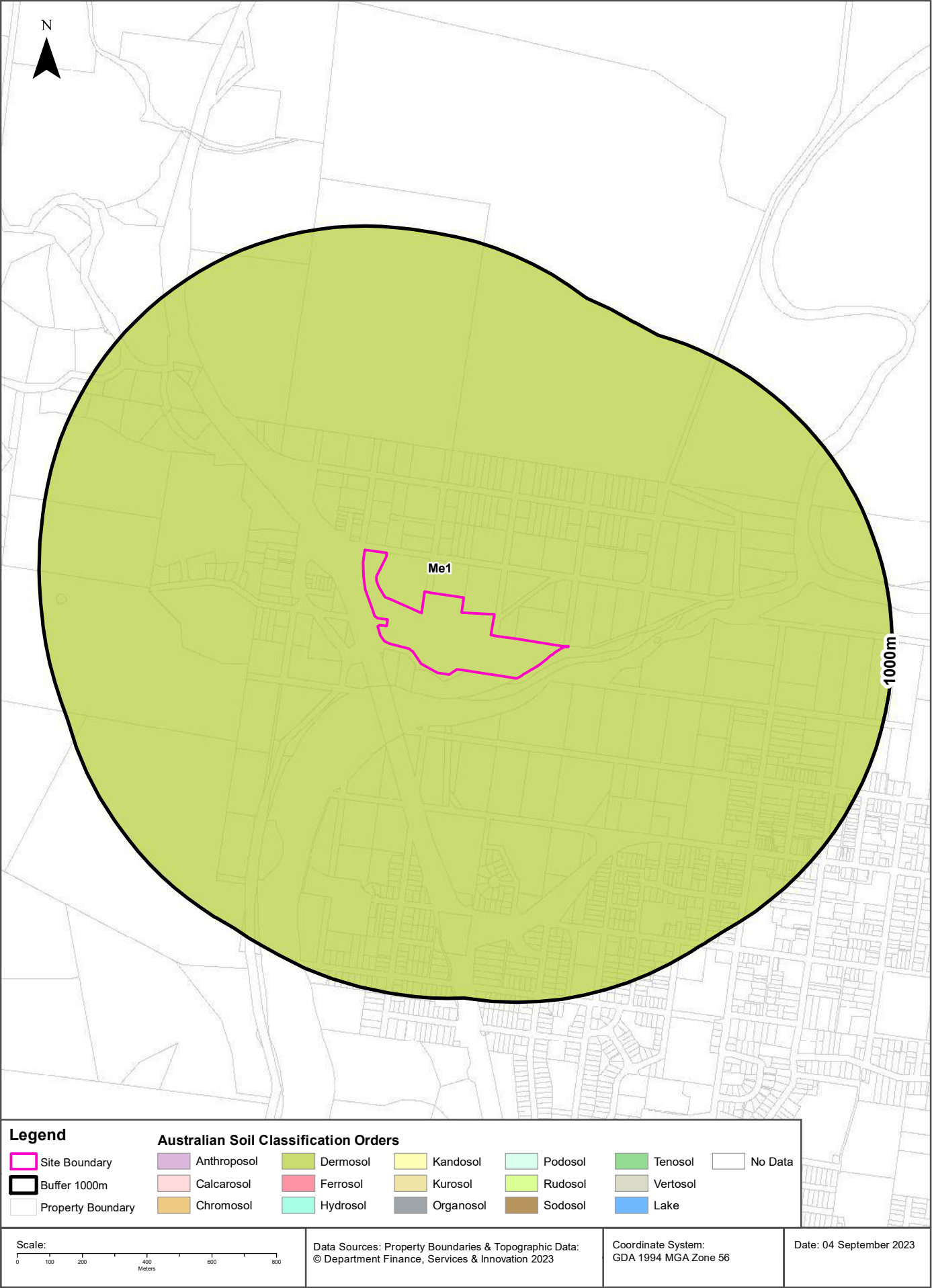
10 Lagoon Street, Bega, NSW 2550

Naturally Occurring Asbestos Potential

Naturally Occurring Asbestos Potential within the dataset buffer:

Potential	Sym	Strat Name	Group	Formation	Scale	Min Age	Max Age	Rock Type	Dom Lith	Description	Dist	Dir
No records in buffer												

Naturally Occurring Asbestos Potential Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy



Soils

10 Lagoon Street, Bega, NSW 2550

Atlas of Australian Soils

Soil mapping units and Australian Soil Classification orders within the dataset buffer:

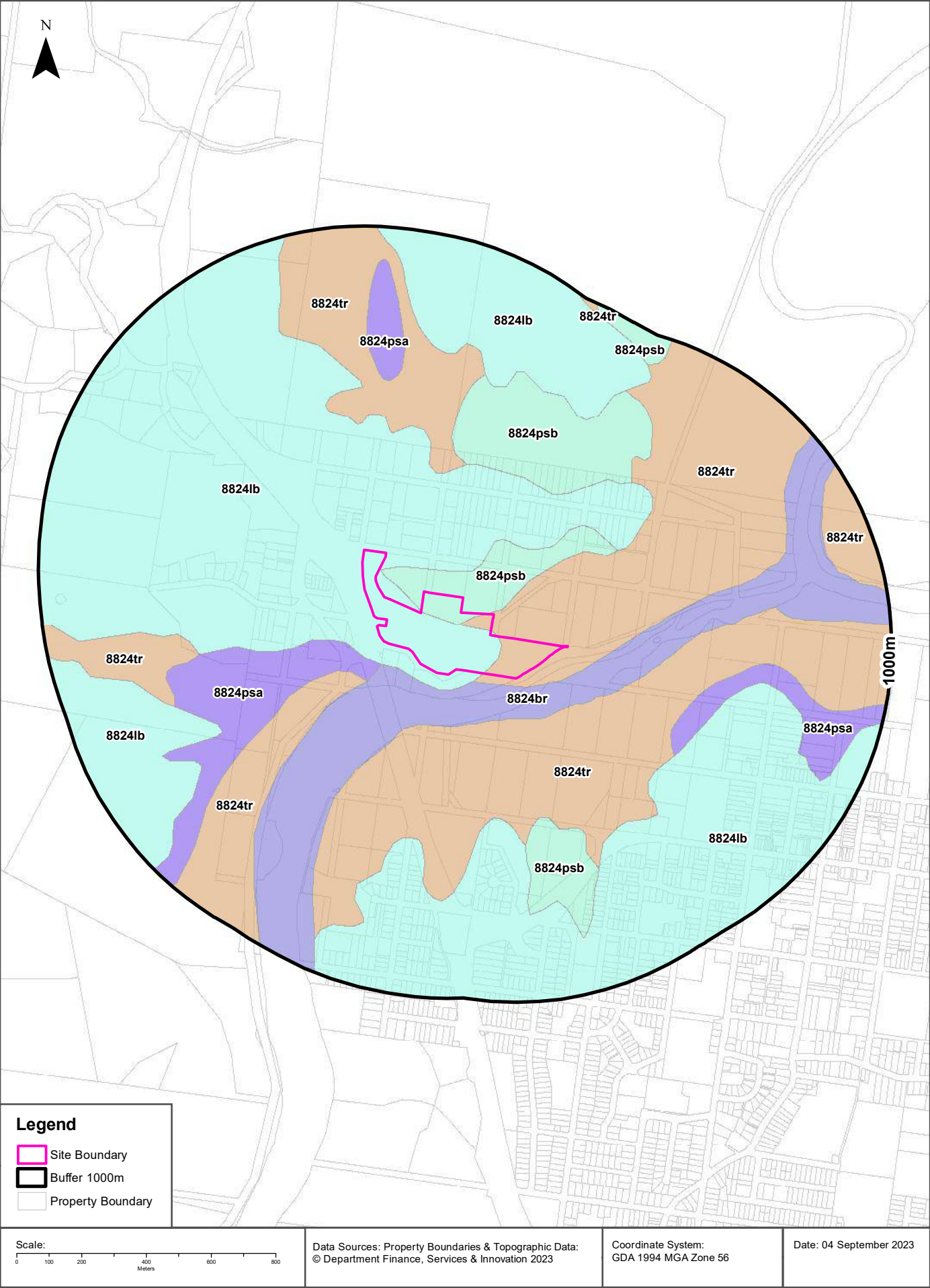
Map Unit Code	Soil Order	Map Unit Description	Distance	Direction
Me1	Dermosol	Hilly with some steep slopes and small graded valleys: moderately steep rounded hills of brown and red friable earths (Gn3.21 and Gn3.22 and Gn3.11 and Gn3.12) in association with less rounded hill slopes of hard acidic yellow mottled soils (Dy3.41), hard acidic red soils (Dr2.21), and yellow leached earths (Gn3.54), and also other hill slopes of loamy soils having an A2 horizon (Um4.2) with yellow-brown earths (Gn2.44); stream valleys of various soils including (Dy4.41), (Dy5.41), and (Um6.11).	0m	On-site

Atlas of Australian Soils Data Source: CSIRO

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Soil Landscapes of Central and Eastern NSW

10 Lagoon Street, Bega, NSW 2550



Soils

10 Lagoon Street, Bega, NSW 2550

Soil Landscapes of Central and Eastern NSW

Soil Landscapes of Central and Eastern NSW within the dataset buffer:

Soil Code	Name	Distance	Direction
8824lb	Lower Brogo	0m	On-site
8824tr	Towamba River	0m	On-site
8824psb	Penooka Swamp variant b	0m	On-site
8824br	Bega River	25m	South East
8824psa	Penooka Swamp variant a	69m	West

Soil Landscapes of Central and Eastern NSW: NSW Department of Planning, Industry and Environment
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Acid Sulfate Soils

10 Lagoon Street, Bega, NSW 2550

Environmental Planning Instrument - Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

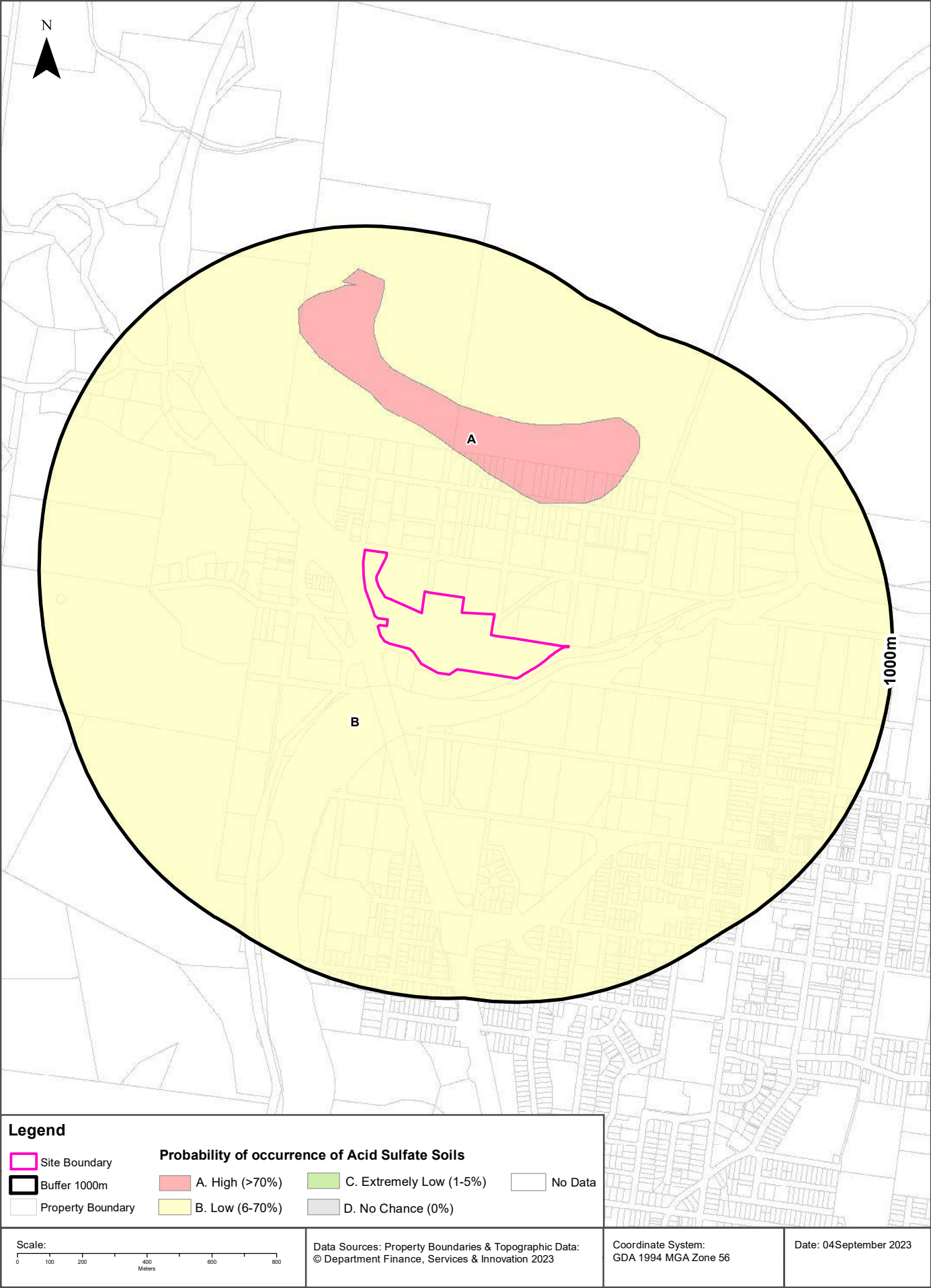
Soil Class	Description	EPI Name
N/A		

If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	EPI Name	Distance	Direction
N/A				

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Acid Sulfate Soils

10 Lagoon Street, Bega, NSW 2550

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

Class	Description	Distance	Direction
B	Low Probability of occurrence. 6-70% chance of occurrence.	0m	On-site
A	High Probability of occurrence. >70% chance of occurrence.	364m	North

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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Dryland Salinity

10 Lagoon Street, Bega, NSW 2550

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

Is there Dryland Salinity - National Assessment data within the dataset buffer?

No

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
N/A	N/A	N/A		

Dryland Salinity Data Source : National Land and Water Resources Audit

The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.

In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Mining

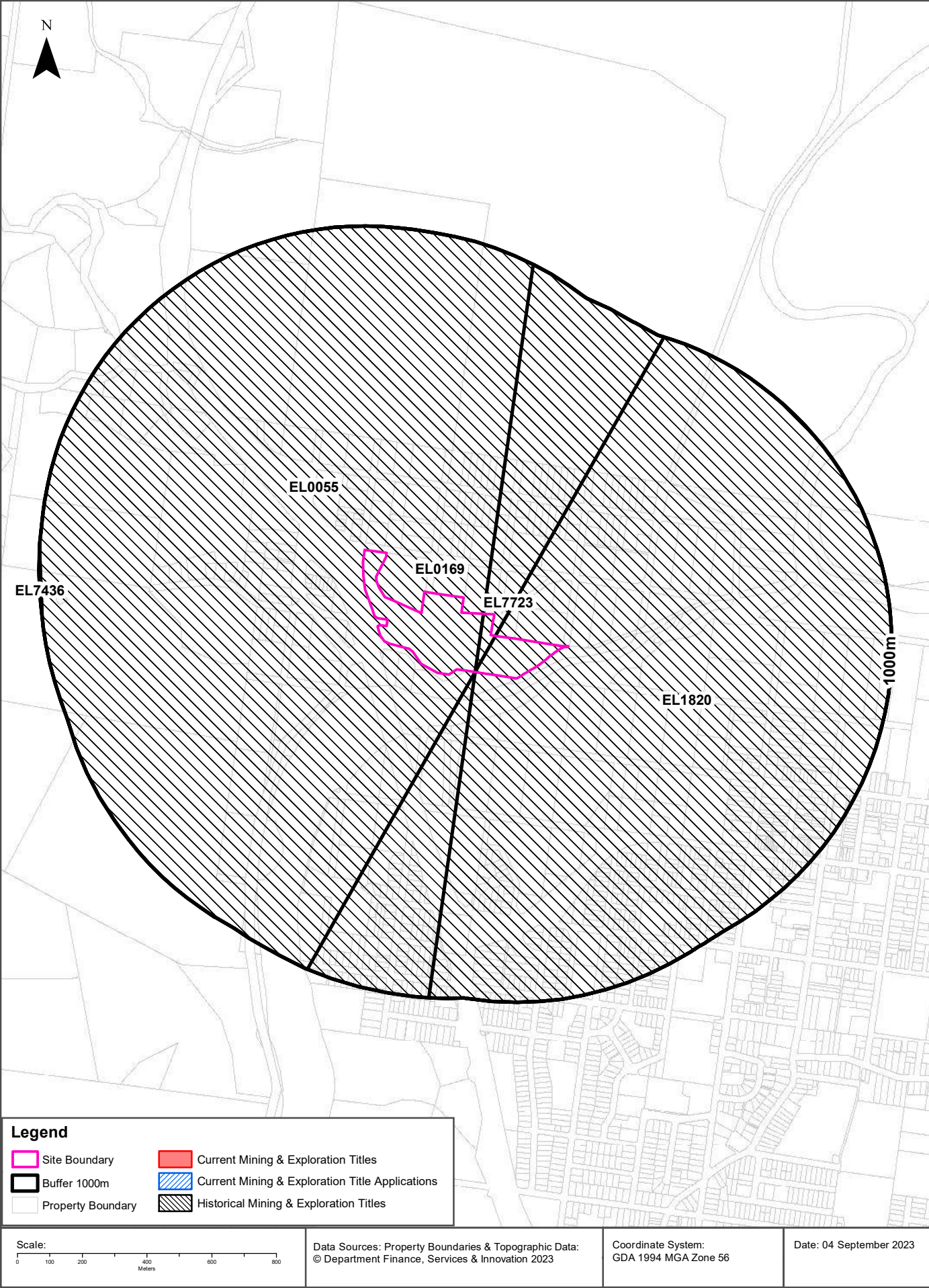
10 Lagoon Street, Bega, NSW 2550

Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
There are no Mining Subsidence Districts within the report buffer		

Mining Subsidence District Data Source: © Land and Property Information (2016)
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Mining

10 Lagoon Street, Bega, NSW 2550

Current Mining & Exploration Titles

Current Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Grant Date	Expiry Date	Last Renewed	Operation	Resource	Minerals	Dist	Dir
N/A	No records in buffer								

Current Mining & Exploration Titles Data Source: © State of New South Wales through NSW Department of Industry

Current Mining & Exploration Title Applications

Current Mining & Exploration Title Applications within the dataset buffer:

Application Ref	Applicant	Application Date	Operation	Resource	Minerals	Dist	Dir
N/A	No records in buffer						

Current Mining & Exploration Title Applications Data Source: © State of New South Wales through NSW Department of Industry

Mining

10 Lagoon Street, Bega, NSW 2550

Historical Mining & Exploration Titles

Historical Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Start Date	End Date	Resource	Minerals	Dist	Dir
EL0055	ANACONDA AUSTRALIA INC	19660901	19670901	MINERALS	Cu Pb Zn Au Ag	0m	On-site
EL0169	ELCOR AUSTRALIA PTY LIMITED	19690501	19700501	MINERALS	U	0m	On-site
EL7723	TELLUS RESOURCES LTD	20110315	20130315	MINERALS	Au	0m	On-site
EL1820	BALHOIL NOMINEES PTY LIMITED	19820301	19840301	MINERALS	Au	0m	On-site
EL7436	MARTIN, Sue Dolores	20091223	20111223	MINERALS		996m	West

Historical Mining & Exploration Titles Data Source: © State of New South Wales through NSW Department of Industry

State Environmental Planning Policy

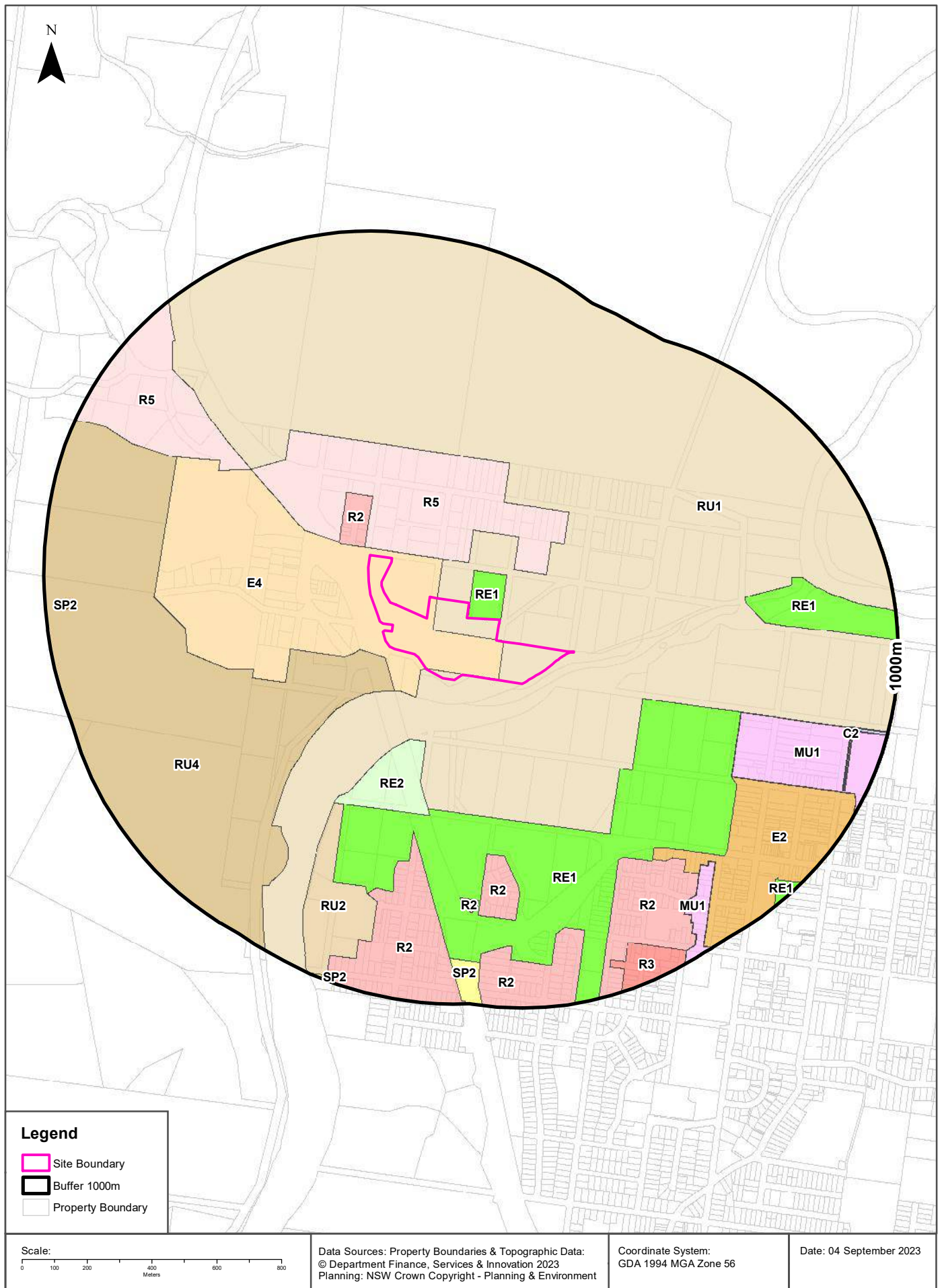
10 Lagoon Street, Bega, NSW 2550

State Significant Precincts

What SEPP State Significant Precincts exist within the dataset buffer?

Map Id	Precinct	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
N/A	No records in buffer							

State Environment Planning Policy Data Source: NSW Crown Copyright - Planning & Environment
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Environmental Planning Instrument

10 Lagoon Street, Bega, NSW 2550

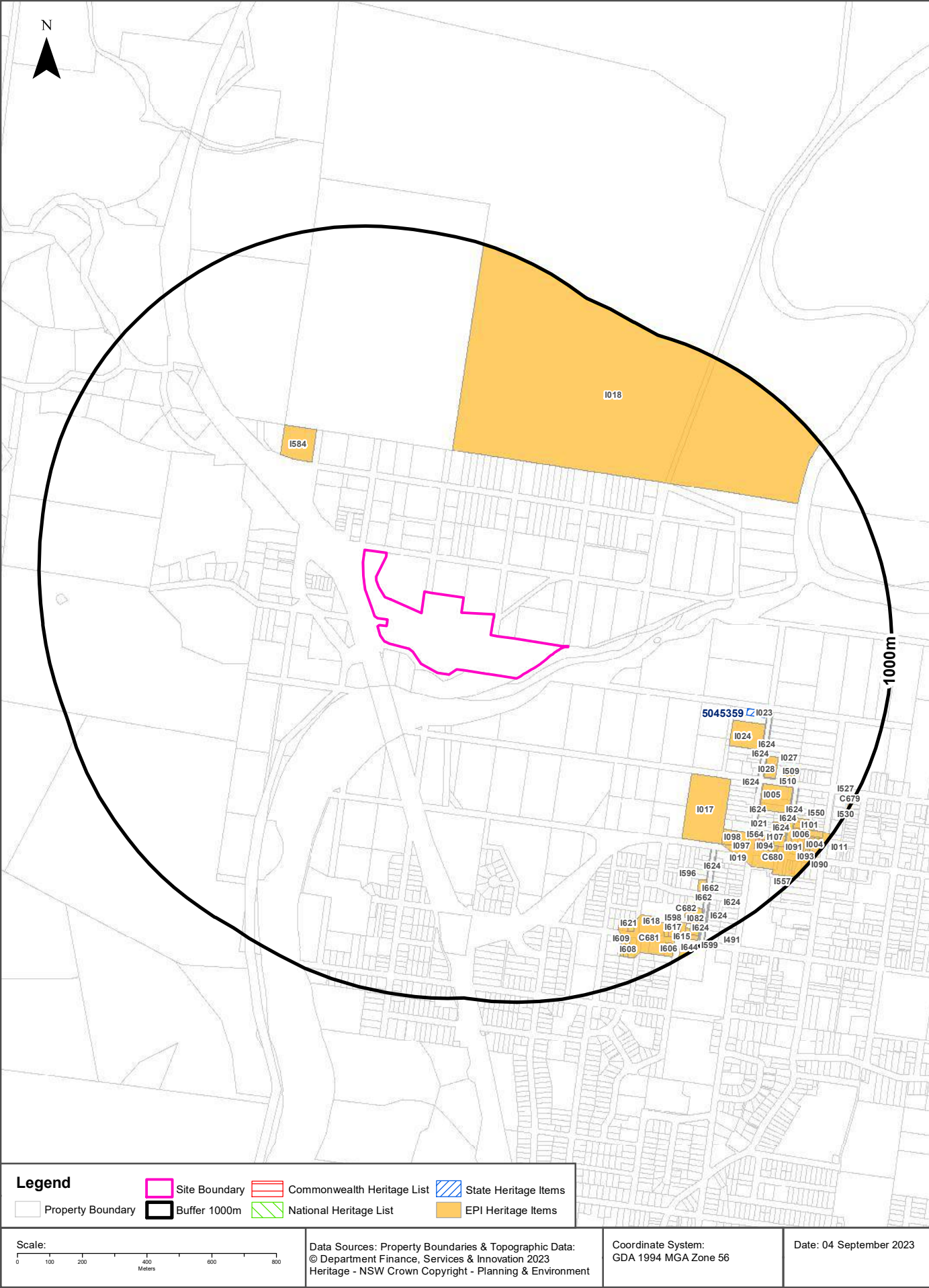
Land Zoning

What EPI Land Zones exist within the dataset buffer?

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RU1	Primary Production		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	0m	On-site
E4	General Industrial		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	0m	On-site
RE1	Public Recreation		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	0m	North East
R5	Large Lot Residential		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	20m	North
R2	Low Density Residential		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	30m	North West
RU4	Primary Production Small Lots		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	39m	West
RE2	Private Recreation		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	205m	South West
RE1	Public Recreation		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	254m	South East
R5	Large Lot Residential		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	454m	North West
R2	Low Density Residential		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	480m	South
RU2	Rural Landscape		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	489m	South West
R2	Low Density Residential		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	536m	South
MU1	Mixed Use		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	544m	East
RE1	Public Recreation		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	549m	East
R2	Low Density Residential		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	617m	South East
E2	Commercial Centre		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	618m	South East
R2	Low Density Residential		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	673m	South
MU1	Mixed Use		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	761m	South East
SP2	Infrastructure	Classified Road	Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	860m	South
R3	Medium Density Residential		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	861m	South East

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
C2	Environmental Conservation		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	884m	East
SP2	Infrastructure	Water Supply System	Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	918m	West
RE1	Public Recreation		Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	936m	South East
SP2	Infrastructure	Water Supply System	Bega Valley Local Environmental Plan 2013	14/04/2023	26/04/2023	04/08/2023	Map Amendment No 4	979m	South

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Heritage

10 Lagoon Street, Bega, NSW 2550

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer?

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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National Heritage List

What are the National Heritage List Items located within the dataset buffer?

Note. Please click on Place Id to activate a hyperlink to online website.

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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State Heritage Register - Curtilages

What are the State Heritage Register Items located within the dataset buffer?

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
5045359	CBC Bank (former)	21 Auckland Street Bega	BEGA VALLEY	02/04/1999	00588	1576	586m	East

Heritage Data Source: NSW Crown Copyright - Office of Environment & Heritage
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Environmental Planning Instrument - Heritage

What are the EPI Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I584	Federation Residence	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	316m	North West
I018	Yarranung homestead	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	375m	North East
I017	Soldiers Memorial Gates, Park and Artillery	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	545m	South East

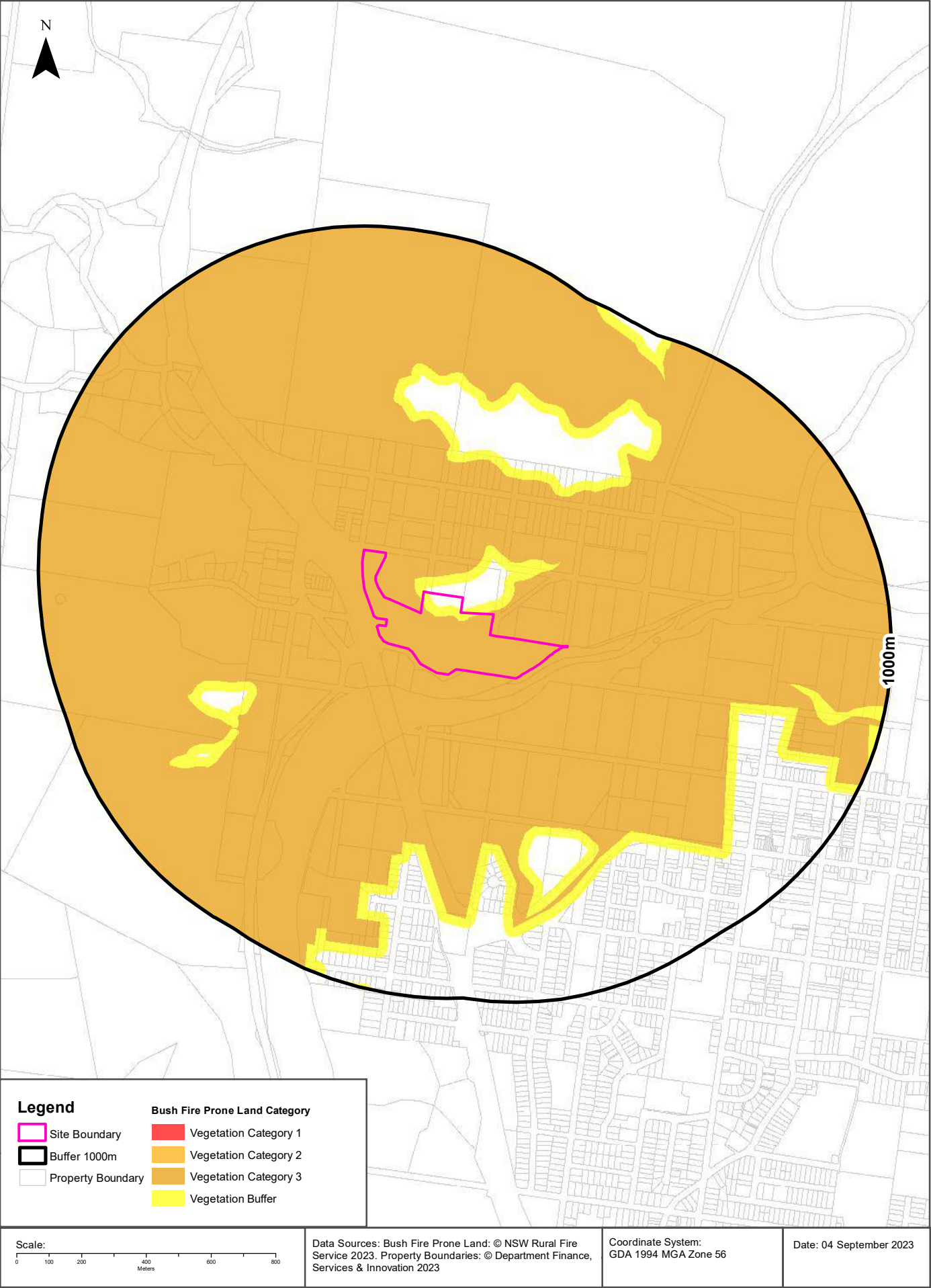
Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I024	Bega Public School	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	554m	East
I023	Building (former CBC Bank)	Item - General	State	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	628m	East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	644m	East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	659m	East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	689m	South East
I027	House (former Victoria Inn)	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	698m	East
I028	Family Museum Building (former Family Hotel)	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	708m	South East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	725m	South East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	731m	South East
I005	St John's Anglican Rectory, Church, Hall	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	734m	South East
C680	Bega Commercial	Conservation Area - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	737m	South East
I098	Buildings	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	737m	South East
I511	Bungalow	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	760m	South East
I662	Street Trees	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	765m	South East
I510	Bungalow	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	771m	South East
I662	Street Trees	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	775m	South East
I509	Bungalow	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	783m	South East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	789m	South East
I097	Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	791m	South East
C681	Upper Street	Conservation Area - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	808m	South East
I019	Grand Hotel	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	812m	South East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	817m	South East
I596	Brick Bungalow	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	823m	South East
I621	Cottage	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	824m	South East

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I096	Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	826m	South East
I021	Building (Red Cross Centre)	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	829m	South East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	832m	South East
I095	Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	835m	South East
I565	Motor Garage former	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	843m	South East
I094	Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	845m	South East
I108	French's Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	850m	South East
I564	Brick faced shop	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	853m	South East
I107	McNamara Centennial building and shops	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	855m	South East
I563	Star Newspaper and printing office	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	857m	South East
I609	Cottage	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	861m	South East
I608	Cottage	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	867m	South East
I082	House and Garden	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	873m	South East
C682	Peden Street	Conservation Area - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	873m	South East
I550	Art Deco Shops	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	875m	South East
I101	Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	879m	South East
I562	Bently Bros Hairdressers former	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	881m	South East
I618	cottage 1100639	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	883m	South East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	884m	South East
I006	Bank Hotel	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	890m	South East
I617	Cottage	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	894m	South East
I598	House	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	902m	South East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	905m	South East
I615	Cottage	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	907m	South East

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	910m	South East
I663	Carp Street Survey Pole	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	911m	South East
I624	Granite Kerb and Gutter	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	920m	South East
I614	Cottage	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	928m	South East
I606	Cottage	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	937m	South East
I020	Rosevear Shop Front	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	940m	South East
I093	Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	945m	South East
I091	Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	948m	South East
I004	Commercial Hotel	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	952m	South East
I599	Cottage	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	952m	South East
I644	Memorial Garden Bega High School	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	965m	South East
I090	Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	974m	South East
I557	Tourist office	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	976m	South East
C679	Canning Street	Conservation Area - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	979m	South East
I527	Ambulance Station	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	979m	South East
I491	Picturesque Gothic Dwelling	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	993m	South East
I011	Building	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	998m	South East
I530	Cottage	Item - General	Local	Bega Valley Local Environmental Plan 2013	02/08/2013	02/08/2013	25/02/2022	999m	South East

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Natural Hazards

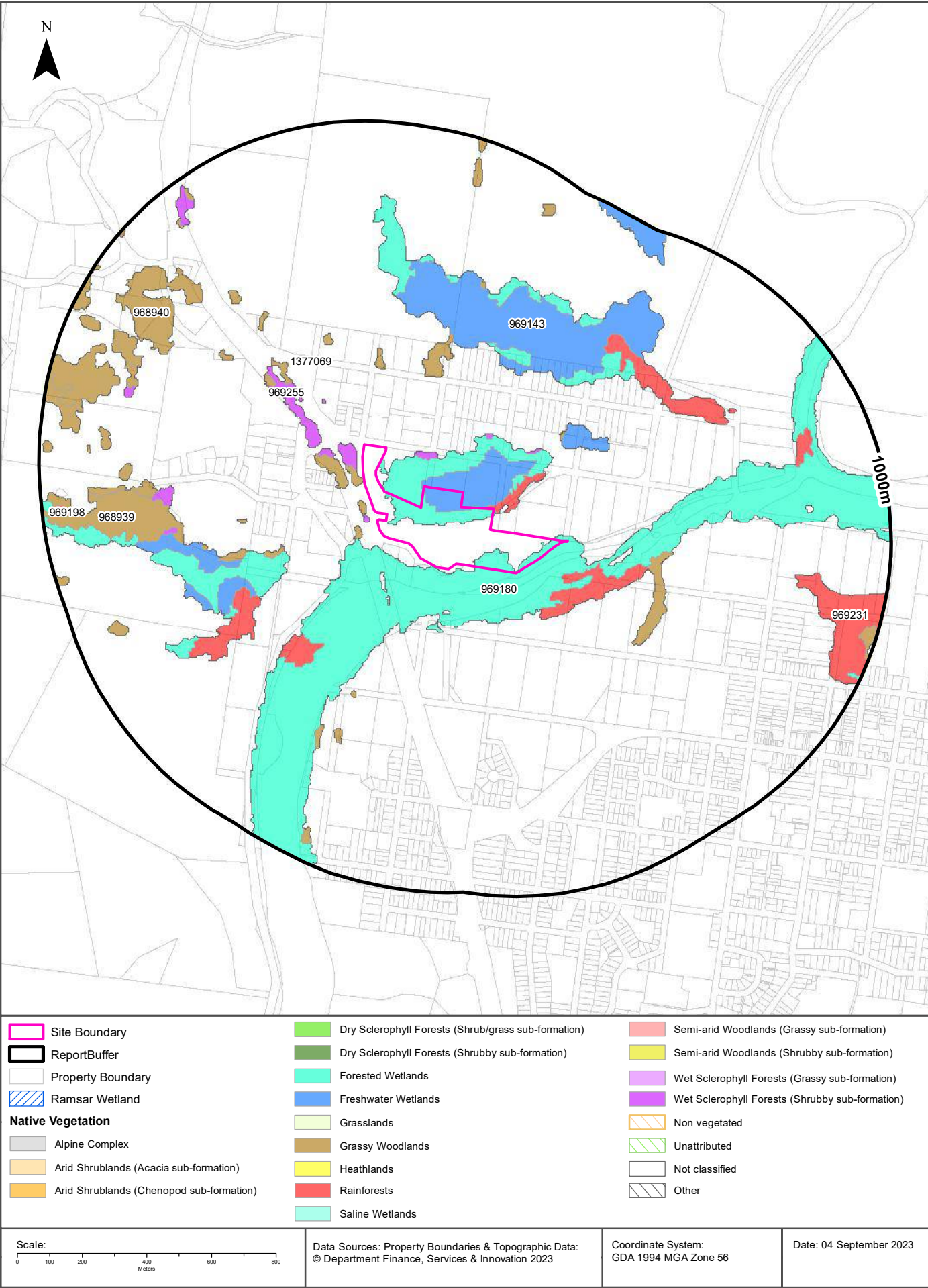
10 Lagoon Street, Bega, NSW 2550

Bush Fire Prone Land

What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Category 3	0m	On-site
Vegetation Buffer	0m	On-site

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence



Ecological Constraints

10 Lagoon Street, Bega, NSW 2550

Native Vegetation

What native vegetation exists within the dataset buffer?

Map ID	Vegetation Formation	Plant Community Type and Vegetation Formation	Vegetation Class	Dist	Dir
969143	Freshwater Wetlands	(Freshwater Wetlands) Southern Lower Floodplain Freshwater Wetland	Coastal Freshwater Lagoons	0m	On-site
969180	Forested Wetlands	(Forested Wetlands) Southern Escarpment River Oak Forest	Eastern Riverine Forests	0m	On-site
969231	Rainforests	(Rainforests) South Coast Temperate Gully Rainforest	Southern Warm Temperate Rainforests	0m	On-site
1377069	Not classified	(Not classified) Not classified	Not classified	0m	On-site
968940	Grassy Woodlands	(Grassy Woodlands) Southeast Lowland Grassy Woodland	Coastal Valley Grassy Woodlands	2m	North West
969255	Wet Sclerophyll Forests (Shrubby sub-formation)	(Wet Sclerophyll Forests (Shrubby sub-formation)) Bega Wet Shrub Forest	South Coast Wet Sclerophyll Forests	19m	North West
968939	Grassy Woodlands	(Grassy Woodlands) Southeast Gorge Dry Forest	Coastal Valley Grassy Woodlands	57m	West
969198	Rainforests	(Rainforests) Southeast Dry Rainforest	Dry Rainforests	912m	West

Native Vegetation Type Map : NSW Department of Planning and Environment 2022

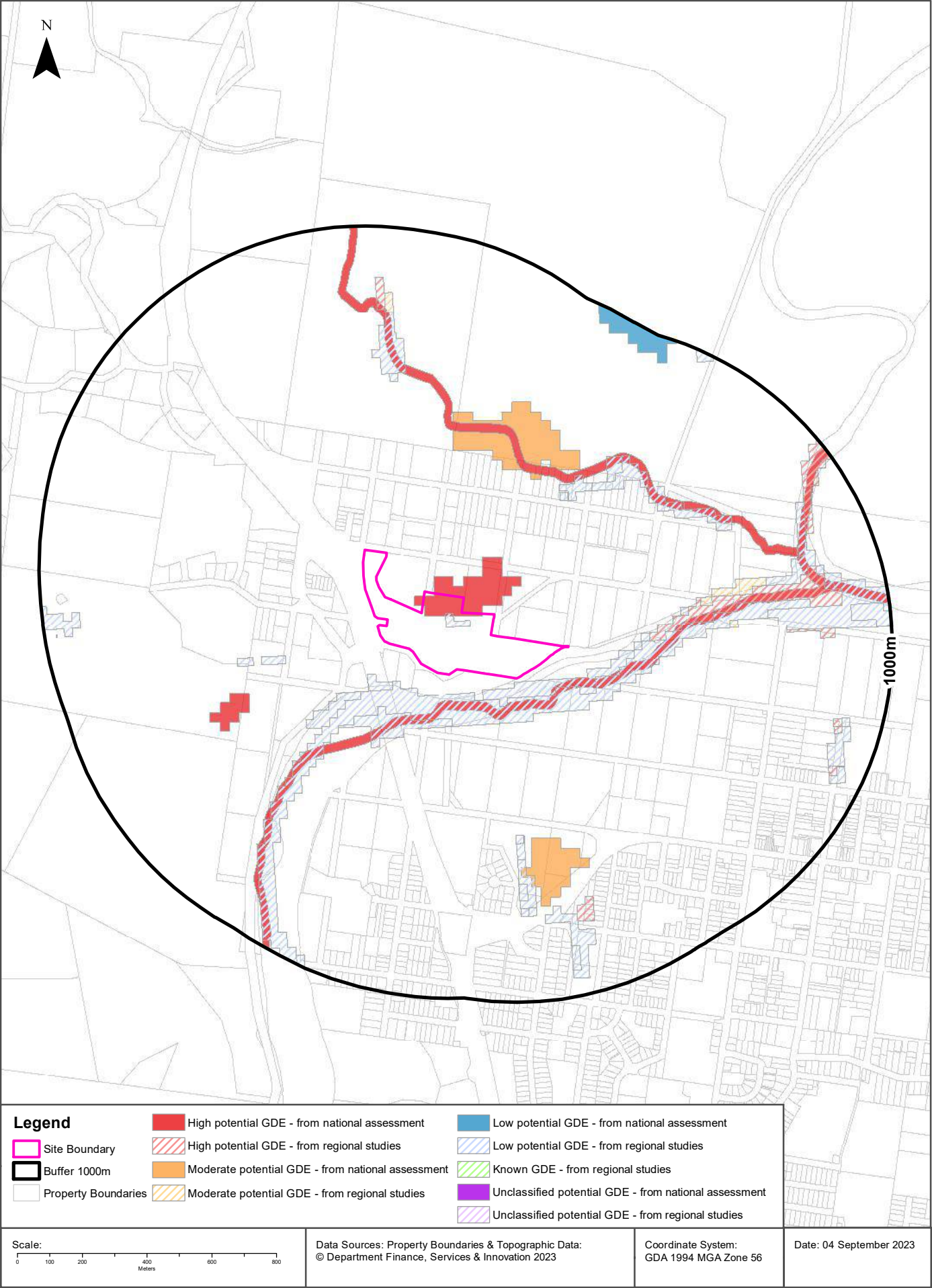
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Ramsar Wetlands

What Ramsar Wetland areas exist within the dataset buffer?

Map Id	Ramsar Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

Ramsar Wetlands Data Source: © Commonwealth of Australia - Department of Agriculture, Water and the Environment



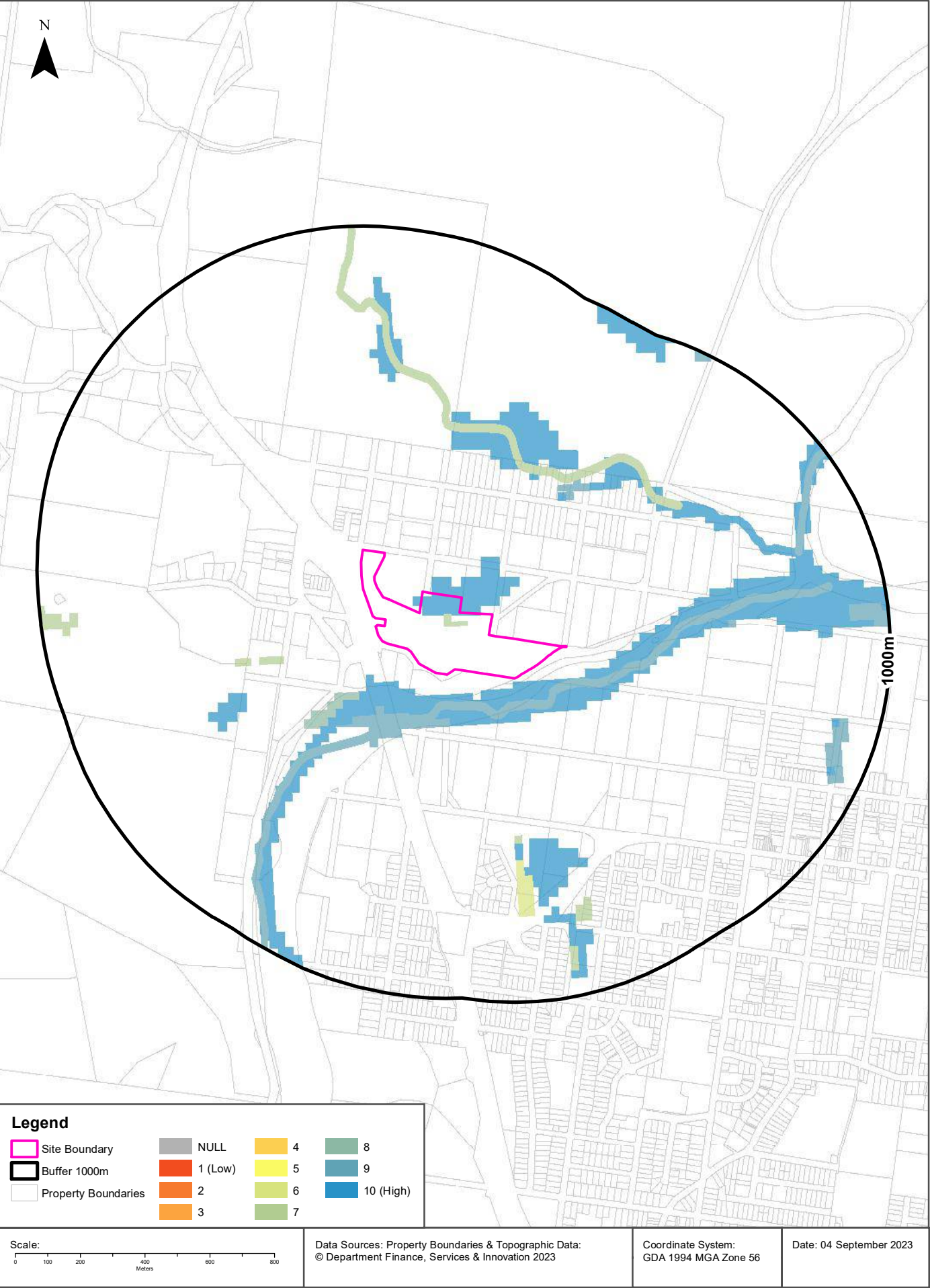
Ecological Constraints

10 Lagoon Street, Bega, NSW 2550

Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Aquatic	High potential GDE - from national assessment	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Wetland	Unconsolidated sedimentary	0m	On-site
Terrestrial	Low potential GDE - from regional studies	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		0m	On-site
Aquatic	High potential GDE - from national assessment	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	River		71m	South East
Terrestrial	High potential GDE - from regional studies	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		249m	East
Aquatic	Moderate potential GDE - from national assessment	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Wetland	Unconsolidated sedimentary	376m	North
Terrestrial	Moderate potential GDE - from regional studies	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		424m	East
Aquatic	Moderate potential GDE - from national assessment	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Wetland	Fractured rock	497m	South East
Aquatic	Low potential GDE - from national assessment	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Wetland	Unconsolidated sedimentary	916m	North East

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints

10 Lagoon Street, Bega, NSW 2550

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Aquatic	10	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Wetland	Unconsolidated sedimentary	0m	On-site
Terrestrial	7	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		0m	On-site
Terrestrial	10	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		11m	South East
Aquatic	9	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	River		71m	South East
Terrestrial	9	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		136m	South West
Terrestrial	8	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		173m	South West
Aquatic	7	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	River		425m	North
Aquatic	10	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Wetland	Fractured rock	497m	South East
Aquatic	10	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	River		545m	East
Terrestrial	6	Deeply dissected steeply sloping plateau margin in metamorphics and granite. Bounded in the west by the Great Escarpment.	Vegetation		561m	South

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology

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Ecological Constraints

10 Lagoon Street, Bega, NSW 2550

NSW BioNet Atlas

Species on the NSW BioNet Atlas that have a NSW or federal conservation status, a NSW sensitivity status, or are listed under a migratory species agreement, and are within 10km of the site?

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Category 2	Critically Endangered	
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Endangered	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Vulnerable	
Animalia	Aves	Circus assimilis	Spotted Harrier	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus longirostris	Pied Oystercatcher	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pezoporus wallicus wallicus	Eastern Ground Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Pluvialis fulva	Pacific Golden Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pycnoptilus floccosus	Pilotbird	Not Listed	Not Sensitive	Vulnerable	
Animalia	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa stagnatilis	Marsh Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto tenebricosa	Sooty Owl	Vulnerable	Category 3	Not Listed	
Animalia	Mammalia	Cercartetus nanus	Eastern Pygmy-possum	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petauroides volans	Southern Greater Glider	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Petaurus australis	Yellow-bellied Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petaurus norfolkensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Potorous tridactylus	Long-nosed Potoroo	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheath-tail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Sminthopsis leucopus	White-footed Dunnart	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia georgensis	Bega Wattle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Correa baeuerlenii	Chef's Cap Correa	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Lysimachia vulgaris var. davurica	Yellow Loosestrife	Endangered	Category 3	Not Listed	

Data does not include NSW category 1 sensitive species.

NSW BioNet: © State of NSW and Office of Environment and Heritage

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LC Code	Location Confidence
Premise Match	Georeferenced to the site location / premise or part of site
Area Match	Georeferenced to an approximate or general area
Road Match	Georeferenced to a road or rail corridor
Road Intersection	Georeferenced to a road intersection
Buffered Point	A point feature buffered to x metres
Adjacent Match	Land adjacent to a georeferenced feature
Network of Features	Georeferenced to a network of features
Suburb Match	Georeferenced to a suburb boundary
As Supplied	Spatial data supplied by provider

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Site Photographs

Client Name
ACT Geotechnical Engineers Pty Ltd

Site Location
Lot 1 DP1264640, North Bega, NSW

Project No.
P23121

Photo No.	Date	
1.	31/08/2023	Description View of active service station located across Lagoos Street towards the southeast of the site. 
Photo No.	Date	
2.	31/08/2023	Description View of former service station located to the east of southernmost portion of the site. 

Client Name
ACT Geotechnical Engineers Pty Ltd

Site Location
Lot 1 DP1264640, North Bega, NSW

Project No.
P23121

Photo No.	Date	
3.	31/08/2023	
Description Lagoon Street view towards the cheese factory.		
4.	31/08/2023	
Description View of the site towards the north. Parked cars are observed.		

EIL Calculations

Inputs
Select contaminant from list below
As
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	Arsenic generic EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	20	40
Urban residential and open public spaces	50	100
Commercial and industrial	80	160

Inputs
Select contaminant from list below
DDT
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	DDT generic EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	3	3
Urban residential and open public spaces	180	180
Commercial and industrial	640	640

Inputs
Select contaminant from list below
Cr_III
Below needed to calculate fresh and aged ACLs
Enter % clay (values from 0 to 100%)
5
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Cr III soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	120	110
Urban residential and open public spaces	200	320
Commercial and industrial	290	530

Inputs
Select contaminant from list below
Cu
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
5
Enter soil pH (calcium chloride method) (values from 1 to 14)
5.5
Enter organic carbon content (%OC) (values from 0 to 50%)
1
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Cu soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	45	50
Urban residential and open public spaces	70	110
Commercial and industrial	95	150

Inputs
Select contaminant from list below
Ni
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
5
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Ni soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	30	10
Urban residential and open public spaces	35	35
Commercial and industrial	45	60

Inputs	
Select contaminant from list below	
Zn	
Below needed to calculate fresh and aged ACLs	
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)	
5	
Enter soil pH (calcium chloride method) (values from 1 to 14)	
5.5	
Below needed to calculate fresh and aged ABCs	
Measured background concentration (mg/kg). Leave blank if no measured value	
or for fresh ABCs only	
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration	
7	
or for aged ABCs only	
Enter State (or closest State)	
NSW	
Enter traffic volume (high or low)	
low	

Outputs		
Land use	Zn soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	50	120
Urban residential and open public spaces	100	260
Commercial and industrial	140	360

Inputs
Select contaminant from list below
Naphthalene
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	Naphthalene generic EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	10	10
Urban residential and open public spaces	170	170
Commercial and industrial	370	370

Inputs
Select contaminant from list below
Pb
Below needed to calculate fresh and aged ACLs
Below needed to calculate fresh and aged ABCs
or for fresh ABCs only
or for aged ABCs only

Outputs		
Land use	Lead generic EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	110	470
Urban residential and open public spaces	270	1100
Commercial and industrial	440	1800

Borehole Logs

						BORE LOG BH1		PROJECT NUMBER: P23121 CLIENT NAME: ACT Geotechnical Engineers Pty Ltd ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW	
PROJECT NAME: Preliminary Site Investigation, National Circularity Centre CONTRACTOR: Bega Bobcats Pty Ltd DRILL METHOD: Excavator and Auger Attachment DIAMETER: 300mm HOLE DEPTH: 0.6m						COORDINATE SYSTEM: GDA2020 / MGA zone 56 EASTING: 216,490.2638 mE NORTHING: 5,937,566.63 mN ELEVATION (APPROX): 15.926 AHD DATE DRILLED: 31/08/2023			
Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Fill	BH1 0.0-0.1	0.1	Y		SC	(0.0) Clayey SAND: brown-pale brown, dry-moist, firm, highly micaceous	Topsoil: grassed surface Traces of road base asphalt Extremely weathered grandiorite Traces of cobble-sized volcanic rock	
0.5		BH1 0.5-0.6	0.3	N.A.					
1.0								EOH at 0.6m Limit of investigation (refusal on cobbles)	15
1.5									
2.0									14
2.5									
3.0									13



BORE LOG BH2

PROJECT NUMBER: P23121

CLIENT NAME: ACT Geotechnical Engineers Pty Ltd

ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW

PROJECT NAME: Preliminary Site Investigation, National Circularity Centre

CONTRACTOR: Bega Bobcats Pty Ltd

DRILL METHOD: Excavator and Auger Attachment

DIAMETER: 300mm

HOLE DEPTH: 1.5m

COORDINATE SYSTEM: GDA2020 / MGA zone 56

EASTING: 216,535.0336 mE

NORTHING: 5,937,556.619 mN

ELEVATION (APPROX): 15.643 AHD

DATE DRILLED: 31/08/2023

Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Fill	BH2 0.0-0.1	1.3	N.A.		GM	(0.0) Gravelly Silty SAND: dark brown, dry, soft	Grassed surface Fill: micaceous with traces of road base gravel	15
0.5		BH2 0.5-0.6	0.5	Y					
1.0	Brogo Granodiorite	BH2 1.0-1.1	0.2	N.A.		GC	(0.9) Clayey Gravelly SAND: brown, dry, firm	Extremely weathered granodiorite	14
1.5									
2.0								EOH at 1.5m Limit of investigation (target depth on natural)	13
2.5									
3.0									

Comments

LOGGED BY C.Gunton

CHECKED BY J.Lim



BORE LOG BH3

PROJECT NUMBER: P23121
CLIENT NAME: ACT Geotechnical Engineers Pty Ltd
ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW

PROJECT NAME: Preliminary Site Investigation, National Circularity Centre
CONTRACTOR: Bega Bobcats Pty Ltd
DRILL METHOD: Excavator and Auger Attachment
DIAMETER: 300mm
HOLE DEPTH: 2.4m

COORDINATE SYSTEM: GDA2020 / MGA zone 56
EASTING: 216,502.827 mE
NORTHING: 5,937,528.269 mN
ELEVATION (APPROX): 15.519 AHD
DATE DRILLED: 31/08/2023

Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Fill	BH3 0.0-0.1	0.7	Y		SC	(0.0) Clayey SAND: pale brown, dry, soft-firm	Fill: road base. Terracotta pipe	15
						SC	(0.2) Gravelly Clayey SAND: dark brown, dry, soft-firm		
0.5		BH3 0.5-0.6	0.6	N.A.					
1.0		BH3 1.0-1.1	0.2	N.A.		SC	(0.8) Gravelly Sandy CLAY: dark brown-brown, moist, firm		
1.5								Fill: traces of brick and wood at 1.7m	14
2.0		BH3 2.0-2.1	0.2	Y					
2.5								EOH at 2.4m Limit of investigation (refusal on boulder)	13
3.0									

Comments

LOGGED BY C.Gunton
CHECKED BY J.Lim



BORE LOG
BH4

PROJECT NUMBER: P23121
CLIENT NAME: ACT Geotechnical Engineers Pty Ltd
ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW

PROJECT NAME: Preliminary Site Investigation, National Circularity Centre
CONTRACTOR: Bega Bobcats Pty Ltd
DRILL METHOD: Excavator and Auger Attachment
DIAMETER: 300mm
HOLE DEPTH: 3.0m

COORDINATE SYSTEM: GDA2020 / MGA zone 56
EASTING: 216,503.7123 mE
NORTHING: 5,937,485.074 mN
ELEVATION (APPROX): 15.324 AHD
DATE DRILLED: 31/08/2023

Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)	
0.0	Fill	BH4 0.0-0.1	0.3	N.A.		GC	(0.0) Gravelly Clayey SAND: pale brown-brown, dry, loose	Fill: micaceous road base Extremely weathered granodiorite	15	
0.5		BH4 0.5-0.6	0.1	Y				Micaceous rock at 0.7m		
1.0		BH4 1.0-1.1	0.2	N.A.						14
1.5								Coarser grained sand		
2.0		BH4 2.0-2.1	0.1	Y						13
2.5						Rock/concrete boulder at 2.3m				
3.0							Increased clay layer at 2.7m Fill: brick at 2.8m			
							EOH at 3.0m Limit of investigation (target depth)			

Extremely weathered granodiorite from Woolworth Village Shopping Centre Construction

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BORE LOG

BH5

PROJECT NUMBER: P23121

CLIENT NAME: ACT Geotechnical Engineers Pty Ltd

ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW

PROJECT NAME: Preliminary Site Investigation, National Circularity Centre

CONTRACTOR: Bega Bobcats Pty Ltd

DRILL METHOD: Excavator and Auger Attachment

DIAMETER: 300mm

HOLE DEPTH: 3.0m

COORDINATE SYSTEM: GDA2020 / MGA zone 56

EASTING: 216,491.3587 mE

NORTHING: 5,937,456.983 mN

ELEVATION (APPROX): 15.467 AHD

DATE DRILLED: 31/08/2023

Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Fill	BH5 0.0-0.1	0.6	Y		GC	(0.0) Gravelly Clayey SAND: pale brown-brown, dry-moist, loose	Fill: extremely weathered granodiorite. Coarse-grain sand. Traces of gravel and clay	15
0.5		BH5 0.5-0.6	0.2	N.A.					
1.0		BH5 1.0-1.1	0.2	Y		SC-SM	(1.5) Sandy Clayey SILT: dark brown, moist, soft	Micaceous	
1.5									
2.0	BH5 2.0-2.1	0.3	N.A.	GC	(1.7) Gravelly Clayey SAND: brown, moist, firm		13		
3.0					SC	(2.9) Clayey SAND: dark brown, moist, firm	Fill: traces of brick fragments		
							EOH at 3.0m Limit of investigation (target)		

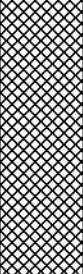
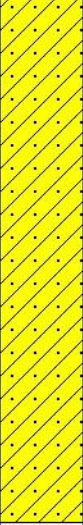
Comments

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PROJECT NAME: Preliminary Site Investigation, National Circularity Centre
CONTRACTOR: Bega Bobcats Pty Ltd
DRILL METHOD: Excavator and Auger Attachment
DIAMETER: 300mm
HOLE DEPTH: 3.0m

COORDINATE SYSTEM: GDA2020 / MGA zone 56
EASTING: 216,502.0492 mE
NORTHING: 5,937,424.418 mN
ELEVATION (APPROX): 15.192 AHD
DATE DRILLED: 31/08/2023

Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Topsoil	BH6 0.0-0.1	0.4	Y		SM	(0.0) Sandy SILT: pale brown, dry, loose	Topsoil	15
0.5		BH6 0.5-0.6	0.2	N.A.		SC	(0.4) Clayey SAND: pale brown-brown, dry-moist, soft	Fill: micaceous, extremely weathered granodiorite	
1.0	Fill	BH6 1.0-1.1	0.2	N.A.		SC		Traces of fresh granodiorite at 0.8m	14
1.5									
2.0	Brogo Granodiorite	BH6 2.0-2.1	N.A.	N.A.		SC	(1.8) Sandy CLAY: red brown, moist, firm		13
2.5									
3.0								EOH at 3.0m Limit of investigation (target depth)	12

Comments

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CHECKED BY J.Lim

						BORE LOG BH7		PROJECT NUMBER: P23121 CLIENT NAME: ACT Geotechnical Engineers Pty Ltd ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW		
PROJECT NAME: Preliminary Site Investigation, National Circularity Centre CONTRACTOR: Bega Bobcats Pty Ltd DRILL METHOD: Excavator and Auger Attachment DIAMETER: 300mm HOLE DEPTH: 2.1m						COORDINATE SYSTEM: GDA2020 / MGA zone 56 EASTING: 216,528.0383 mE NORTHING: 5,937,438.339 mN ELEVATION (APPROX): 15.055 AHD DATE DRILLED: 31/08/2023				
Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)	
0.0	Fill	BH7 0.0-0.1	0.3	Y		GC	(0.0) Gravelly Clayey SAND: pale brown-brown, dry, loose	Micaceous	15	
0.5		BH7 0.5-0.6	0.2	N.A.						
1.0		BH7 1.0-1.1	0.2	N.A.				Fill: concrete fragment		
1.5										
2.0		BH7 2.0-2.1	0.6	Y						SC
2.5					EOH at 2.1m Limit of investigation (refusal on boulder)					
3.0									12	

Comments	LOGGED BY C.Gunton CHECKED BY J.Lim
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BORE LOG BH8

PROJECT NUMBER: P23121

CLIENT NAME: ACT Geotechnical Engineers Pty Ltd

ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW

PROJECT NAME: Preliminary Site Investigation, National Circularity Centre

CONTRACTOR: Bega Bobcats Pty Ltd

DRILL METHOD: Excavator and Auger Attachment

DIAMETER: 300mm

HOLE DEPTH: 3.0m

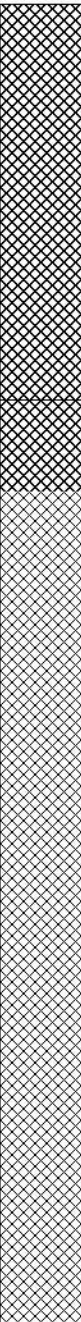
COORDINATE SYSTEM: GDA2020 / MGA zone 56

EASTING: 216,511.2361 mE

NORTHING: 5,937,401.319 mN

ELEVATION (APPROX): 15.843 AHD

DATE DRILLED: 31/08/2023

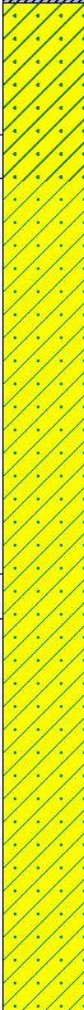
Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Fill	BH8 0.0-0.1	0.3	Y		GM	(0.0) Gravelly Silty SAND: pale grey, dry, loose	Fill: crushed concrete / soil mix	15
0.5									
		BH8 0.5-0.6	0.2	N.A.			(0.9) Gravelly Clayey SAND: yellow brown, moist, firm	Extremely weathered granodiorite	
1.0									
		BH8 1.0-1.1	0.3	N.A.					
1.5							Fill: concrete fragments	14	
2.0		BH8 2.0-2.1	0.3	N.A.					
2.5									13
3.0								EOH at 3.0m Limit of investigation (target depth)	

Comments

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Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Topsoil	BH9 0.0-0.1	0.3	N.A.		SC-SM	(0.0) Silty Clayey SAND: dark brown, dry, firm	Topsoil	16
0.5		BH9 0.5-0.6	0.2	Y					
1.0		BH9 1.0-1.1	0.2	N.A.					
1.5	Brogie Granodiorite					SC	(0.7) Clayey SAND: brown-pale brown, dry, firm	Natural: extremely weathered granodiorite	15
2.0		BH9 2.0-2.1	N.A.	N.A.					
2.5									
3.0								EOH at 3.0m Limit of investigation (target depth)	14

Comments	LOGGED BY	C.Gunton
	CHECKED BY	J.Lim



BORE LOG BH10

PROJECT NUMBER: P23121

CLIENT NAME: ACT Geotechnical Engineers Pty Ltd

ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW

PROJECT NAME: Preliminary Site Investigation, National Circularity Centre

CONTRACTOR: Bega Bobcats Pty Ltd

DRILL METHOD: Excavator and Auger Attachment

DIAMETER: 300mm

HOLE DEPTH: 2.2m

COORDINATE SYSTEM: GDA2020 / MGA zone 56

EASTING: 216,538,2196 mE

NORTHING: 5,937,399.368 mN

ELEVATION (APPROX): 15.045 AHD

DATE DRILLED: 31/08/2023

Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Fill	BH10 0.0-0.1	0.3	Y		GC	(0.0) Gravelly Clayey SAND: brown, dry, soft-firm	Fill: traces of concrete and well-rounded pebbles	15
0.5		BH10 0.5-0.6	0.3	Y					
1.0		BH10 1.0-1.1	0.2	N.A.					
1.5									
2.0		BH10 2.0-2.1	0.2	N.A.		GC	(1.8) Clayey Gravelly SAND: grey green, moist, firm	Micaceous colour - likely mineral weathering at source	13
								EOH at 2.2m Limit of investigation (target depth)	
2.5									
3.0									12

Comments

LOGGED BY C.Gunton

CHECKED BY J.Lim



BORE LOG BH11

PROJECT NUMBER: P23121
CLIENT NAME: ACT Geotechnical Engineers Pty Ltd
ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW

PROJECT NAME: Preliminary Site Investigation, National Circularity Centre
CONTRACTOR: Bega Bobcats Pty Ltd
DRILL METHOD: Excavator and Auger Attachment
DIAMETER: 300mm
HOLE DEPTH: 3.0m

COORDINATE SYSTEM: GDA2020 / MGA zone 56
EASTING: 216,547.9168 mE
NORTHING: 5,937,375.39 mN
ELEVATION (APPROX): 14.811 AHD
DATE DRILLED: 31/08/2023

Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Fill	BH11 0.0-0.1	0.3	Y		SC	(0.0) Clayey SAND: brown, dry-moist, soft-firm	Fill: extremely weathered granodiorite (micaceous)	14
0.5		BH11 0.5-0.6	0.2	N.A.					
1.0		BH11 1.0-1.1	0.6	Y		SC	(0.9) Clayey SAND: dark grey-green, dry-moist, firm		
1.5						SC	(1.3) Clayey SAND: brown, dry-moist, firm		
2.0		BH11 2.0-2.1	0.3	N.A.		SC	(1.8) Sandy CLAY: yellow-orange brown, moist, firm		
2.5	Brogo Granodiorite					SC	(2.4) Sandy CLAY: yellow brown, moist, firm	Natural	12
3.0									
								EOH at 3.0m Limit of investigation (target depth)	

Comments

LOGGED BY C.Gunton
CHECKED BY J.Lim

					BORE LOG BH12		PROJECT NUMBER: P23121 CLIENT NAME: ACT Geotechnical Engineers Pty Ltd ADDRESS: Lot 1 DP1264640, Lagoon Street, North Bega, NSW		
PROJECT NAME: Preliminary Site Investigation, National Circularity Centre CONTRACTOR: Bega Bobcats Pty Ltd DRILL METHOD: Excavator and Auger Attachment DIAMETER: 300mm HOLE DEPTH: 1.2m						COORDINATE SYSTEM: GDA2020 / MGA zone 56 EASTING: 216,544.7229 mE NORTHING: 5,937,317.37 mN ELEVATION (APPROX): 16.691 AHD DATE DRILLED: 31/08/2023			
Depth (m)	Geological Unit	Sample Name	PID (ppm)	Analysed	Graphic	USCS	(Depth) Lithological Description	Additional Observations	Elevation (AHD)
0.0	Topsoil Brogo Granodiorite	BH12 0.0-0.1	N.A.	Y		SM	(0.0) Sandy SILT: brown, dry, soft	Topsoil	<

Comments	LOGGED BY C.Gunton CHECKED BY J.Lim
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DSI Checklist

Preliminary Site Investigation Checklist

Report Title: Preliminary Site Investigation, National Circularity Centre, Lot 1 DP1264640, North Bega, NSW

Date: 20 September 2023

The following checklist template has been adopted from the NSW EPA *Consultants reporting on contaminated land Contaminated Land Guidelines*, May 2020.

Report Section	Required Information	Present Yes/No/NA
Document Control	Date, Version Number, author and reviewer (including certification details) and who commissioned the report	Yes
Executive Summary	Background	Yes
	Objectives of the Investigation	Yes
	Scope of Work	Yes
	Summary of key findings	Yes
	Summary of conclusions and recommendations	Yes
Objectives	The objectives of the investigation / report and the broader objectives for the site/investigation	Yes
Scope of Work	Scope of work performed (and work not undertaken where relevant)	Yes
Site Identification	Site identification and detail items from ASC NEPM Field Checklist 'Site Information' sheet	Yes (See Comments Below)
Site History	Review of Aerial Photographs	Yes
	Contaminated Land Search	Yes
	Groundwater Bore Search	Yes
	Review of Historical Plans or Records held by ACT Government	N/A
	A review of current and former uses of the site	Yes
	A review of heating methods utilised at the site including an inspection to identify the presence otherwise of aboveground and/or underground fuel storage tanks and other potentially contaminating activities	Yes
	A review of dangerous substances storage at the site	N/A

	Discussions with current and past land managers, lessees and site users	Yes
	Land Title Searches	Yes
	Identification of potential contaminant types based on site uses, site history and building records.	Yes
Site Condition and Surrounding Environment	Site condition and surrounding environment items from ASC NEPM Field Checklist 'Site Information' sheet	Yes
Conceptual Site Model	Regional and local geology, hydrogeology and hydrology items from the ASC NEPM Field Checklist 'CSM' sheet	Yes
	List of Potential contaminants of potential concern	Yes
	Potential and known sources of contamination, on- and offsite	Yes
	Mechanism of contamination (e.g. top-down spill, subsurface release from tank or pipe, atmospheric deposition etc.)	Yes
	Potentially affected environmental media	Yes
	Consideration of spatial and temporal variations	Yes
	Actual or potential exposure pathways including preferential pathways	Yes
	Human and ecological receptors	Yes
	Frequency of exposure	Yes
	Linkage of source, pathway and receptor assessed in terms of potentially complete pathways and likelihood	Yes
Data Quality Objectives	Discussion on multiple lines of evidence (for complex sites)	NA
	Step 1: State the Problem	Yes
	Step 2: Identify the decision/goal of the study	Yes
	Step 3: Identify the information inputs	Yes
	Step 4: Define the boundaries of the study	Yes
	Step 5: Develop the analytical approach	Yes
	Step 6: Specify performance and acceptance criteria	Yes
	Step 7: Develop the plan for obtaining data	Yes
Sampling and Analysis Quality Plan and Sampling Methodology		N/A
Quality Assurance / Quality Control	Details of Sampling Team	Yes
	References to sampling plan/method, including any deviations from it – sampling and analysis quality plan	N/A
	Any information that could be required to evaluate measurement uncertainty for subsequent testing (analysis)	N/A
	Decontamination procedures carried out between sampling events	N/A

	Logs for each sample collected, including date, time, locations (with GPS Coordinates if possible), sampler, duplicate samples, chemical analyses to be performed, site observations and weather/environmental (i.e. surroundings) conditions. Include any diagrams, maps, photos.	Yes
	Chain of Custody fully identifying for each sample – the sampler, nature of the sample, collection date, analyses to be performed, sample preservation method, departure time from the site and dispatch couriers (where applicable).	Yes
	Field quality assurance/quality control results (e.g. field blank, rinsate blank, trip blank, laboratory prepared trip spike)	Yes
	Sample splitting techniques – subsampling, containers/preservation (ensure unique ID for subsequent samples provided)	Yes
	Statement of duplicate frequency	Yes
	Background sample results	N/A
	Field instrument calibrations	Yes
	Sampling devices and equipment	Yes
	A copy of signed chain of custody forms acknowledging receipt date, time and temperature and identity of samples including shipments	Yes
	Recording of holding times and a comparison with method specifications	Yes
	Analytical methods used, including any deviations	Yes
	Laboratory performance for the analytical method using inter-laboratory duplicates.	Yes
	Surrogates and spikes used throughout the full method process, or only in parts. Results are corrected for the recovery.	Yes
	A list of what spikes and surrogates were run with their recoveries and acceptance criteria	Yes
	Practical Quantification Limits (PQL)	N/A
	Reference Laboratory control sample (LCS) and check results	Yes
	Laboratory duplicate results	Yes
	Laboratory blank results	Yes
	Results are within control chart limits	Yes
	Evaluation of all quality assurance/quality control information listed above against the stated data quality objectives including a quality assurance/control data evaluation	Yes
Field and Analytical Results	Summary of Previous Results	Yes
	A table of analytical results that:	N/A
	Shows all essential details such as sample identification numbers and sampling depth	Yes
	Shows assessment criteria	Yes
	Highlights all results exceeding any assessment criteria	Yes

	Summary/discussion of the analytical results table	Yes
	Sample descriptions for all media where applicable (e.g. soil, sediment, surface water, groundwater, soil vapour, ground gas, indoor air and biota).	Yes
	Test pit or bore logs (well construction details where appropriate for example groundwater level expressed in Australian height datum)	Yes
	Site plan showing all sample locations	Yes
	Site plan(s) showing the extent of soil and groundwater contamination (if known)	Yes
Conclusions and Recommendations	Summary of all findings and discussion of results	Yes
	Conclusions addressing the stated objectives	Yes
	Assumptions used in reaching the conclusions	No
	Extent of uncertainties in the results (quantified where possible)	No
	A clear statement that the site is considered to be suitable for the proposed use	Yes
	A statement detailing the limitations and constraints on the use of the site	NA
	Recommendations for further work (if appropriate)	Yes
References	References for all guidelines and previous investigations.	Yes