Preliminary Site Investigation

23a / 29 Robert Street & 4 Floral Close, Tenambit

Report Ref: E0007-PSI-001-Rev1
Written by: Jake Duck (Environmental Scientist)
Reviewed by: Marc Henty (General Manager)
Email: office@hunterenviro.com.au
Client: Hilton Grugeon

23 December 2022

Prepared for

Hilton Grugeon
Ph: 0407 466 170
Email: tanya@hunterland.com.au

Prepared by

Hunter Environmental Consulting
ABN 16 661 108 014
3/62 Sandringham Avenue
PO Box 3127
Thornton NSW 2322
Ph: (02) 4067 4151
Email: office@hunterenviro.com.au
Web: hunterenviro.com.au

Project Details

Site Address:	23a / 29 Robert Street & 4 Floral Close, Tenambit	
Project Type:	Preliminary Site Investigation	
Project no	**Report type**	**Report no**
E0007	PSI	001

Report Register

Revision Number	Reported By	Reviewed By	Date
Rev0	JD	MH	1/10/2022
Rev1	JD	MH	23/11/2022

We confirm that the following report has been produced for Hilton Grugeon, based on the described methods and conditions within.

For and on behalf of Hunter Environmental Consulting,

Jake Duck
Environmental Scientist

Executive Summary

Hunter Environmental Consulting (HEC) was engaged by Hilton Grugeon to undertake a Preliminary Site Investigation (PSI) with limited sampling at the site located at 23a / 29 Robert Street & 4 Floral Close, Tenambit (herein referred to as the Site).

The site is currently proposed to undergo redevelopment to incorporate light residential development. The Preliminary site investigation is required for due diligence purposes as part of the development application.

This PSI includes the following elements:

- Review of historical aerial images of the site and surrounding area;
- Compilation of a historical title summary;
- Review of a Section 10.7 Planning Certificate;
- Review of publicly available environmental databases and legislative instruments;
- Site inspection and interview with knowledgeable site representative (if available);
- A preliminary Conceptual Site Model (CSM) with assessment of source-pathway-receptor linkages; and
- Recommendations for further investigation, any management requirements and/or any ongoing management, monitoring or remedial works that may be required.

Limited soil sampling was also conducted to supplement the desktop assessment for contamination purposes. Soil sampling consisted of:

- Collection of twelve (12) primary samples analysed for contaminants of concern;
- Collection of one (1) duplicate sample for QA/QC purposes; and
- Collection of (1) rinsate sample for QA/QC purposes.

The detailed desktop review of available information and thorough site inspection including shallow soil investigation have enabled the development of a preliminary conceptual site model allowing assessment of potential health and environmental issues relating to the site. Key findings were:

1. Potential contamination sources at the site are limited based on historical land use;
2. Visible signs of gross contamination were not observed during site inspection and intrusive works; and
3. Contamination in shallow soils was not identified at any of the sampling locations.

In summary, based on the desktop study of the properties within the proposed development footprint and limited soil sampling conducted at 23a Robert Street, no indication of gross contamination has been identified which would constrain the Site for the proposed residential development.

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1 Introduction

1.1 Background

Hunter Environmental Consulting (HEC) was engaged by Hilton Grugeon to undertake a Preliminary Site Investigation (PSI) with limited soil sampling at 23a / 29 Robert Street & 4 Floral Close, Tenambit (herein referred to as the Site).

The site is currently proposed to undergo development to incorporate a light residential development. The PSI is required for due diligence purposes as part of the development application.

A Site Features Plan are presented as **Figure 1** of **Annex A**.

1.2 Objectives

The objectives of this PSI were to investigate potential contaminant sources, pathways and receptors in relation to the site as well as inform preliminary consideration of potential risks to human health and/or the environment within the context of the most sensitive potential land use. For the proposed development of the residential dwelling, HIL-A has been adopted as the most sensitive potential land use.

This report has been prepared in general accordance with provisions for a PSI as defined within the *National Environment Protection Measure* (NEPM 2013) and the *Consultants Reporting on Contaminated Sites Contaminated Land Guidelines* (NSW EPA 2022).

All information collected informed the development of the preliminary conceptual site model which provides a representation of potential contamination sources, receptors and exposure pathways between these sources and receptors.

1.3 Scope of Works

1.3.1 Preliminary Site Investigation

This PSI includes the following elements:

- Review of historical aerial images of the site and surrounding area;
- Compilation of a historical title summary;
- Review of a Section 10.7 Planning Certificate;
- Review of publicly available environmental databases and legislative instruments;
- Site inspection and interview with knowledgeable site representative (if available);
- A preliminary Conceptual Site Model (CSM) with assessment of source-pathway-receptor linkages; and
- Recommendations for further investigation, any management requirements and/or any ongoing management, monitoring or remedial works that may be required.

1.4 Limited Soil Investigation

Limited soil sampling was also conducted on 23a Robert Street to supplement the desktop assessment for contamination purposes. Soil sampling consisted of:

- Collection of twelve (12) primary samples analysed for contaminants of potential concern (CoPC);
- Collection of one (1) duplicate sample for QA/QC purposes.
- Collection of one (1) rinsate sample for QA/QC purposes; and

2 Site Description

2.1 Site & Lot Identification

The site is located predominantly within a residential area of Tenambit, NSW. A summary of site information is provided in **Table 2.1** below.

Table 2.1 - Site identification

Item	Description
Site Address	23a / 29 Robert Street & 4 Floral Close, Tenambit
Current Zoning	General Residential
Proposed Land Use	Residential
Legal Description	Lot 52 (DP) 815073; Lot 3 (DP) 31696; and Lot 11 (DP) 536248.
Local Government Authority	Maitland City Council
Site Area	Approximately 7000m^2
Elevation	44m Above Sea Level (ASL)
Geographical Location (GDA94-MGA56)	E 369735.806 N 6376560.466

Review of Maitland City Council Local Environmental Plan (LEP) 2011 together with the Planning Certificate under Section 10.7 Part 2 and 5 of the Environmental Planning and Assessment Act 1979 (attached as **Annex B**) provides the following information:

1. The site is not affected by heritage items;

2. The site and/or adjacent lots are not affected by land reserved for acquisition;
3. The site is not affected by environmentally sensitive land or critical habitat;
4. The site and/or adjacent lots are not subject to flood planning constraints; and
5. There are no prescribed matters under section 59(2) of the Contaminated Land Management Act 1997 to be disclosed.

2.2 Surrounding Land Use

The site is located predominantly within a residential area of Tenambit, NSW.

Table 2.2 - Summary of surrounding land use

Direction	Land Use	Distance
North	Residential	Adjacent
East	Residential	Adjacent
South	Residential	Adjacent
West	Residential	Adjacent

3 Background Data Review & Database Searches

3.1 Summary of Ownership & Site Use

Historical title documents sourced as part of this assessment are presented as **Annex C**.

3.2 Historical Photographs

Historical aerials and satellite images dating 1938-2022 provide a summary of development at the site and within the surrounding area. Historical images are presented as part of **Annex D** and a summary of review in **Table 3.1** below.

Table 3.1 - Historical aerial review

Date	Summary
1938	Low resolution, black and white aerial image suggesting farming and agricultural use of site and surrounding area.
1954	Low resolution, black and white aerial image suggests agricultural uses on site with three rectangular structures and agricultural use of surrounding area.
1958	Low resolution, black and white aerial image suggests agricultural uses on site with three rectangular structures and agricultural use of surrounding area.

1967	Low resolution, black and white aerial image suggests residential use of site and surrounding area.
1976	Moderate resolution, coloured aerial image suggests residential and storage use of site and residential surrounding area.
1983	Moderate resolution, coloured aerial image suggests residential use, removal of two storage structures. Residential use of surrounding area.
1993	Moderate resolution, coloured aerial image suggests only residential use of site with removal of all previous structures. Residential use of surrounding area.
2007	High resolution, coloured aerial image suggests residential use with the addition of a new residential dwelling & recreational tennis court on site. Residential use of surrounding area.
2010	High resolution, coloured aerial image, the site and surrounding areas are mostly consistent of the previous image.
2015	High resolution, coloured aerial image, the site and surrounding areas are mostly consistent of the previous image.
2022	High resolution, coloured aerial image, the site and surrounding areas are mostly consistent of the previous image.

3.3 Topography & Hydrology

General topography of the area is characterised by undulating low hills and rises. Review of Google Earth Pro (2021) indicates the site slightly slopes from 45m Above Sea Level (ASL) in the South to 42m ASL in the north adjacent Robert Street. The closest surface water body identified is the Howes Lagoon located approximately 900m to the northwest of site.

3.3.1 Lithology & Geology

Review of the NSW Office of Environment and Heritage soil landscape database– indicates that the site falls within the Beresfield Soil Landscape.

Review of the NSW Department of Industry, Resources & Energy database Geological Sheet indicates that the site lies on the Tomago Coal Measures. Typical dominant lithology includes Sandstone, shale, mudstone, siltstone, and coal.

3.3.2 Hydrogeology

Review of the NSW Department of Primary Industries – Office of Water / Water Administration Ministerial Corporation database identified two (2) registered bores within 1.5km of the site. Bore details are presented in **Table 3.** below.

Table 3.2 - Groundwater bore details

Bore ID	Construction Date	Location	Depth (mbgl)	Purpose
10132613	-	1195m Northwest	12	Functioning
10023391	-	1474m Northwest	10.4	Non-functional

Groundwater data for the identified bores were not available for review at the time of this report.

3.4 Chemical Storage & Waste Production / Disposal

The results of the SafeWork Dangerous Goods Search were not considered necessary due to the historical and current land use of the site.

3.5 Environmental Incident History / Register

Sources to inform consideration of potential environment incidents at the site were not identified as part of this investigation.

3.6 Onsite Database Searches

3.6.1 Current & Former Environment Protection Licences

A review of the licenced activities under the Protection of the Environment Operations act 1997 was completed on the 17th of October 2022.

A number of NSW EPA licensed activities have been conducted within proximity to the Site. The tables below list both former and current licensed activities and the type of licensed activity conducted.

Table 3.3 - Current licenced EPA activities

Licence Number	Organisation	Activity	Approx. Distance from Site
10393	Maitland City Council	Other activities	334m Northwest

Table 3.4 - Delicenced and former licenced EPA activities

Licence Number	Organisation	Activity	Distance (m)	Direction
4653	Luhrmann Environment Management Pty Ltd	Other Activities / Non Scheduled Activity - Application of Herbicides	334	Northwest
4838	Robert Orchard	Other Activities / Non Scheduled Activity - Application of Herbicides	334	Northwest
6630	Sydney Weed & Pest Management Pty Ltd	Other Activities / Non Scheduled Activity - Application of Herbicides	334	Northwest
12439	State Of New South Wales (Department Of Primary Industries - Lands)	Other Activities - Application of Herbicides	698	Northwest

3.6.2 Heritage

Review of the Heritage Data Source - Planning & Environment, indicates the site is not affected by heritage items, furthermore, there are no heritage items within proximity to the site.

3.6.3 Contaminated Land Records

A review of the NSW EPA Contaminated Land Record of Notices was completed on 17th of October 2022. This review identified that the site is not subject to regulation by the NSW EPA under Section 60 of the *Contaminated Land Management (CLM) Act 1997* and similarly that there are no sites within the surrounding area subject to regulation under the *CLM Act 1997*.

A review of the NSW EPA List of Contaminated Sites was completed 17th of October 2022. This review identified that the site has not been notified to the EPA as a contaminated site and similarly that there are no sites within the surrounding area that have been notified. The findings of these reviews indicate that the site is unlikely to be impacted by contamination known to the EPA.

3.6.4 Naturally Occurring Asbestos

NSW Department of Industry, Resources & Energy (2016) identifies that the site does not fall in an area known to contain naturally occurring asbestos.

3.6.5 Acid Sulfate Soils

Review of the eSPADE online database (2022) identifies the site as being within an area of no known acid sulfate soils occurrence.

4 Data Quality Objectives

Data quality objectives (DQOs) have been developed to define the type and quality of data required to achieve the project objectives outlined in **Section 1.2**. DQOs have been selected with reference to relevant guidelines published by the NSW Environmental Protection Authority (EPA) and NEPM (2013) which define minimum data requirements and quality control procedures.

The proposed application of the seven-step DQO approach to this project is described in **Table 4.1**.

The DQO process is validated in part by the QA/QC assessment. The QA/QC assessment for this project is summarized in **Section 7** of the report.

Table 4.1 – DQOs

Step	Input
1. State the problem	The historic agricultural land use of the site has potentially resulted in contamination of soil presenting a risk to sensitive human and environment receptors. Further assessment is required to obtain more data to provide adequate confidence whether the site is suitable for its proposed residential development.
2. Identify the Decisions	The objective of this investigation is to determine if the historic land uses at the Site or surrounding area have resulted in contamination at levels that may impact the proposed development. The following decisions need to be addressed: • Is there a potential for soil contamination to be present at the Site which may pose risks to human health and environment? • Is remediation or management actions required to render the Site suitable for the proposed redevelopment?
3. Identify Inputs into the Decision	The primary inputs to make the above decisions are as follows: • Review of background information collected for the site; • Advancement of six (6) boreholes to a maximum depth of 1.0m BGL to provide systematic grid-based coverage; • Observation of environmental variables including soil type, odours and staining; • Laboratory measurements of soil for constituents of concern identified as part of previous investigations; and • Field and laboratory quality assurance/quality control data.
4. Study Boundary	The investigation is limited to the site boundary as presented in *Figure 1*. The vertical study boundary is up to 1.0m BGL. Water ingress was observed at approximately 1.0m BGL within boreholes 5 and 6.
5. Develop a Decision Rule	The analytical results will be assessed screening criteria as outlined in *sections 6.2* of this report.

6. Specific Limits on Decision Errors	To limit the potential for decision errors, a range of quality assurance processes were adopted. A quantitative assessment of the potential for false negatives / false positives and/or under or over recognizing of analytical results was undertaken using the data quality assurance information collected. Data quality was assessed in general in accordance with guidance detailed in Schedule B(3) of the ASC NEPM (2013).
7. Optimise the Design for Obtaining Data	The DQOs have been developed based on a review of existing data, and discussions with the client. If data gathered during the assessment indicated that the objectives of the works are not being met, the sampling design (including sampling pattern, type of samples and analytes) would be adjusted accordingly using feedback (where necessary) from project stakeholders.

5 Site Inspection

HEC attended the site on the 20th of October 2022 to consolidate the desktop review described in the sections above. The site visit included a detailed visual inspection of the site surface and infrastructure. Key findings are presented below:

The 23a Robert Street Site consisted of an open grassed space with a single storey residential dwelling to the west. A single storey residential dwelling exists on the 29 Robert Street Site. Similarly, the 4 Floral Close Site contains a residential dwelling and a tennis court to the rear of the premises, adjacent to the eastern site boundary of 23A Robert Street.

Topographically the site was flat with a slight decline to Robert Street to the north.

No waste material or visual signs of gross contamination was observed during the site inspection.

No asbestos containing material (ACM) was observed during the site inspection.

6 Limited Soil Investigation

As stated in **Section 1.4**, a soil investigation was commissioned following desktop review of information.

The sampling density and analytical schedule generated as part of this intrusive investigation is only intended to supplement findings from the desktop review of information and is not intended to meet the minimum requirements of a Detailed Site Investigation (DSI) as outlined within the *NSW EPA Contaminated Land Guidelines - Consultants Reporting on Contaminated Sites (2022).*

All works were conducted in accordance with HEC's relevant Standard Operating Procedures (SOPs). Methodologies are outlined in the following sub-sections. Borelogs are presented in **Annex E**. Soil Investigation locations are presented in **Figure 1** of **Annex A**.

6.1 Soil Sampling

Limited Soil sampling was also conducted to supplement the desktop assessment for contamination purposes. Soil sampling consisted of:

- Collection of twelve (12) primary samples analysed for contaminants of potential concern (CoPC);

- Collection of one (1) duplicate sample for QA/QC purposes; and
- Collection of one (1) rinsate sample for QA/QC purposes.

6.1.1 Sampling & Analysis

Sample locations were selected using a grid-based sampling strategy. Sampling locations and contaminants of concern were targeted following the desktop review of historical data pertaining to the Site's historical use. Intrusive investigation was not conducted at the 29 Robert Street and 4 Floral Close addresses given the site's consistent residential land use.

Boreholes were advanced using a hand auger, drilled to target depth and then hand sampled with nitrile gloves in which were disposed between sample collection. Hand tools were decontaminated between sample locations.

6.2 Assessment Criteria

Tier 1 assessment criteria relevant to the proposed land use have generally been adopted from the NEPM (2013). Specifically, this includes:

1. The CRC CARE (2011) health screening levels (HSLs) for petroleum hydrocarbons at 0 to <1m below ground level in sand/silt/clay, adopted to assess potential vapour risks to human receptors;
2. The ASC NEPM (2013) health investigation levels (HILs), adopted to evaluate potential direct contact risks associated with the presence of other contaminants of potential concern (CoPCs) in soil (i.e. metals and PAH);
3. The CRC CARE (2011) assessment criteria for direct contact with petroleum hydrocarbons by future receptors;
4. The NEPM (2013) ecological investigation levels (EILs) for inorganics to assess risks to ecological receptors; and
5. The NEPM (2013) ecological screening levels for coarse soil for hydrocarbon compounds to assess risks to ecological receptors.

All criteria adopted along with their associated values are displayed in **Table 1** and **Table 2** of **Annex F**.

6.3 Intrusive Investigation Observations

Inspection of boreholes and soil cuttings infers residual soils at 0.2-0.3m BGL underlying a silty sand topsoil. Weathered sandstone inclusions were identified at depths of 0.5-1.0 BGL. No visual or olfactory evidence of gross contamination were observed within any at any of the investigation locations.

No ACM was observed within any of the borehole locations.

Borelogs recorded during the intrusive investigation are provided as **Annex E**.

6.4 Analytical Results

A total of twelve (12) samples were submitted for chemical analysis for a range of CoPC including:

- Heavy Metals (Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel & Zinc);
- Total Recoverable Hydrocarbons (TRH);

- Benzene, Toluene, Xylene and Ethylbenzene (BTEX);
- Polyaromatic Hydrocarbons (PAH);
- Organophosphorus Pesticides (OPP) and Organochlorine Pesticides (OCP); and
- Polychlorinated Biphenyls (PCBs).

The results of the analysis of the twelve (12) primary soils samples indicate that all analytes were below the Limit of Reporting (LOR) for BTEX, PAH, OC/OP Pesticides and PCBs.

All heavy metals results were below the adopted site assessment criteria (SAC).

One (1) sample (BH1 0.1-0.2) returned a concentration for TRH (F2) above the LOR but below SAC.

Soil analytical results are included in **Table 1** and **Table 2** of **Annex F**. All samples returned results which were below adopted SAC the proposed site land use.

7 Analytical Data Quality Assessment

The quality of analytical data presented within this report has been assessed with reference to the following issues:

1. Sampling technique;
2. Preservation and storage of samples upon collection and transport to the laboratory;
3. Sample holding times;
4. Analytical procedures;
5. Laboratory limit of reporting (LOR);
6. Laboratory quality assurance (QA) procedures; and
7. The occurrence of apparently unusual or anomalous results.

A review of these items was conducted to assess data in terms of completeness, representativeness, comparability, accuracy and precision. A discussion of the data quality assessment related to the items listed above is provided in the subsections that follow.

7.1 Sample Collection, Storage, Transport & Analysis

7.1.1 General

Samples were collected, stored and transported to the laboratory in accordance with HEC's SOPs which are consistent with guidelines provided in the ASC NEPM (2013). All samples were collected in appropriate containers provided by the laboratory.

7.1.2 Holding Times

Laboratory analysis was undertaken within specified holding times in accordance with Schedule B3 of the ASC NEPM (2013) and using NATA accepted analytical procedures.

7.1.3 Sample Transport & Storage Temperature

In accordance with Schedule B3 of the ASC NEPM (2013), all samples were chilled during transport to the laboratory and evidence of chilling was recorded on the sample receipt documentation for the laboratory.

7.2 Field Intra-Laboratory Duplicate Assessment

Relative Percentage Differences (RPDs) were calculated between the primary sample concentration and its corresponding intra-laboratory duplicate. As stipulated by the NEPM, the RPD acceptance criteria is 30% however it is noted that higher variations can be expected for organic analysis, samples with low analyte concentrations or non-homogenous samples (NEPC, 2013). As such, the primary laboratory RPD acceptance criteria were used and are as follows:

1. Results <10 times the LOR: No Limit;
2. Results between 10-20 times the LOR: RPD must lie between 0-50%; and
3. Results >20 times the LOR: RPD must lie between 0-30%.

One intra-laboratory duplicate sample was collected as part of this investigation. Given that the purpose of the sampling works was to provide preliminary indications as to the presence/absence of contamination, collection of 1 field duplicate per 20 primary samples was considered appropriate.

All RPD results were within the acceptable range. The field QA/QC is considered acceptable for the investigation. Sample and RPDs results are included in **Table 3** of **Annex F**.

7.3 Laboratory Quality Assurance & Quality Control

Laboratory QA/QC procedures and results are detailed in the certified laboratory results contained in **Annex H**. The analytical methods implemented by the laboratories were reported to be consistent with the scope of their NATA accreditation and consistent with Schedule B3 of the ASC NEPM (2013). The laboratory generally reported an adequate range and frequency of data quality information (including laboratory duplicates and control samples).

The reported laboratory data quality was considered acceptable to meet the objectives of this assessment.

7.4 Data Quality Summary

Overall, the data from this investigation is considered to be of sufficient quality to serve as a basis for interpretation as part of this assessment.

8 Preliminary Conceptual Site Model

A CSM is a representation of site related information regarding contaminant sources, exposure pathways and receptors. A CSM facilitates consideration of risks to human health and the environment associated with site contamination through assessment of source – pathway – receptor linkages. A preliminary CSM based on the understanding of site history and environmental setting is presented in the following sections.

8.1 Potential Sources and Associated Contaminants of Concern

Analytical results from the intrusive investigation did not indicate any Contaminants of Potential Concern (CoPC).

Off-site sources of contamination with the potential to affect the site were considered unlikely taking into consideration information discussed in **Section 2.2** of this report.

8.2 Potential Receptors & Pathways

The following receptors have been identified based on current site setting and proposed future development:

1. Construction workers associated with the proposed development;
2. Current and future site users (including construction workers);
3. Future on-site intrusive maintenance workers; and
4. Terrestrial flora and fauna.

Pathways by which the contamination may affect the receptors presented above includes:

1. Direct contact (dermal contact, incidental ingestion and dust inhalation); and
2. Ecological uptake.

8.3 SPR Linkage Assessment

A source-pathway-receptor (SPR) linkage is present when a pathway links a source with a receptor. These linkages are considered complete where a risk to the identified receptors may exist, now or in the future. Given that soil analytical results were reported below the adopted screening criteria (HIL/HSL-A) for the identified receptors via the relevant pathway (direct contact), this SPR linkage is incomplete. Therefore, a potential exposure risk is considered unlikely.

9 Unexpected Finds

The presence of any unexpected finds would be highlighted during development works by the observation of any unusual physical (e.g staining, fill material, asbestos-containing material) or sensory characteristics of the soil. In the event that any significant unknown type of material is identified, site works should be stopped in that area and an assessment of the material and its likely impact on the CSM would be undertaken by an appropriately qualified environmental consultant immediately to prepare a suitable response to the occurrence. All additional works should be documented and detailed in the validation report.

10 Conclusions

The detailed desktop review of available information and thorough site inspection including shallow soil investigation have enabled the development of a preliminary conceptual site model allowing assessment of potential health and environmental issues relating to the site. Key findings were:

1. Potential contamination sources at the site are limited based on historical land use;
2. Visible signs of gross contamination were not observed during site inspection and intrusive works; and
3. Contamination in shallow soils was not identified at any of the sampling locations.

In summary, based on the desktop study of the properties within the proposed development footprint and limited soil sampling conducted at 23a Robert Street, no indication of gross contamination has been identified which would constrain the Site for the proposed residential development.

If you have any further questions about this report, please contact the undersigned.

For and on behalf of

Hunter Environmental Consulting

Reported by:

Jake Duck
Environmental Scientist
Bachelor of Environmental Science and Management

Reviewed by:

Marc Henty
General Manager

11 References

National Environment Protection Council (NEPC), (2013) *National Environment Protection (Assessment of Site Contamination) Measure 1999, NEPM, Canberra. Schedule B2: Guideline On-site Characterisation*.

NSW EPA (2020) *Contaminated Land Guidelines: Guidelines for Consultants Reporting on Contaminated Land*.

NSW EPA (2022) *Contaminated Land Guidelines: Sampling Design Part 1 – Application*

NSW EPA (1997). *Contaminated Land Management Act 1997.*

NSW EPA (2022) *Naturally Occurring Asbestos in NSW* https://trade.maps.arcgis.com/apps/PublicInformation/index.html?appid=87434b6ec7dd4aba8cb664d8e646fb06 accessed 31/10/2022.

Lotsearch (2022) Enviro Professional, *Reference: LS037146 EP – 17 October 2022 14:56:54*

Limitations

This report was prepared in accordance with the scope of work outlined within this report and subject to the applicable cost, time and other constraints. Hunter Environmental Consulting performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental profession. Hunter Environmental Consulting makes no warranty concerning the suitability of the site for any purpose or the possibility of any use, development or re-development of the site. Except as otherwise stated, Hunter Environmental Consulting's assessment is limited strictly to identifying specified environmental conditions associated with the subject site and does not evaluate structural conditions of any buildings on the subject site. Lack of identification in the report of any hazardous or toxic materials on the subject site should not be interpreted as a guarantee that such materials do not exist on the site.

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

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Annex A

Project Type: Preliminary Site Invesigation
Site Address: 23A & 29 Robert Street, Tenambit
HC Ref: E0007

Note:
(1) Base layer sourced from SixMaps (2022).

Figure 1: Site Plan

Legend
⊕ Borehole Location

N
W E
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Annex B

maitland city council

Certificate No.: PC/2021/2006
Certificate Date: 24/06/2021
Fee Paid: $53.00
Receipt No.: 1034437
Your Reference: 2841

SECTION 10.7 PLANNING CERTIFICATE
Environmental Planning and Assessment Act, 1979 as amended

APPLICANT:	East Maitland Conveyancing
	admin@eastmaitlandconveyancing.com.au
PROPERTY DESCRIPTION:	23A Robert Street TENAMBIT NSW 2323
PARCEL NUMBER:	23962
LEGAL DESCRIPTION:	Lot 52 DP 815073

IMPORTANT: Please read this Certificate carefully.

This Certificate contains important information about the land described above.

Please check for any item, which could be inconsistent with the proposed use or development of the land. If there is anything you do not understand, please contact Council by phoning (02) 4934 9700, or personally at Council's Administration Building at 285-287 High Street, Maitland.

The information provided in this Certificate relates only to the land described above. If you require information about adjoining or nearby land, or about the Council's development policies or codes for the general area, contact Council's Planning & Environment Department.

All information provided is correct as at the date of issue of this Certificate, however it is possible for changes to occur at any time after the issue of this Certificate. We recommend that you only rely upon a very recent Certificate.

The following responses are based on the Council's records and/or information from sources outside the Council. The responses are provided with all due care and in good faith, however the Council cannot accept responsibility for any omission or inaccuracy arising from information outside the control of the Council.

Furthermore, while this Certificate indicates the general effect of the zoning of the abovementioned land, it is suggested that the applicable planning instruments be further investigated to determine any additional requirements.

Copies of Maitland City Council's Local Environmental Planning Instrument, Development Control Plans and Policies are available from Council's website.

PART 1: MATTERS PROVIDED PURSUANT TO SECTION 10.7 (2)

1. Local Environmental Plan (LEP)

Maitland LEP 2011, published 16 December 2011, applies to the land.

Exhibited draft Local Environmental Plans

No draft local Environmental Plans that have been on public exhibition under the Act are applicable to the land.

Development Control Plan prepared by Council

Maitland Development Control Plan 2011 applies to the land.

Development Control Plan prepared by the Director General

The Council has not been notified of any Development Control Plan applying to the land that has been prepared by the Director-General under section 51A of the Act.

State Environmental Planning Policies

The Minister for Planning has notified that the following State Environmental Planning Policies (SEPPs) shall be specified on Certificates under Section 10.7 of the Environmental Planning and Assessment Act, 1979.

The land is affected by the following State Environmental Planning Policies:

- SEPP21 Caravan Parks
- SEPP (Mining, Petroleum Production and Extractive Industries) 2007
- SEPP (State and Regional Development) 2011
- SEPP33 Hazardous and Offensive Development
- SEPP36 Manufactured Home Estates
- SEPP (Koala Habitat Protection) 2019
- SEPP50 Canal Estate Development
- SEPP (Housing for Seniors or People with a Disability) 2004
- SEPP55 Remediation of Land
- SEPP Affordable Rental Housing 2009
- SEPP Building Sustainability Index: BASIX 2004
- SEPP (Exempt and Complying Development Codes) 2008
- SEPP (Infrastructure) 2007
- SEPP64 Advertising and Signage
- SEPP Primary Production and Rural Development 2019
- SEPP65 Design Quality of Residential Apartment Development
- SEPP70 Affordable Housing (Revised Schemes)
- SEPP (Concurrences and Consents) 2018
- SEPP Vegetation in Non Rural Areas 2017
- SEPP (Educational Establishments and Child Care Facilities) 2017

•

Draft State Environmental Planning Policies

The following draft State Environmental Planning Policy(s) applying to the land is, or has been, the subject of community consultation or on public exhibition under the Act:

Housekeeping Amendment to the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

The proposed amendments to this SEPP are housekeeping amendment to the Codes SEPP to simplify and improve the policy, clarify definitions and standards, and address other minor technical matters raised. The proposed housekeeping amendment to the Codes SEPP will simplify and improve the policy, clarify definitions and standards, and address other minor technical matters.

2. Zoning and land use under relevant LEPs

Maitland LEP 2011, published 16 December 2011, identifies the zone applying to the land as:

R1 General Residential

The following development information gives the objectives of the zone, the description of the zone and identifies development allowed or prohibited in each zone. Development consent where required, must be obtained from the Council.

R1 General Residential

a) Purpose/Objective

- To provide for the housing needs of the community
- To provide for a variety of housing types and densities
- To enable other land uses that provide facilities or services to meet the day to day needs of residents

b) Permitted with Consent

Attached dwellings; Bed and breakfast accommodation; Boarding houses; Building identification signs; Business identification signs; Centre-based child care facilities; Community facilities; Dwelling houses; Group homes; Home-based child care; Home industries; Hostels; Hotel or motel accommodation; Multi dwelling housing; Neighbourhood shops; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Residential flat buildings; Respite day care centres; Roads; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing; Tank-based aquaculture; Any other development not specified in item 2 or 4

c) Permitted without Consent

Home occupations

d) Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Biosolids treatment facilities; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Car parks;

Caravan parks; Cemeteries; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Entertainment facilities; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Function centres; Heavy industrial storage establishments; Helipads; Highway service centres; Home occupations (sex services); Industrial retail outlets; Industrial training facilities; Industries; Information and education facilities; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Passenger transport facilities; Public administration buildings; Recreation facilities (indoor); Recreation facilities (major); Registered clubs; Research stations; Restricted premises; Rural industries; Rural workers' dwellings; Service stations; Sewage treatment plants; Sex services premises; Signage; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Warehouse or distribution centres; Waste or resource management facilities; Water recreation structures; Water recycling facilities; Wharf or boating facilities; Wholesale supplies.

e) Land dimensions to permit the erection of a dwelling house on the land

For the land zoned R1 General Residential the Maitland LEP 2011 does not contain a development standard specifying the land dimensions required to permit the erection of a dwelling house on the land.

f) Critical Habitat

No Local Environmental Plan or draft Local Environmental Plan identifies the land as including or comprising critical habitat.

g) Conservation Area

The land IS NOT in a Heritage Conservation Area.

h) Item of Environmental Heritage

The land does NOT contain an item of Environmental Heritage.

3. Complying Development

Complying development under the **Housing Code** may be carried out on the land.

Complying development under the **Low Rise Medium Density Housing Code** may be carried out on the land. Complying development under the **Greenfield Housing Code** may be carried out on the land, but only if the land is identified on the *Greenfield Housing Code Area Map* issued by the NSW Department of Planning and Environment.

Complying development under the **Rural Housing Code** may not be carried out on the land as it is not within an applicable zone.

Complying development under the **Housing Alterations Code** may be carried out on the land.

Complying development under the **General Development Code** may be carried out on the land.

Complying development under the **Commercial and Industrial Alterations Code** may be carried out on the land.

Complying development under the **Commercial and Industrial (New Buildings**

and Additions) Code may not be carried out on the land as it is not within an applicable zone.

Complying development under the **Subdivisions Code** may be carried out on the land.

Complying development under the **Demolition Code** may be carried out on the land.

Complying development under the **Fire Safety Code** may be carried out on the land.

Complying development under the **Container Recycling Facilities Code** may not be carried out on the land.

Note: Despite the above provisions, if only part of a lot is subject to an exclusion or exemption under Clause 1.17A or Clause 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) Amendment (Commercial and Industrial Development and Other Matters) 2013*, complying development may be carried out on that part of the lot that is not affected by the exclusion or exemption.

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

The owner (or any previous owner) of the land has NOT consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

5. Coal Mine Subsidence Compensation Act 2017

The land has NOT been proclaimed to be within a Mine Subsidence District under the meaning of section 20 of the Coal Mine Subsidence Compensation Act 2017.

6. Road widening and road realignment

a) The land is NOT affected by road widening under Division 2 of Part 3 of the Roads Act 1993.

b) The land is NOT affected by any environmental planning instrument

c) The land is NOT affected by any road-widening or realignment under any resolution of the Council

The information above relates to Council's road proposals only. Other authorities, including Roads and Maritime Services, may have proposals, which have not been set out.

7. Council and other public authority policies on hazard risk restrictions

All land within the Maitland Local Government Area has the potential to contain acid sulfate soils. Clause 7.1 of the Maitland Local Environmental Plan 2011 generally applies. Development consent is required where works described in the Table to this clause are proposed on land shown on the Maitland LEP 2011 Acid Sulfate Soils Map as being of the class specified for those works.

The Council has adopted a Contaminated Lands Policy to provide a framework to appropriately manage land contamination risk through the land use planning process. This Policy seeks to ensure that changes in landuse will not increase the risk to human health or the environment. The Policy applies to all land in the

Maitland Local Government Area.

7A. Flood Related Development Controls

Development on this land or part of this land for the purposes of dwelling houses, attached dwellings, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is NOT subject to flood related development controls contained within clause 7.3 of the Maitland LEP 2011 and s.B3 of the Maitland DCP 2011.

Development on this land or part of this land for any other purpose is NOT subject to flood related development controls contained within clause 7.3 of the Maitland LEP 2011 and s.B3 of the Maitland DCP 2011.

Information given in relation to flooding is based upon Council's adopted 1:100 ARI (Average Recurrent Interval) flood event.

The Maitland LEP 2011 identifies the flood planning level (FPL) as the level of a 1:100 ARI flood event plus 0.5m freeboard.

8. Land Reserved for Acquisition

No environmental planning instrument, deemed environmental planning instrument or draft environmental planning instrument applying to the land provides for the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

9. Contribution Plans

The following contribution plan(s) apply to the land:

- Maitland S94A Levy Contributions Plan 2006
- Maitland City Wide Section 94 Contributions Plan 2016
- Maitland S94 Contributions Plan (City Wide) 2006

Contributions Plans may be viewed on Council's website or inspected and purchased at Council's Customer Service Centre.

9A. Biodiversity Certified Land

The land is not biodiversity certified land under Part 8 of the Biodiversity Conservation Act 2016.

10. Biodiversity Stewardship Sites

The Council is not aware if the land is a biodiversity stewardship site under a biodiversity stewardship agreement under part 5 of the *Biodiversity Conservation Act 2016.*

10A. Native Vegetation clearing set asides

The Council is not aware if the land contains a set aside area under 60ZC of the *Local Land Services Act 2013.*

11. Bushfire Prone Land

The land is NOT identified as being bushfire prone land.

12. Property vegetation plans

The Council has not received any notification from Hunter Local Land Services that this land is affected by a property vegetation plan under Part 4 of the Native Vegetation Act 2003 (and that continues in force).

13. Order under Trees (Disputes between Neighbours) Act 2006

Council has NOT received notification from the Land and Environment Court of NSW that the land is affected by an Order under Trees – (Disputes Between Neighbours) Act 2006.

14. Directions under Part 3A

There is NO direction by the Minister under Section 75P(2)(c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 (other than a project of a class prescribed by the regulations) of the Act does not have effect.

15. Site Compatibility Certificate and Conditions for Seniors Housing

a) Site Compatibility Certificate

Council is unaware of whether a current Site Compatibility Certificate issued under Clause 25 of the State Environmental Planning Policy (Housing for Seniors and People with a Disability) 2004 has been issued for the land.

b) Conditions of Development Consent since 11 October 2007

No development consent has been granted for the development permitted under State Environmental Planning Policy (Housing for Seniors and People with a Disability) 2004 after 11 October 2007.

16. Site compatibility certificates for infrastructure, schools or TAFE establishments

Council is unaware of whether a valid Site Compatibility Certificate has been issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 for the land.

17. Site compatibility certificates and conditions for affordable rental housing

Council is unaware if a Site Compatibility Certificate (Affordable Rental Housing) has been issued in accordance with State Environmental Planning Policy (Affordable Rental Housing) 2009.

18. Paper subdivision information

There is no development plan that applies to the:

1) Land or that is proposed to be subject to a consent ballot
2) There is no subdivision order that applies to the land.

19. Site verification certificates

Council is not aware of any current site verification certificate in respect of the land.

20. Loose-fill asbestos insulation

There are no premises on the subject land listed on the register.

21. Affected building notices and building product rectification orders

The Council is NOT aware of any affected building notice which is in force in respect

of the land.

The Council is NOT aware of any building product rectification order which is in force in respect of the land and that has not been fully complied with.

The Council is NOT aware of any notice of intention to make a building product rectification order being given in respect of the land and that is outstanding.

Note. The following matters are prescribed by section 59(2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate.

Contaminated Land

a) The land to which this certificate relates is NOT significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.

b) The land to which this certificate relates is NOT subject to a management order within the meaning of the Contaminated Land Management Act 1997.

c) The land to which this certificate relates is NOT the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.

d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.

e) Council has NOT been provided with a site audit statement, within the meaning of the Contaminated Land Management Act 1997, for the land to which this Certificate relates.

David Evans
General Manager

HUNTER
ENVIRONMENTAL CONSULTING

Annex C

LAND REGISTRY SERVICES Historical Search

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
31/10/2022 4:31PM

FOLIO: 52/815073

First Title(s): OLD SYSTEM
Prior Title(s): 5/31696

Recorded	Number	Type of Instrument	C.T. Issue
6/2/1992	DP815073	DEPOSITED PLAN	FOLIO CREATED EDITION 1
5/2/1998	3775399	TRANSFER	
5/2/1998	3775400	MORTGAGE	EDITION 2
9/7/2001	7750177	DISCHARGE OF MORTGAGE	
9/7/2001	7750178	MORTGAGE	EDITION 3
11/10/2007	AD481455	MORTGAGE	EDITION 4
22/9/2018	AN730138	DEPARTMENTAL DEALING	EDITION 5 CORD ISSUED
22/7/2019	AP408152	DISCHARGE OF MORTGAGE	EDITION 6
30/8/2021	AR378728	TRANSFER	EDITION 7

*** END OF SEARCH ***

Received: 31/10/2022 16:31:36

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Annex D

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 17 Oct 2022 14:56:54

Reference: LS037146 EP

Address: 23a & 29 Robert Street, Tenambit, NSW 2323

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	05/10/2022	05/10/2022	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	04/10/2022	12/09/2022	Monthly	1000m	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	29/09/2022	29/09/2022	Monthly	1000m	0	0	0
Former Gasworks	Environment Protection Authority	02/09/2022	14/07/2021	Quarterly	1000m	0	0	0
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	0	0
EPA PFAS Investigation Program	Environment Protection Authority	04/10/2022	23/09/2021	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	06/10/2022	06/10/2022	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	06/10/2022	06/10/2022	Monthly	2000m	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	06/10/2022	06/10/2022	Monthly	2000m	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	02/09/2022	02/09/2022	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	29/09/2022	29/09/2022	Monthly	1000m	0	0	1
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	29/09/2022	29/09/2022	Monthly	1000m	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	29/09/2022	29/09/2022	Monthly	1000m	0	0	4
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150m	0	1	1
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150m	-	10	10
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	-	0	0
Points of Interest	NSW Department of Customer Service - Spatial Services	18/08/2022	18/08/2022	Quarterly	1000m	0	1	33
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	18/08/2022	18/08/2022	Quarterly	1000m	0	0	1
Tanks (Points)	NSW Department of Customer Service - Spatial Services	18/08/2022	18/08/2022	Quarterly	1000m	0	0	1
Major Easements	NSW Department of Customer Service - Spatial Services	29/08/2022	29/08/2022	Quarterly	1000m	0	1	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	10/02/2022	31/12/2021	Annually	1000m	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	29/08/2022	19/08/2019	Annually	1000m	1	1	1
Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018	NSW Department of Planning, Industry and Environment	28/03/2022	23/02/2018	Annually	1000m	0	0	0
National Groundwater Information System (NGIS) Boreholes	Bureau of Meteorology; Water NSW	24/01/2022	24/01/2022	Annually	2000m	0	0	16

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
NSW Seamless Geology Single Layer: Rock Units	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	1	1	6
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	3
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	2
Soil Landscapes of Central and Eastern NSW	NSW Department of Planning, Industry and Environment	18/08/2022	27/07/2020	Annually	1000m	1	1	4
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	11/10/2022	02/09/2022	Monthly	500m	1	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000m	0	0	2
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000m	1	1	1
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	19/08/2021	05/08/2021	Quarterly	1000m	0	0	0
Current Mining Titles	NSW Department of Industry	06/10/2022	06/10/2022	Monthly	1000m	0	0	0
Mining Title Applications	NSW Department of Industry	06/10/2022	06/10/2022	Monthly	1000m	0	0	0
Historic Mining Titles	NSW Department of Industry	06/10/2022	06/10/2022	Monthly	1000m	5	5	5
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	15/11/2021	07/12/2018	Monthly	1000m	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	15/11/2021	05/11/2021	Monthly	1000m	1	2	25
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	17/08/2022	11/02/2022	Quarterly	1000m	0	0	0
Environmental Planning Instrument Local Heritage	NSW Department of Planning, Industry and Environment	11/10/2022	30/09/2022	Monthly	1000m	0	0	0
Bush Fire Prone Land	NSW Rural Fire Service	17/10/2022	08/08/2022	Weekly	1000m	0	0	4
Lower Hunter and Central Coast Regional Vegetation Survey	NSW Office of Environment & Heritage	28/02/2015	16/11/2009	Annually	1000m	0	0	7
Ramsar Wetlands of Australia	Australian Government Department of Agriculture, Water and the Environment	28/03/2022	19/03/2020	Annually	1000m	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Annually	1000m	0	0	5
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000m	0	0	10
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	17/10/2022	17/10/2022	Weekly	10000m	-	-	-

Site Diagram

23a & 29 Robert Street, Tenambit, NSW 2323

Legend

- Site Boundary
- Internal Parcel Boundaries

Total Area: 5309m²

Total Perimeter: 435m

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.

Scale: 0 — 15 Meters — 30

Data Source Aerial Imagery:
© Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 56

Date: 17 October 2022

Contaminated Land

23a & 29 Robert Street, Tenambit, NSW 2323

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
N/A	No records in buffer								

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.

NSW EPA Contaminated Land List Data Source: Environment Protection Authority

Contaminated Land

23a & 29 Robert Street, Tenambit, NSW 2323

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

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

Waste Management & Liquid Fuel Facilities

23a & 29 Robert Street, Tenambit, NSW 2323

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											

National Liquid Fuel Facilities

National Liquid Fuel Facilties within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist	Direction
N/A	No records in buffer										

PFAS Investigation & Management Programs

23a & 29 Robert Street, Tenambit, NSW 2323

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

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

23a & 29 Robert Street, Tenambit, NSW 2323

Defence 3 Year Regional Contamination Investigation Program

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

EPA Other Sites with Contamination Issues

23a & 29 Robert Street, Tenambit, NSW 2323

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

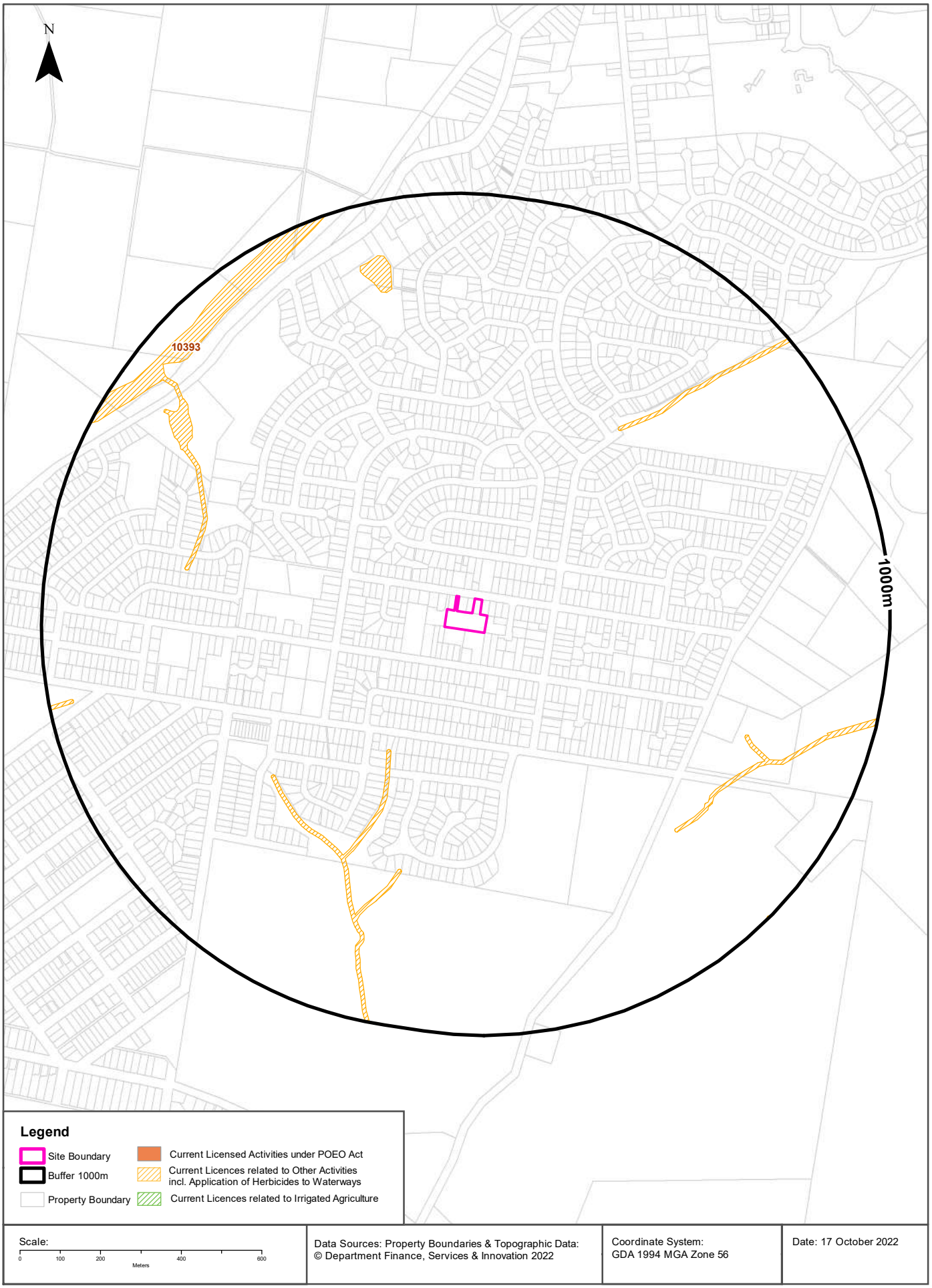
Sites within the dataset buffer:

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

Current EPA Licensed Activities

23a & 29 Robert Street, Tenambit, NSW 2323



EPA Activities

23a & 29 Robert Street, Tenambit, NSW 2323

Licensed Activities under the POEO Act 1997

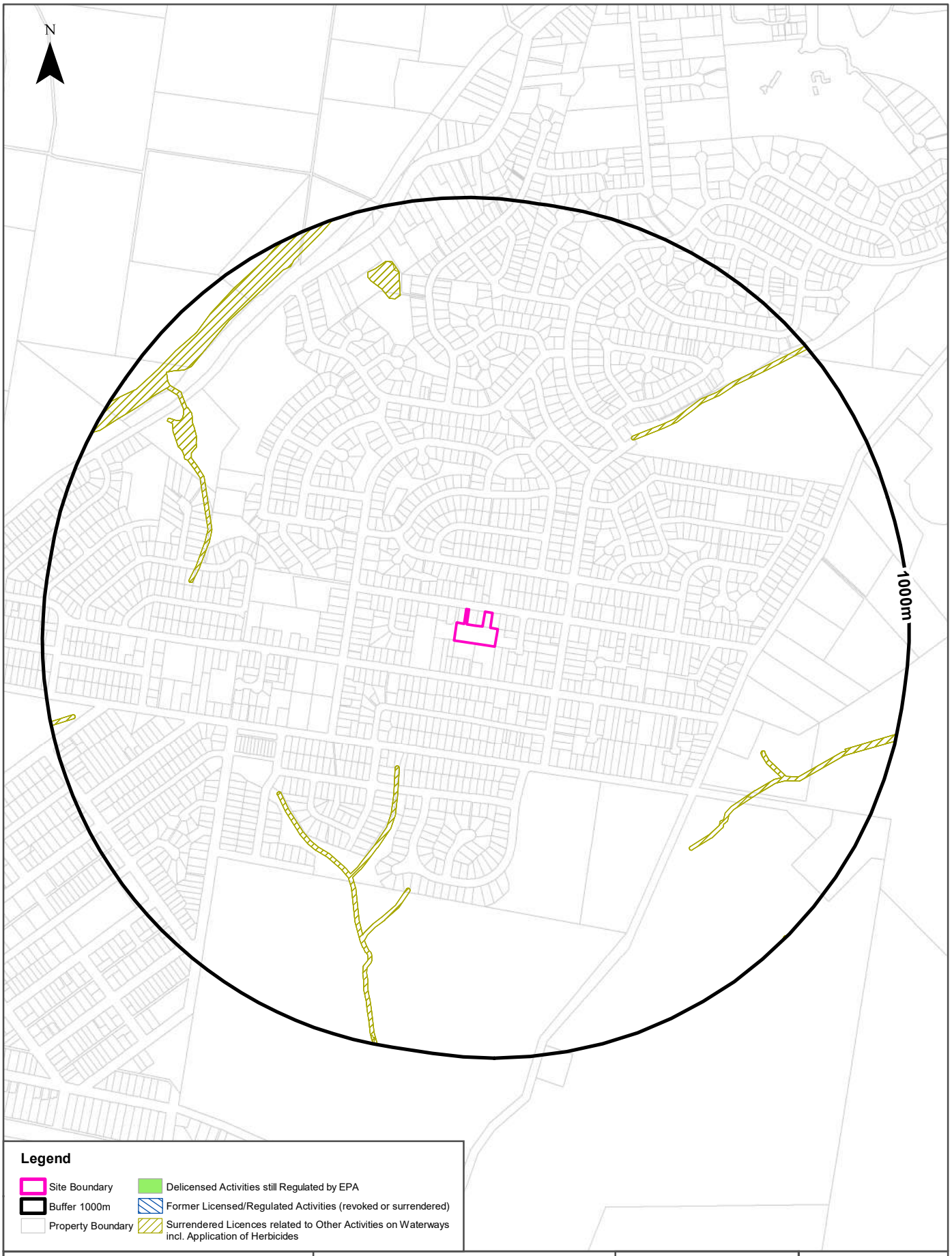
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
10393	MAITLAND CITY COUNCIL	ALL WATERBODIES IN THE MAITLAND LOCAL GOVERNMENT AREA	.	MAITLAND	Other activities	Network of Features	334m	North West

POEO Licence Data Source: Environment Protection Authority

Delicensed & Former Licensed EPA Activities

23a & 29 Robert Street, Tenambit, NSW 2323



EPA Activities

23a & 29 Robert Street, Tenambit, NSW 2323

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

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

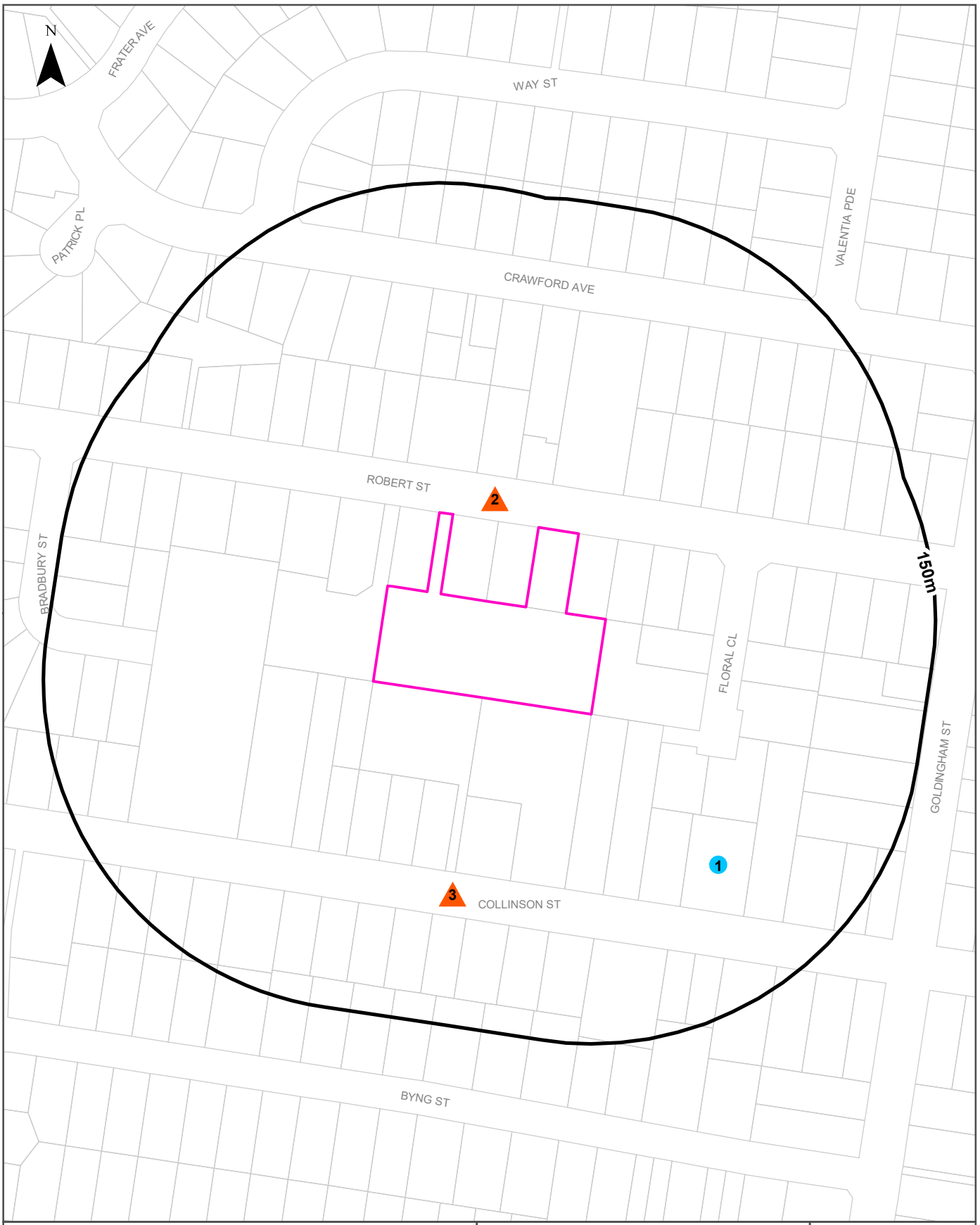
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

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	334m	North West
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	334m	North West
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	334m	North West
12439	STATE OF NEW SOUTH WALES (Department of Primary Industries - Lands)	Soil Conservation Service, Waterways within the Hunter Valley Flood Mitigation Scheme, MAITLAND	Surrendered	13/02/2007	Other Activities - Application of Herbicides	Network of Features	698m	North West

Former Licensed Activities Data Source: Environment Protection Authority

Historical Business Directories

23a & 29 Robert Street, Tenambit, NSW 2323



Legend

- Site Boundary
- Buffer 150m
- Property Boundary
- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- Business directory records mapped to a road corridor
- Business directory records mapped to a general area

Scale: 0 30 60 90 120 Meters

Coordinate System: GDA 1994 MGA Zone 56

Date: 17 October 2022

Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018

Historical Business Directories

23a & 29 Robert Street, Tenambit, NSW 2323

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	POULTRY FARMERS SUPPLIERS.	Brownlie, J. S., 70 Collinson St., Tenambit 2323	168759	1982	Premise Match	65m	South East

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
2	POULTRY DEALERS-RETAIL	Bonser, R. J., Robert St., Tenambit	162084	1961	Road Match	0m
	HATCHERIES	Denser, R. J., Robert St., Tenambit	161405	1961	Road Match	0m
	POULTRY FARMERS	Hilivlew Poultry Farm, Robert St., Tenambit	165427	1950	Road Match	0m
3	POULTRY FARMERS' SUPPLIES	Brownlie, J. S., Collinson St., Tenambit	639048	1970	Road Match	80m
	POULTRY FARMERS' SUPPLIES	Brownlie, J. S., Collinson St., Tenambit	162085	1961	Road Match	80m
	FUEL MERCHANTS-COAL, COKE & WOOD	Lantry, B. J., Collinson St., Tenambit	161203	1961	Road Match	80m
	HATCHERIES	Mils, J. S., Collinson St., Tenambit East	161406	1961	Road Match	80m
	MILK, FRUIT JUICE BARS &/OR CONFECTIONERS	Way, J. A., Collinson St., Maitland	161687	1961	Road Match	80m
	WOOD MERCHANTS-COAL &/OR COKE	Lantry, B. J. (Coal), Collinson St. Tenambit	165429	1950	Road Match	80m
	MILK BARS & CONFECTIONERS	Way, J. A. CollInson St. Tenambit	165426	1950	Road Match	80m

Historical Business Directories

23a & 29 Robert Street, Tenambit, NSW 2323

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						

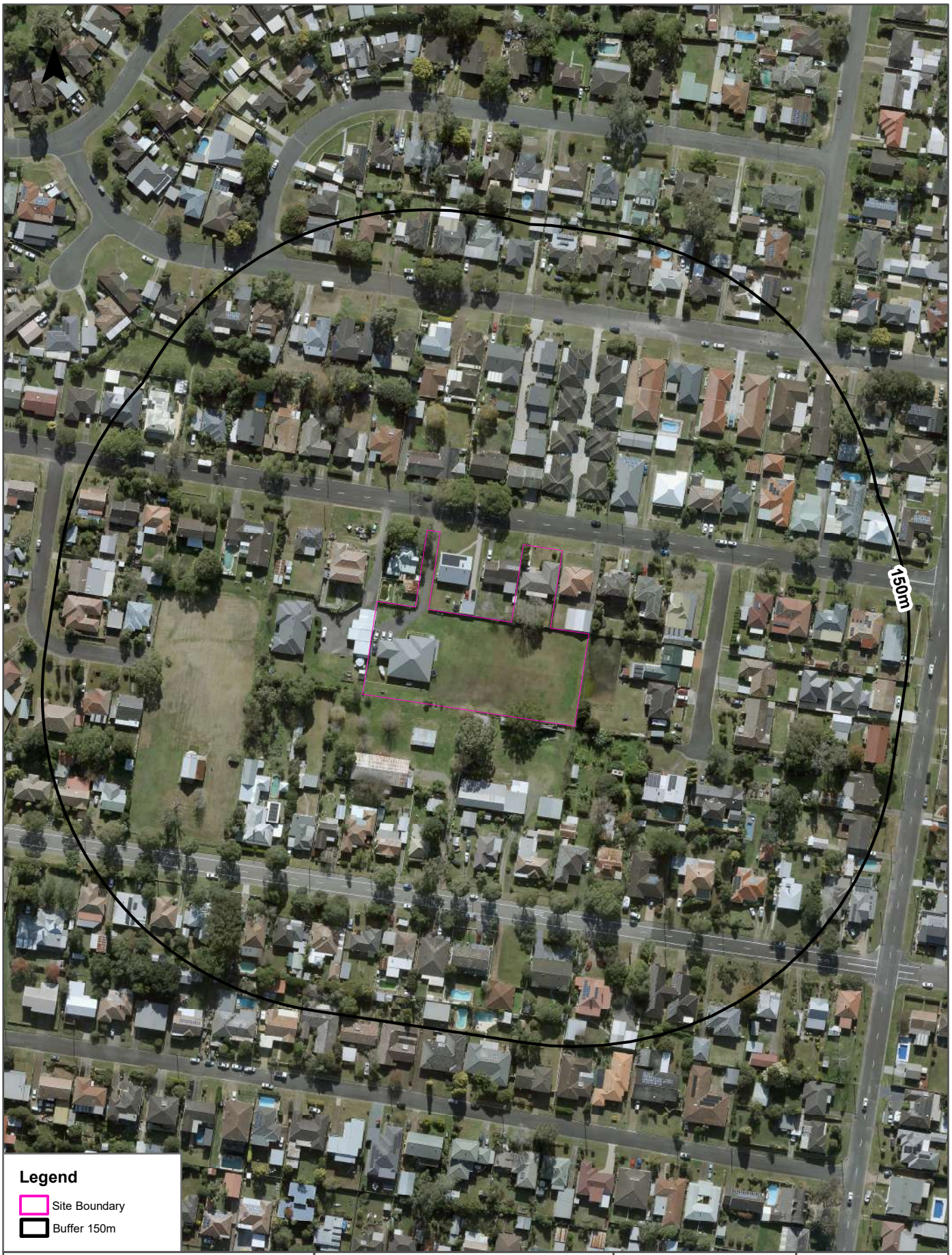
Dry Cleaners, Motor Garages & Service Stations Road or Area Matches

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
N/A	No records in buffer					

Aerial Imagery 2022

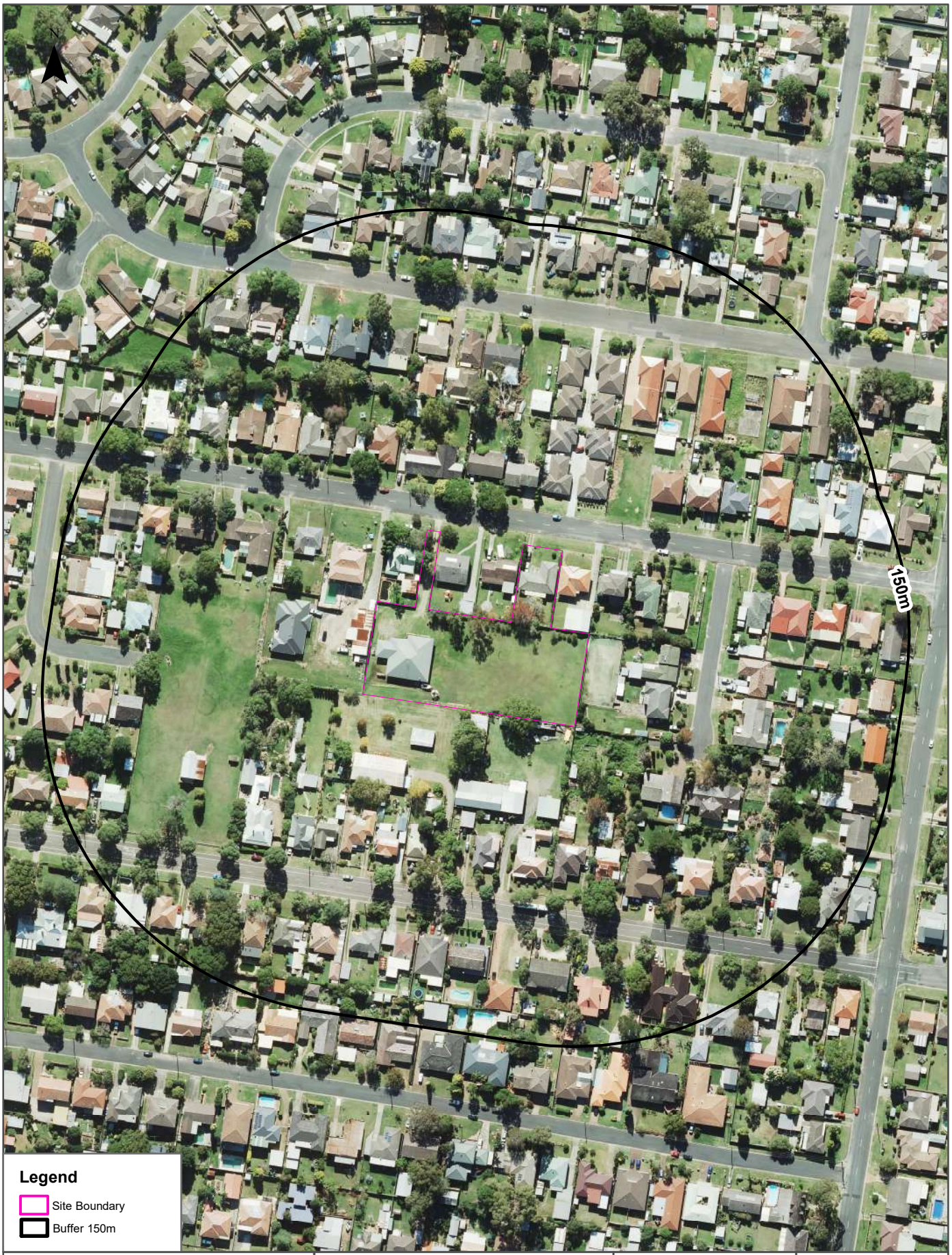
23a & 29 Robert Street, Tenambit, NSW 2323



Data Source Aerial Imagery: © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 17 October 2022

Aerial Imagery 2015

23a & 29 Robert Street, Tenambit, NSW 2323



Scale: 0 25 50 75 100 Meters	Data Source Aerial Imagery: © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 17 October 2022

Aerial Imagery 2010

23a & 29 Robert Street, Tenambit, NSW 2323

Scale: 0 25 50 75 100 Meters	Data Source Aerial Imagery: © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 17 October 2022

Aerial Imagery 2007

23a & 29 Robert Street, Tenambit, NSW 2323

Aerial Imagery 1993

23a & 29 Robert Street, Tenambit, NSW 2323

Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 17 October 2022
0 25 50 75 100 Meters	© NSW Department of Customer Service	GDA 1994 MGA Zone 56	

Aerial Imagery 1983

23a & 29 Robert Street, Tenambit, NSW 2323

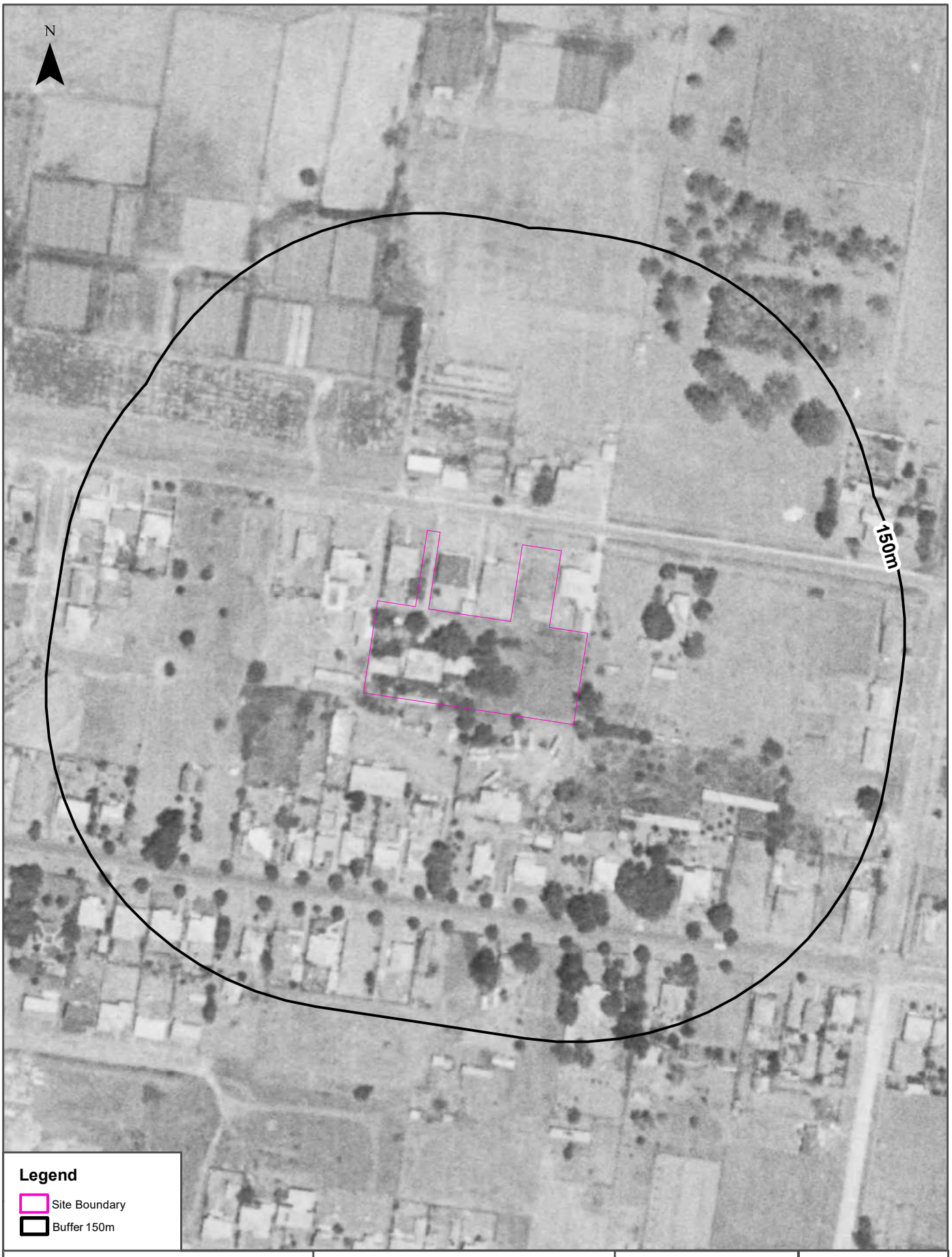
Scale: 0 25 50 75 100 Meters	Data Source Aerial Imagery: © NSW Department of Customer Service	Coordinate System: GDA 1994 MGA Zone 56	Date: 17 October 2022

Aerial Imagery 1976

23a & 29 Robert Street, Tenambit, NSW 2323

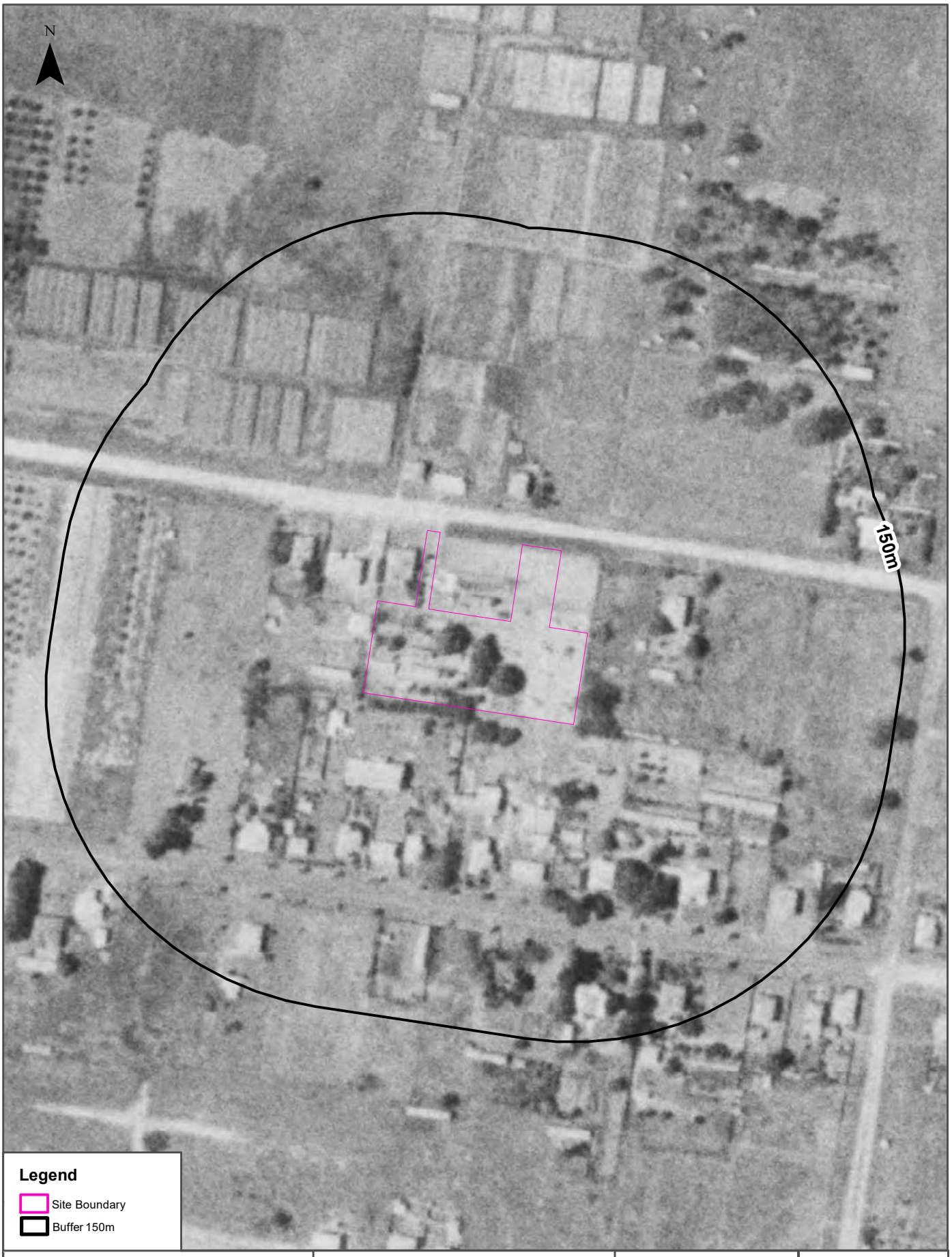
Aerial Imagery 1967

23a & 29 Robert Street, Tenambit, NSW 2323



Aerial Imagery 1958

23a & 29 Robert Street, Tenambit, NSW 2323



Scale: 0 25 50 75 100 Meters	Data Source Aerial Imagery: © NSW Department of Customer Service	Coordinate System: GDA 1994 MGA Zone 56	Date: 17 October 2022

Aerial Imagery 1954

23a & 29 Robert Street, Tenambit, NSW 2323

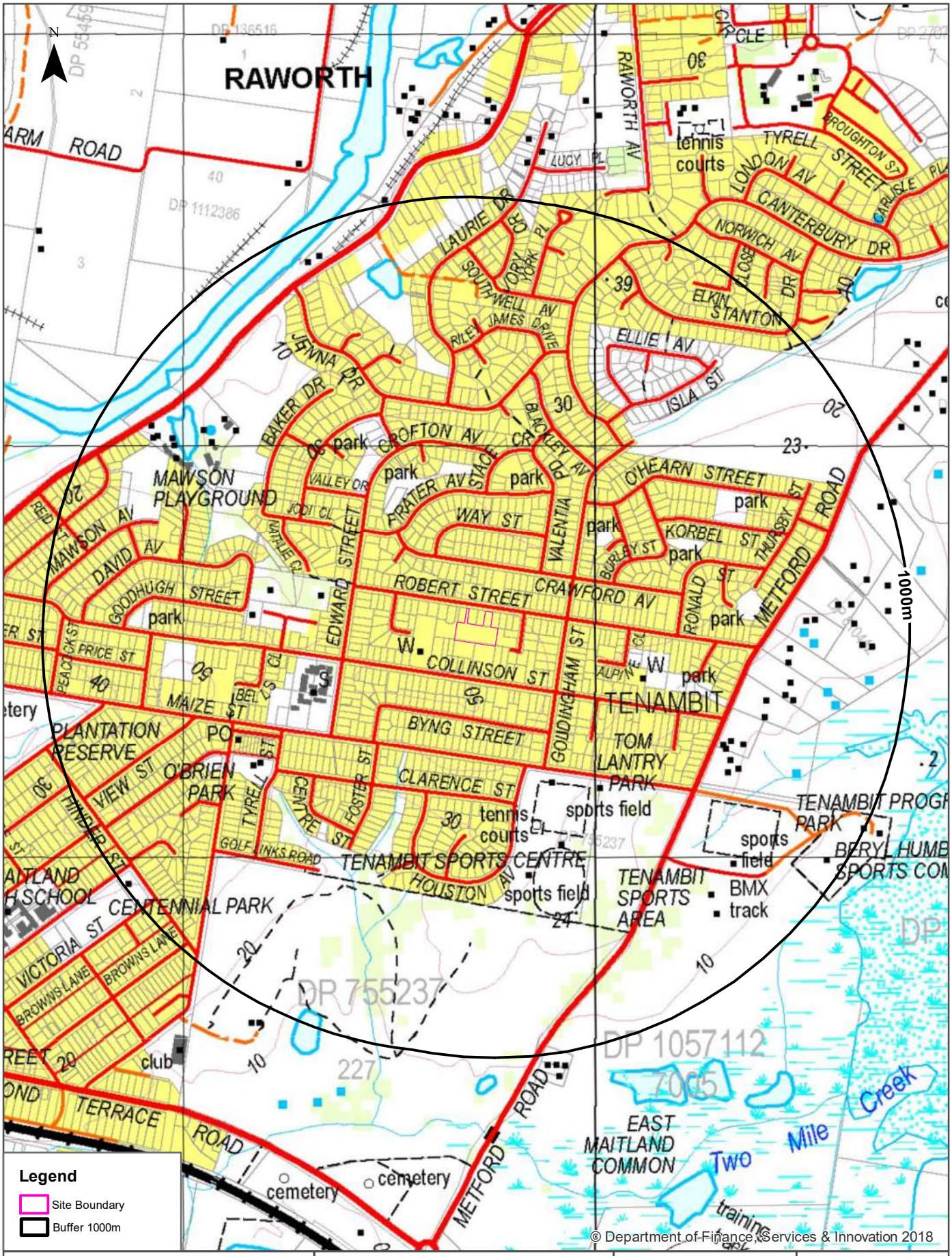
Aerial Imagery 1938

23a & 29 Robert Street, Tenambit, NSW 2323

Scale: 0 25 50 75 100 Meters	Data Source Aerial Imagery: ©2022 Geoscience Australia	Coordinate System: GDA 1994 MGA Zone 56	Date: 17 October 2022

Topographic Map 2015

23a & 29 Robert Street, Tenambit, NSW 2323



Scale: 0 140 280 420 560 Meters

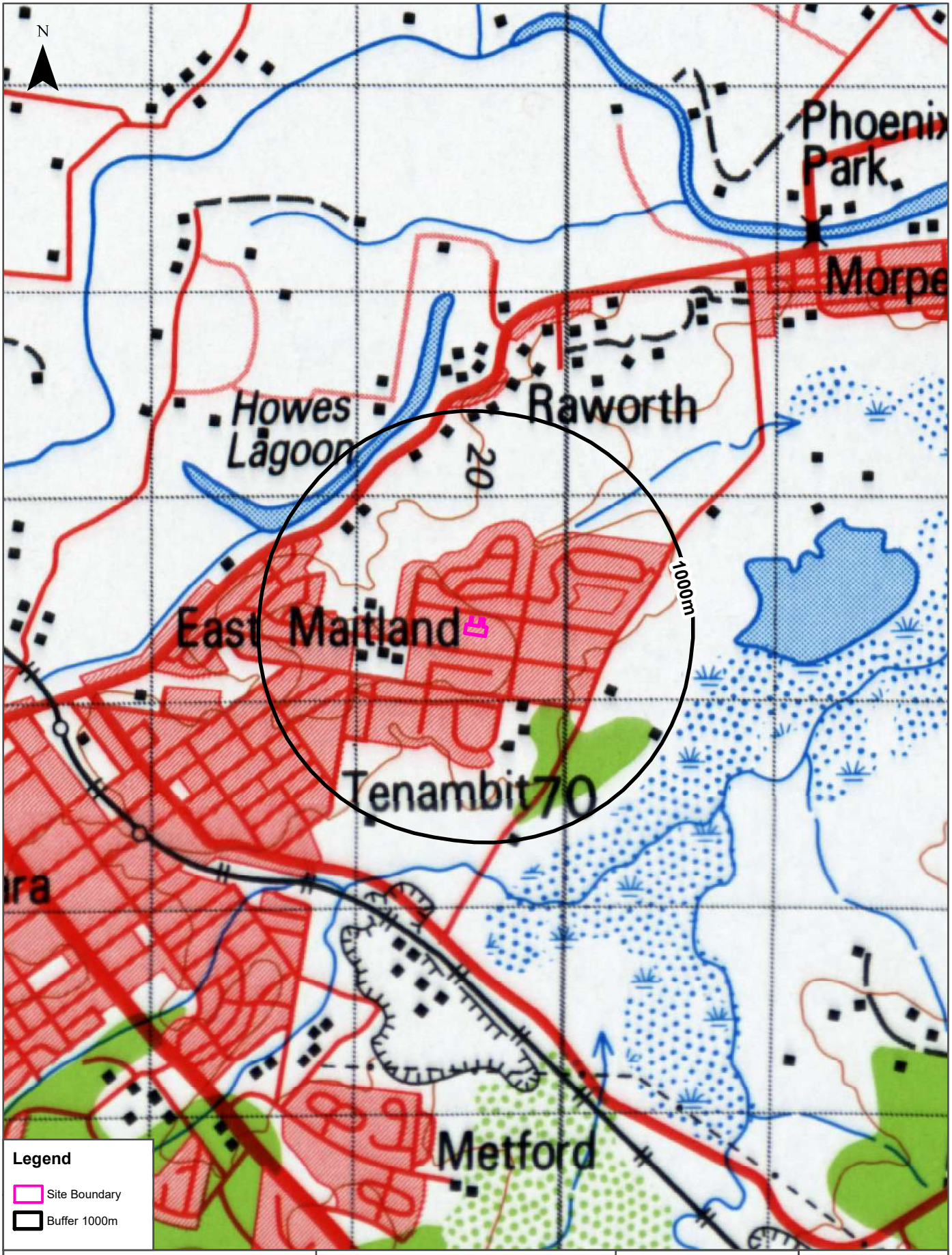
Data Sources: Topographic Map Data © NSW Land and Property Information

Coordinate System: GDA 1994 MGA Zone 56

Date: 17 October 2022

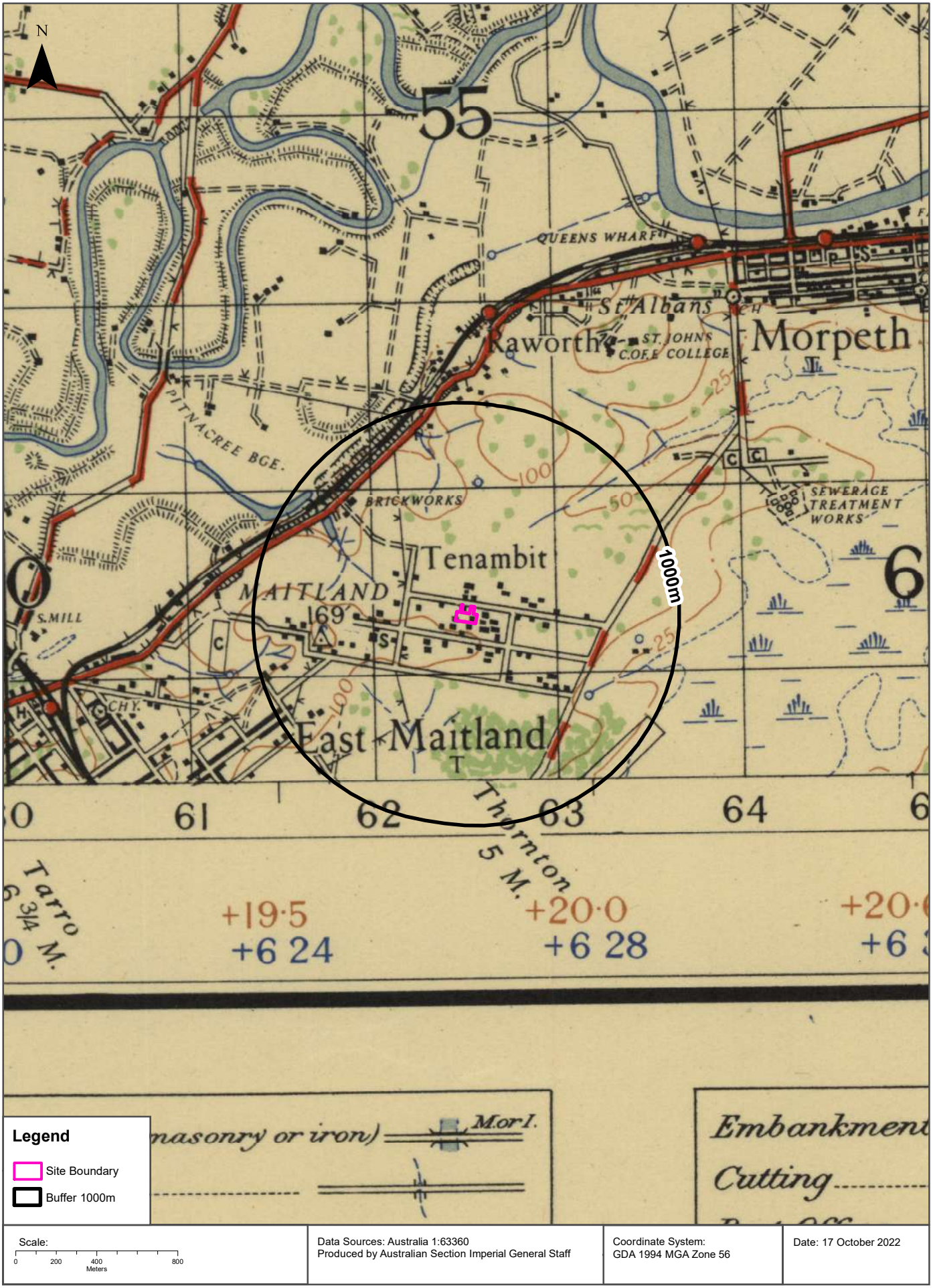
Historical Map 1981

23a & 29 Robert Street, Tenambit, NSW 2323



Historical Map c.1942

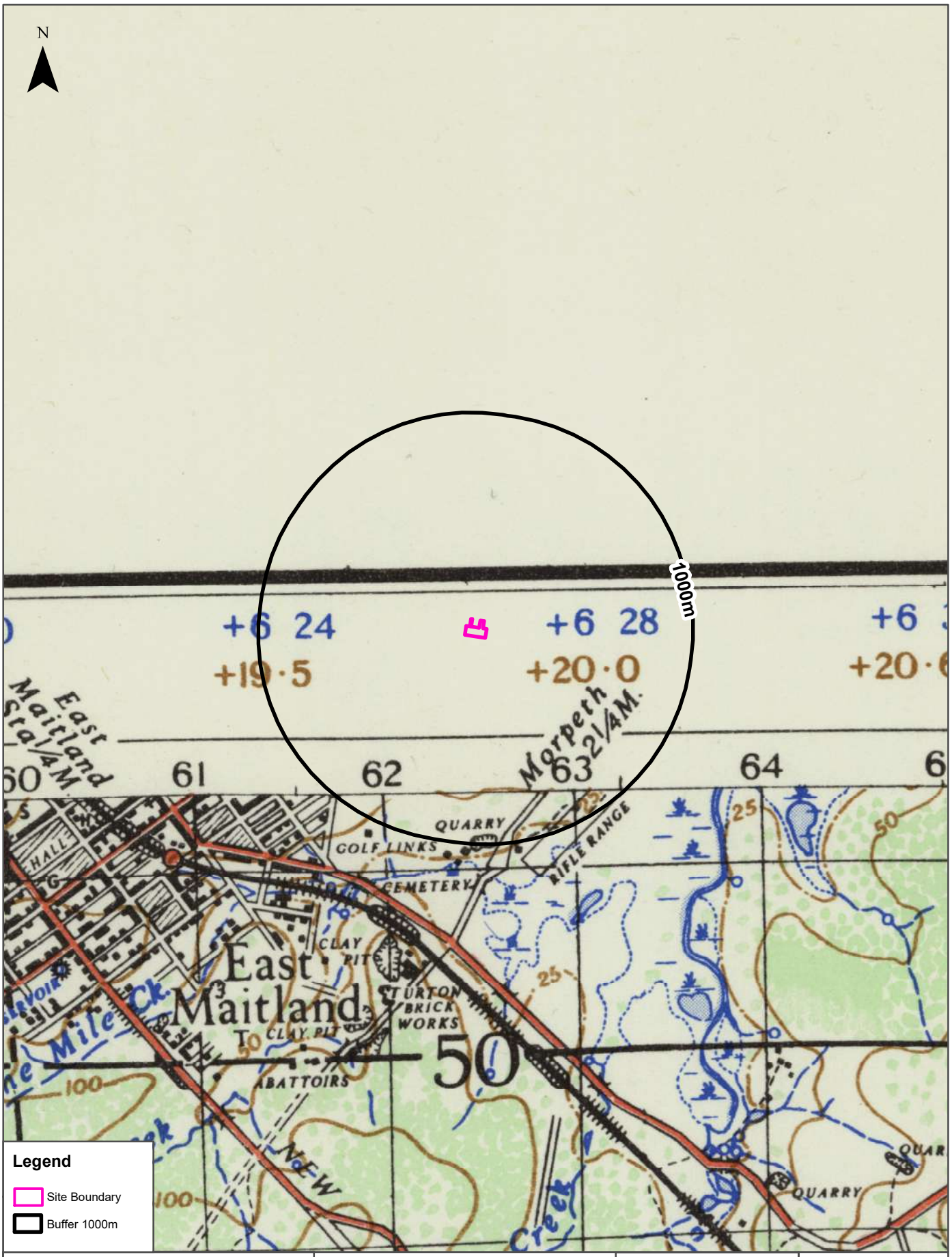
23a & 29 Robert Street, Tenambit, NSW 2323



Scale:	Data Sources: Australia 1:63360 Produced by Australian Section Imperial General Staff	Coordinate System: GDA 1994 MGA Zone 56	Date: 17 October 2022

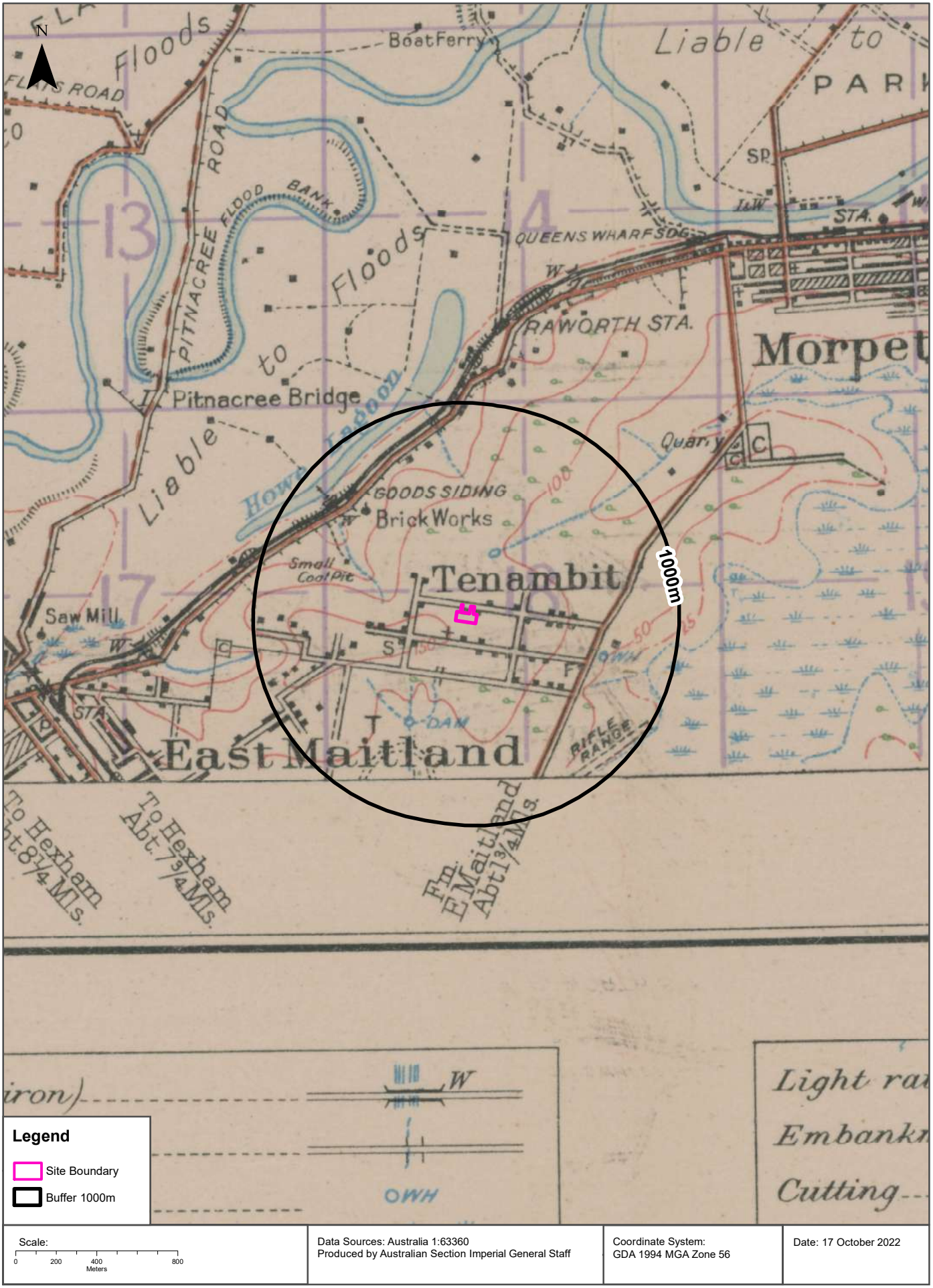
Historical Map c.1941

23a & 29 Robert Street, Tenambit, NSW 2323



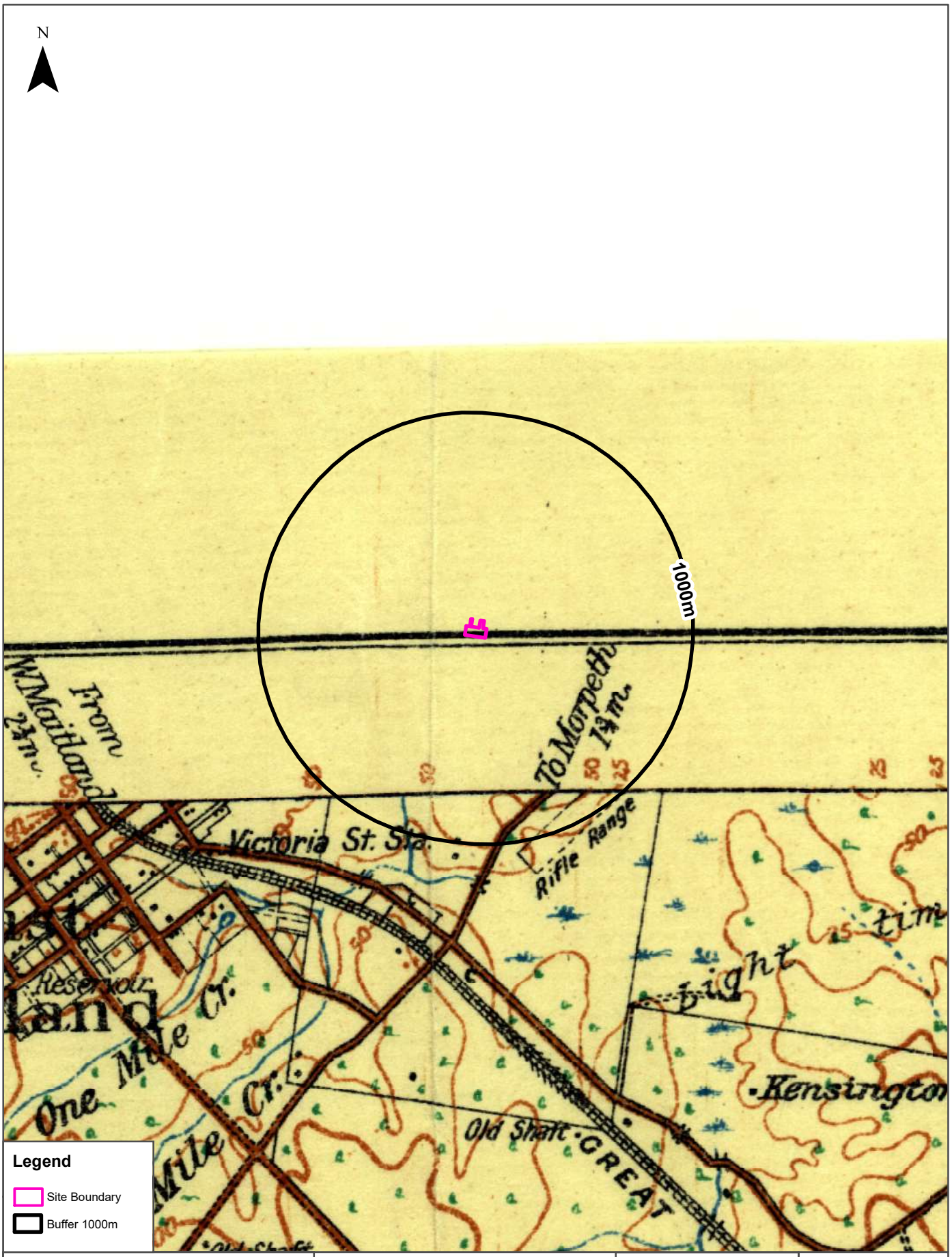
Historical Map c.1925

23a & 29 Robert Street, Tenambit, NSW 2323



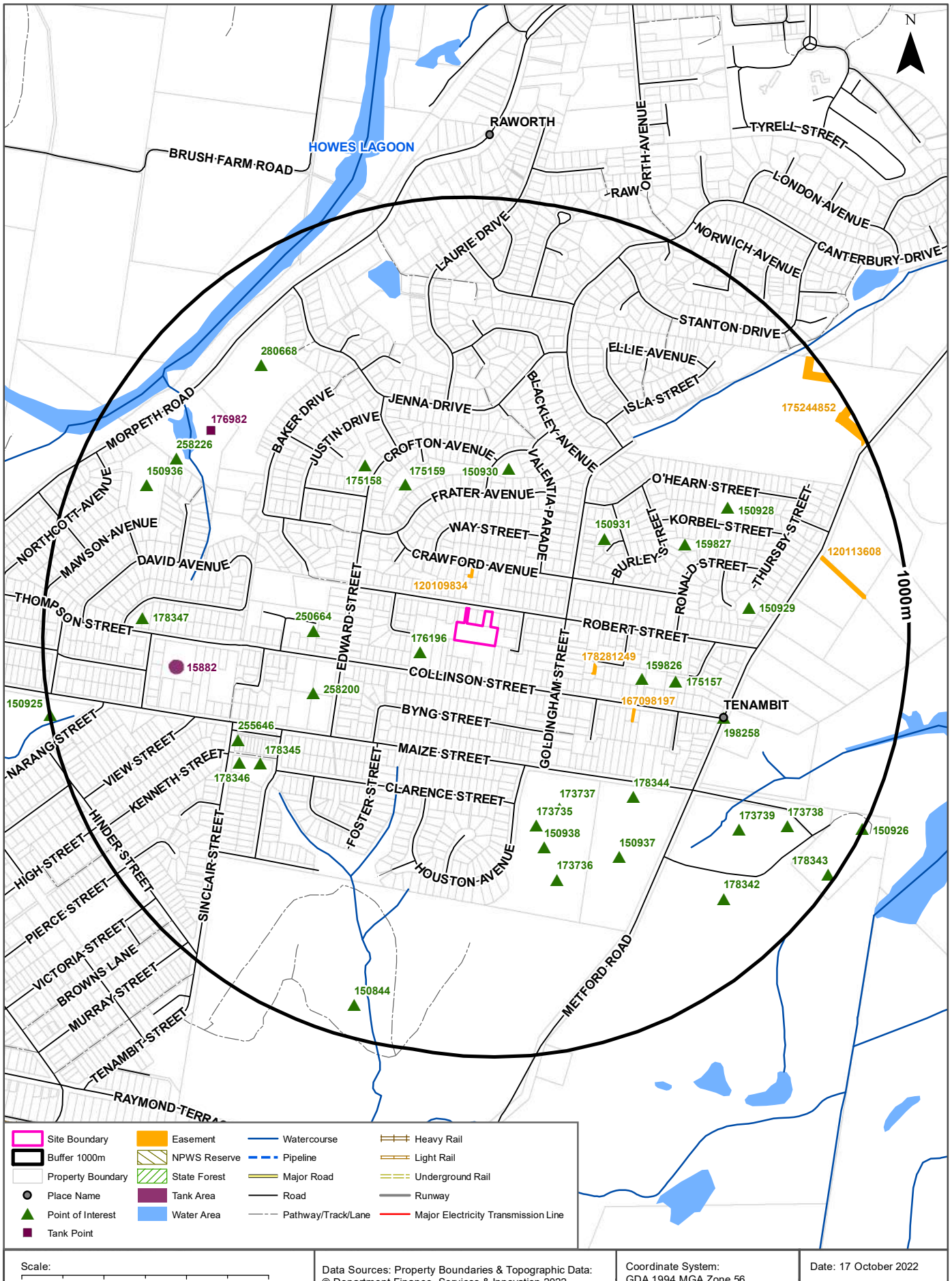
Historical Map c.1913

23a & 29 Robert Street, Tenambit, NSW 2323



Topographic Features

23a & 29 Robert Street, Tenambit, NSW 2323



Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2022

Coordinate System: GDA 1994 MGA Zone 56

Date: 17 October 2022

Topographic Features

23a & 29 Robert Street, Tenambit, NSW 2323

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
176196	Place Of Worship	ANGLICAN CHURCH	89m	West
150931	Park	Park	325m	North East
175159	Park	Park	335m	North West
250664	Retirement Village	GREENLEAF NORTHWOOD RETIREMENT VILLAGE	342m	West
150930	Park	Park	352m	North
159826	Place Of Worship	JEHOVAHS WITNESSES CHURCH	366m	East
258200	Primary School	TENAMBIT PUBLIC SCHOOL	367m	West
173737	Sports Field	Sports Field	424m	South East
175158	Park	Park	426m	North West
175157	Park	Park	448m	East
173735	Sports Court	TENNIS COURTS	448m	South
159827	Park	Park	496m	North East
178344	Park	TOM LANTRY PARK	497m	South East
150938	Sports Centre	TENAMBIT SPORTS CENTRE	504m	South
178345	Community Facility	TENAMBIT COMMUNITY CENTRE	558m	South West
255646	Post Office	TENAMBIT POST OFFICE	579m	South West
198258	Suburb	TENAMBIT	583m	East
173736	Sports Field	Sports Field	588m	South
150937	Park	TENAMBIT SPORTS AREA	595m	South East
178346	Park	O'BRIEN PARK	602m	South West
150929	Park	Park	613m	East
150928	Park	Park	626m	North East
173739	Sports Field	Sports Field	743m	South East
178347	Park	Park	760m	West
280668	Park	BAKERS BRICKYARD PARK	774m	North West
258226	Combined Primary-Secondary School	LINUWEL SCHOOL LTD	790m	North West
150936	Park	MAWSON PLAYGROUND	824m	North West
178342	BMX Track	BMX Track	829m	South East
173738	Park	TENAMBIT PROGRESS PARK	836m	South East
150844	Golf Course	MAITLAND GOLF COURSE	921m	South
178343	Sports Centre	BERYL HUMBLE SPORTS COMPLEX	982m	South East

Map Id	Feature Type	Label	Distance	Direction
150926	Community Facility	MAITLAND PISTOL CLUB	997m	South East
150925	Park	PLANTATION RESERVE	999m	West

Topographic Features

23a & 29 Robert Street, Tenambit, NSW 2323

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
15882	Water	Operational		01/05/2020	660m	West

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
176982	Water	Operational		01/10/2011	756m	North West

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
120109834	Primary	Undefined		76m	North
178281249	Primary	Right of way	5 Wide & VAR	245m	East
167098197	Primary	Right of way	4 wide	370m	South East
120113608	Primary	Undefined		804m	East
175244852	Primary	Right of way	17m	946m	North East

Topographic Features

23a & 29 Robert Street, Tenambit, NSW 2323

State Forest

What State Forest exist within the dataset buffer?

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

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				

Elevation Contours (m AHD)

23a & 29 Robert Street, Tenambit, NSW 2323

Hydrogeology & Groundwater

23a & 29 Robert Street, Tenambit, NSW 2323

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)

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018

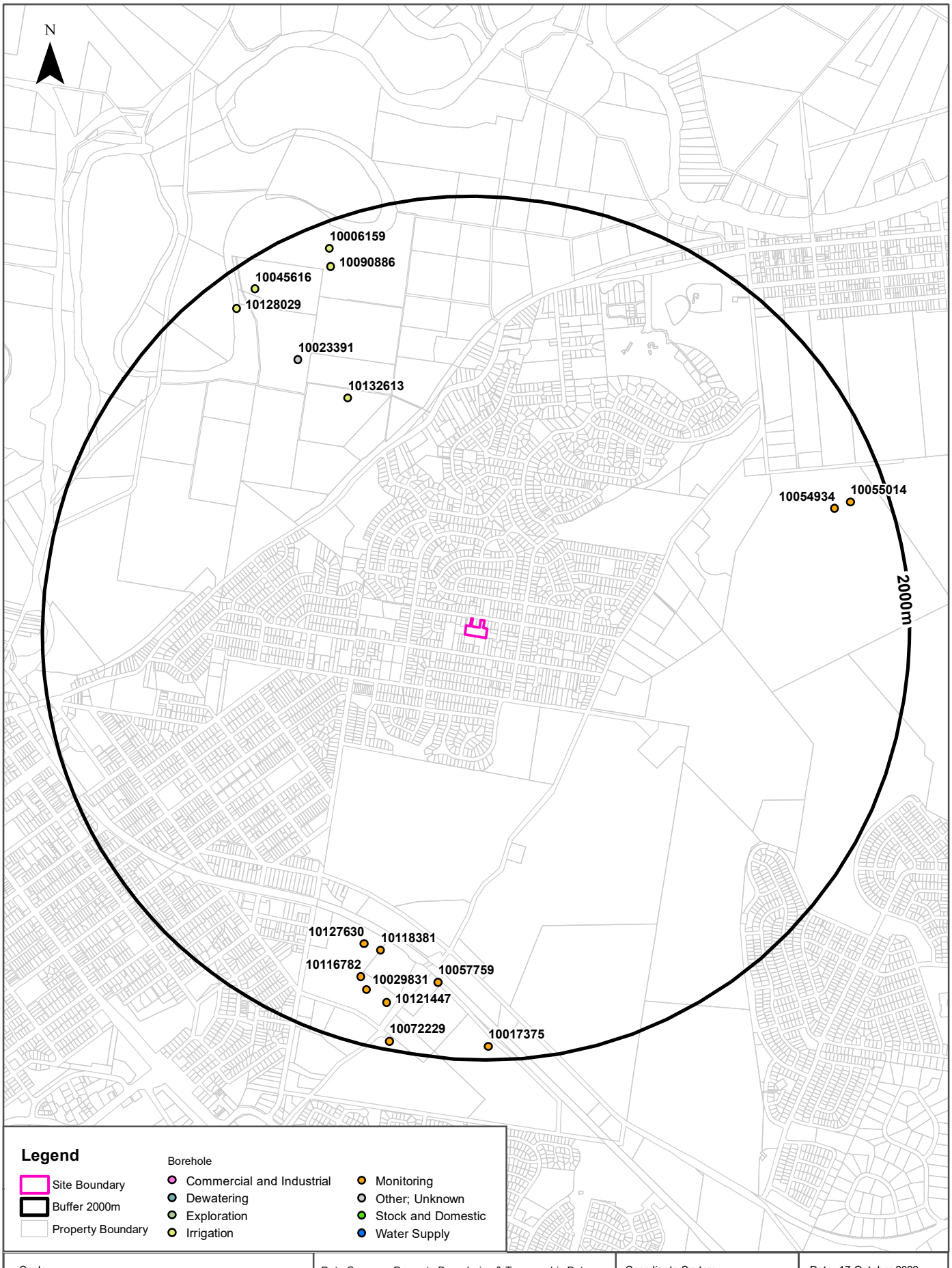
Temporary water restrictions relating to the Botany Sands aquifer within the dataset buffer:

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

Groundwater Boreholes

23a & 29 Robert Street, Tenambit, NSW 2323



Hydrogeology & Groundwater

23a & 29 Robert Street, Tenambit, NSW 2323

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
10132613	GW053069	Irrigation	Functioning		12.00		AHD	Poor			1195m	North West
10023391	GW029701	Unknown	Non-functional		10.40		AHD				1474m	North West
10127630	GW078839	Monitoring	Unknown	21/07/1993	23.70	9.39	AHD	6350	0.500	9.69	1541m	South
10118381	GW078838	Monitoring	Unknown	20/07/1993	26.70	12.46	AHD	3580	0.200	13.83	1548m	South
10057759	GW078843	Monitoring	Unknown	14/11/1996	11.20		AHD				1647m	South
10116782	GW078842	Monitoring	Unknown	18/07/1996	24.00		AHD			83.00	1693m	South
10054934	GW203176	Monitoring	Functional	05/03/2014	6.00		AHD				1741m	East
10029831	GW078841	Monitoring	Unknown	18/07/1996	29.60		AHD			85.00	1745m	South
10121447	GW078840	Monitoring	Unknown	22/07/1993	32.80	17.46	AHD	2500	0.700	17.02	1780m	South
10090886	GW080430	Irrigation	Unknown	01/01/1960			AHD			6.00	1793m	North
10055014	GW203177	Monitoring	Functional	04/03/2014	9.00		AHD				1821m	East
10128029	GW053413	Irrigation	Functioning	01/10/1981	9.70		AHD	501-1000 ppm			1839m	North West
10045616	GW080431	Irrigation	Functioning	01/01/1960	10.00		AHD			5.00	1864m	North West
10006159	GW026168	Irrigation	Unknown	01/05/1966	8.50		AHD	501-1000 ppm			1874m	North
10017375	GW078846	Monitoring	Unknown	14/11/1996	12.00		AHD			4.82	1937m	South
10072229	GW078844	Monitoring	Unknown	15/11/1996	24.00		AHD			18.99	1960m	South

Hydrogeology & Groundwater

23a & 29 Robert Street, Tenambit, NSW 2323

Driller's Logs

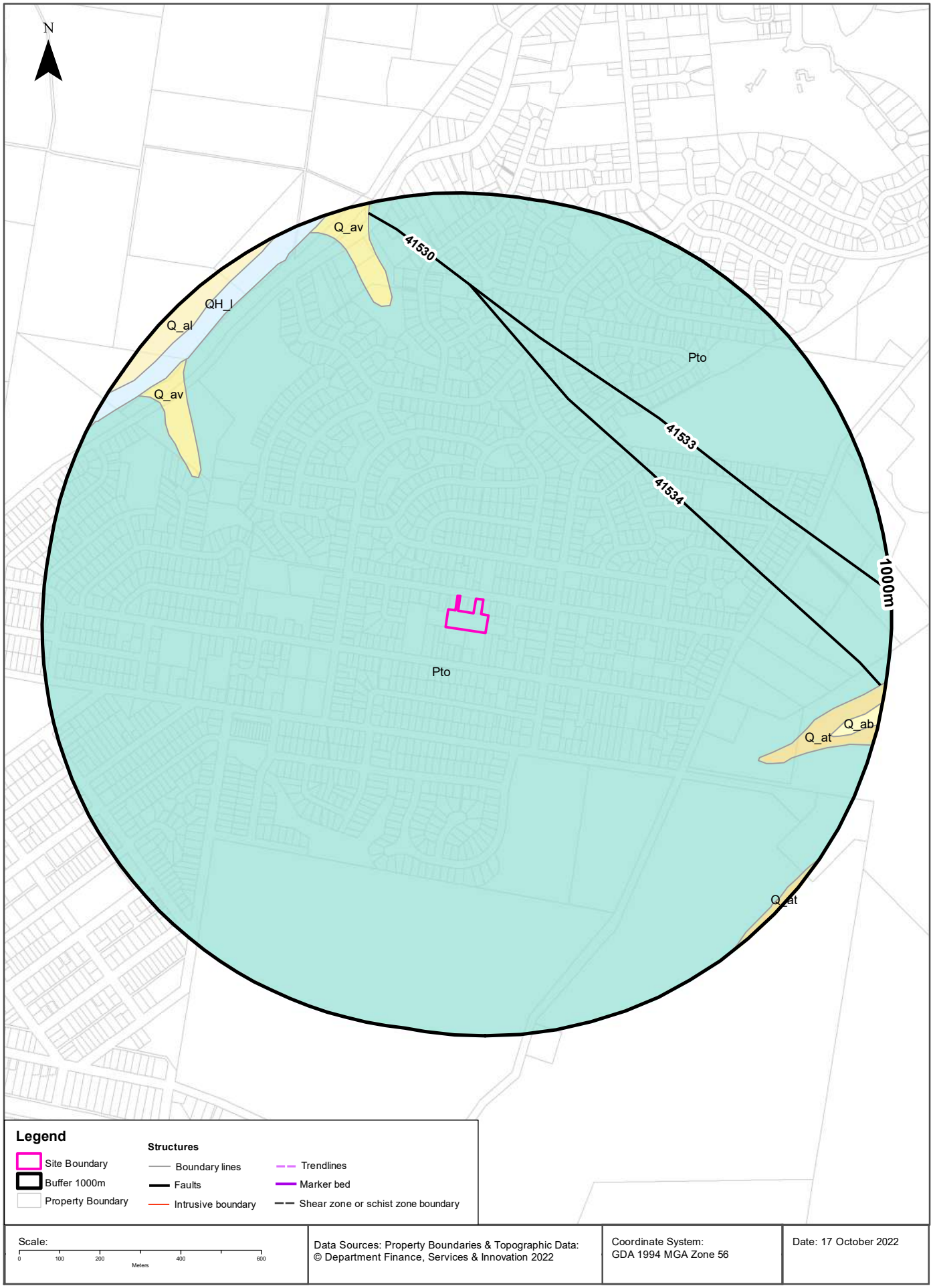
Drill log data relevant to the boreholes within the dataset buffer:

NGIS Bore ID	Drillers Log	Distance	Direction
10132613	0.00m-2.00m Topsoil 2.00m-4.00m Soil Black 4.00m-9.00m Mud 9.00m-12.00m Gravel Water Supply 12.00m-13.00m Mud	1195m	North West
10023391	0.00m-3.05m Soil 3.05m-7.32m Clay Cryptocrystalline 7.32m-10.36m Sand Coarse Water Bearing	1474m	North West
10127630	0.00m-1.00m fill material 1.00m-4.00m clay/shale, cream, plastic 4.00m-8.00m shale, dark grey 8.00m-10.00m sandstone, grey, fine 10.00m-15.50m siltstone, grey, fine 15.50m-16.00m coal, black 16.00m-20.00m shale, brown to light brown 20.00m-22.00m sandstone, grey, medium 22.00m-22.50m coal, black 22.50m-23.30m sandstone, grey, medium 23.30m-23.70m siltstone, grey, fine	1541m	South
10118381	0.00m-0.50m topsoil, clayey 0.50m-3.50m sandstone, yellow with iron stains 3.50m-5.00m shale/siltstone, dark grey, fine, laminitic 5.00m-6.50m sandstone, yellow orange 6.50m-6.80m coal 6.80m-9.00m shale/claystone, grey 9.00m-10.00m siltstone, light grey 10.00m-20.00m shale, grey to dark grey 20.00m-26.70m sandstone, grey, hard, carbonaceous	1548m	South
10057759	0.00m-4.00m fill 4.00m-5.00m silty clay 5.00m-7.50m silty clay 7.50m-10.00m siltstone 10.00m-11.20m silty clay	1647m	South
10116782	0.00m-0.10m fill 0.10m-3.00m clay 3.00m-8.50m claystone 8.50m-9.00m coal 9.00m-14.50m siltstone 14.50m-17.80m sandstone 17.80m-22.50m mudstone 22.50m-24.00m coal/mudstone	1693m	South
10054934	0.00m-1.00m Silt 1.00m-2.10m Clay 2.10m-6.00m Sandstone	1741m	East
10029831	0.00m-1.20m silty clay 1.20m-2.50m clay 2.50m-3.00m clay 3.00m-4.00m clay 4.00m-9.80m siltstone 9.80m-10.30m coal 10.30m-14.50m claystone 14.50m-14.60m coal 14.60m-15.00m clay 15.00m-17.50m siltstone 17.50m-23.50m siltstone 23.50m-29.50m coal 29.50m-29.60m clay	1745m	South

NGIS Bore ID	Drillers Log	Distance	Direction
10121447	0.00m-2.50m clay, grey brown 2.50m-4.70m siltstone, cream, soft 4.70m-5.20m Coal, black 5.20m-5.50m siltstone/claystone 5.50m-6.50m shale, dark grey, carbonaceous 6.50m-8.00m sandstone, light grey 8.00m-9.00m shale, grey 9.00m-10.50m siltstone, grey 10.50m-11.50m shale, grey 11.50m-17.00m siltstone, grey, layared 17.00m-22.00m sandstone, brown grey 22.00m-28.50m coal, black 28.50m-29.00m sandstone, grey 29.00m-30.50m coal, black, hard 30.50m-32.00m siltstone, grey 32.00m-32.80m coal	1780m	South
10055014	0.00m-1.60m Fill; Clayey Sand 1.60m-1.90m Clay 1.90m-9.00m Sandstone	1821m	East
10128029	0.00m-3.00m Topsoil 3.00m-5.50m Mud 5.50m-9.70m Gravel Water Supply	1839m	North West
10017375	0.00m-3.50m fill 3.50m-5.60m siltstone 5.60m-7.00m sandstone 7.00m-12.00m siltstone	1937m	South
10072229	0.00m-1.00m fill 1.00m-3.00m silty clay 3.00m-5.00m silty clay 5.00m-6.00m sandstone 6.00m-10.00m siltstone 10.00m-15.00m sandstone 15.00m-19.00m siltstone 19.00m-24.00m coal	1960m	South

Geology

23a & 29 Robert Street, Tenambit, NSW 2323



Geology

23a & 29 Robert Street, Tenambit, NSW 2323

Geological Units

What are the Geological Units within the dataset buffer?

Unit Code	Unit Name	Description	Unit Stratigraphy	Age	Dominant Lithology	Distance
Pto	Tomago Coal Measures	Very fine- to medium-grained grey lithic sandstone, (sporadically interbedded with) laminated to carbonaceous shale and mudstone, siltstone, coal with sporadic interbeds of carbonaceous shale, claystone, sideritic bands, rare pebble paraconglomerate	Singleton Supergroup/Tomago Coal Measures////	Lopingian (base) to Lopingian (top)	Sandstone	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	700m
Q_at	Alluvial terrace deposits	Silt, clay, (fluvially-deposited) fine- to medium-grained quartz-lithic sand, polymictic gravel.	/Alluvium//Alluvial terrace deposits//	Quaternary (base) to Now (top)	Clastic sediment	747m
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	891m
Q_ab	Alluvial backswamp deposits	Organic-rich mud, peat, silt, clay.	/Alluvium//Alluvial backswamp deposits//	Quaternary (base) to Now (top)	Organic rich sediment	891m
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	939m

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
41534	Faulted boundary	Fault, position approximate	Newcastle Coalfield 1:100,000 Regional Geology	512m
41533	Faulted boundary	Fault, position approximate	Newcastle Coalfield 1:100,000 Regional Geology	617m
41530	Faulted boundary	Fault, position approximate	Newcastle Coalfield 1:100,000 Regional Geology	773m

Naturally Occurring Asbestos Potential

23a & 29 Robert Street, Tenambit, NSW 2323

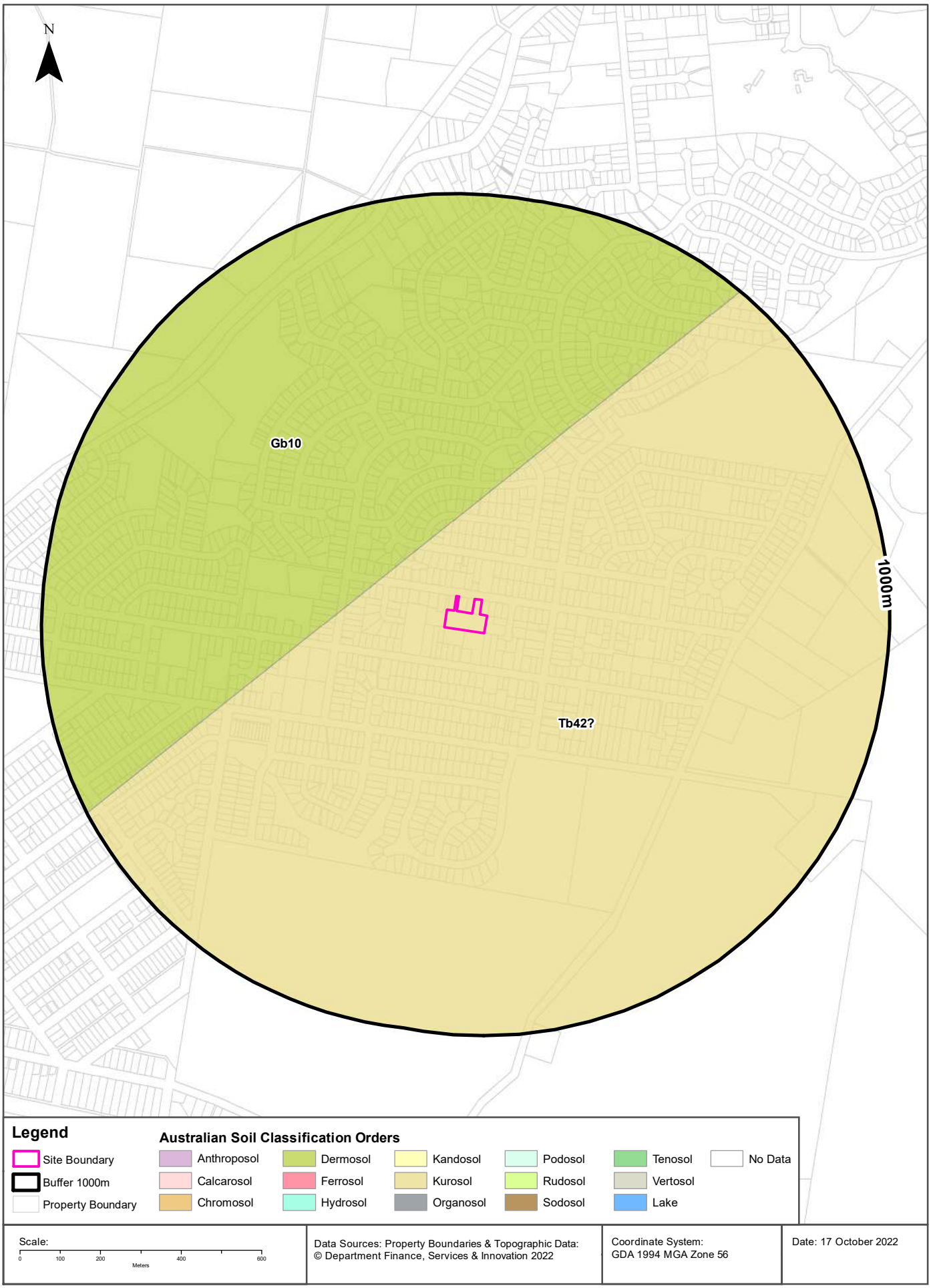
Naturally Occurring Asbestos Potential

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												

Atlas of Australian Soils

23a & 29 Robert Street, Tenambit, NSW 2323



Soils

23a & 29 Robert Street, Tenambit, NSW 2323

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
Tb42?	Kurosol?	Undulating to hilly with a general ridge, slope, and valley sequence throughout; some outcropping sandstone or conglomerate on the ridges, occasionally some escarpments: chief soils are hard acidic yellow mottled soils (Dy3.41), possibly with (Dy3.42). Associated are: narrow ridges of shallow (Dy3.41) and (Dr3.41) soils, both often containing ironstone gravel; (Dr2.41) soils on broader ridges some broad sandy flats of (Dy5.81) soils containing ironstone gravels; dunes of (Uc1.2) soils on local sand deposits; and various undescribed soils along the streams where salinity is a common local feature.	0m	On-site
Gb10	Dermosol	River terraces, levees, flood-plains, coastal swamps, and tidal flats: this unit contains the same land forms and soils as unit Gb9, but in addition has (i) swamps and levees of the lower river flood-plain of (Uf6.6), (Ug5), and other undescribed soils; (ii) estuarine flats of peaty or organic soils over acid clays; and (iii) tidal mud flats. The soils of these areas are not well known but probably have similarities with the soils of units J3, Mc4, NY1, and NN1. The smaller areas mapped as unit Gb10 consist mainly of areas of (i) and/or (iii) above.	153m	North West

Soil Landscapes of Central and Eastern NSW

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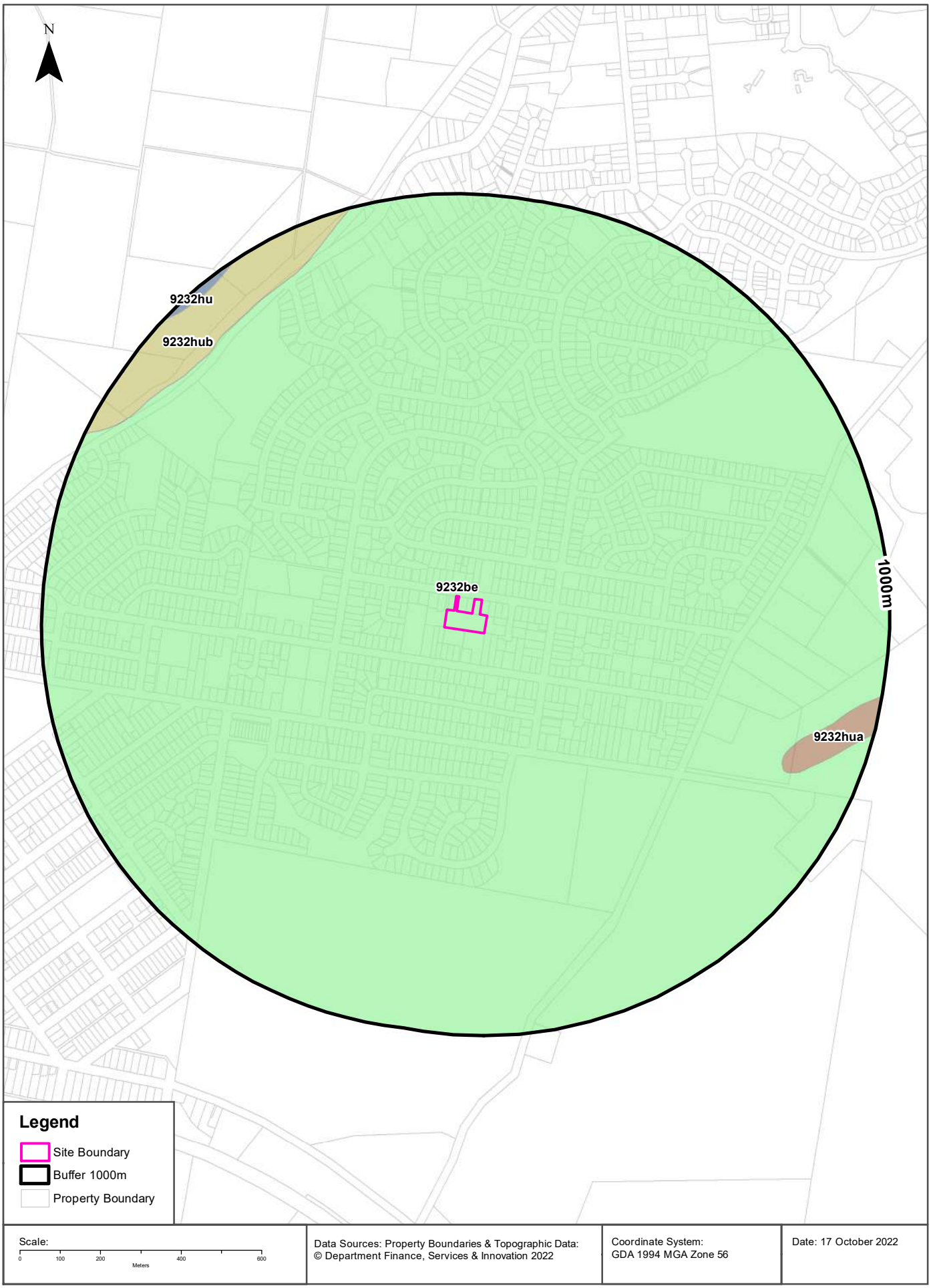

Soils

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Soil Landscapes of Central and Eastern NSW

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

Soil Code	Name	Distance	Direction
9232be	Beresfield	0m	On-site
9232hua	Hunter variant a	802m	East
9232hub	Hunter variant b	861m	North West
9232hu	Hunter	978m	North West

Acid Sulfate Soils

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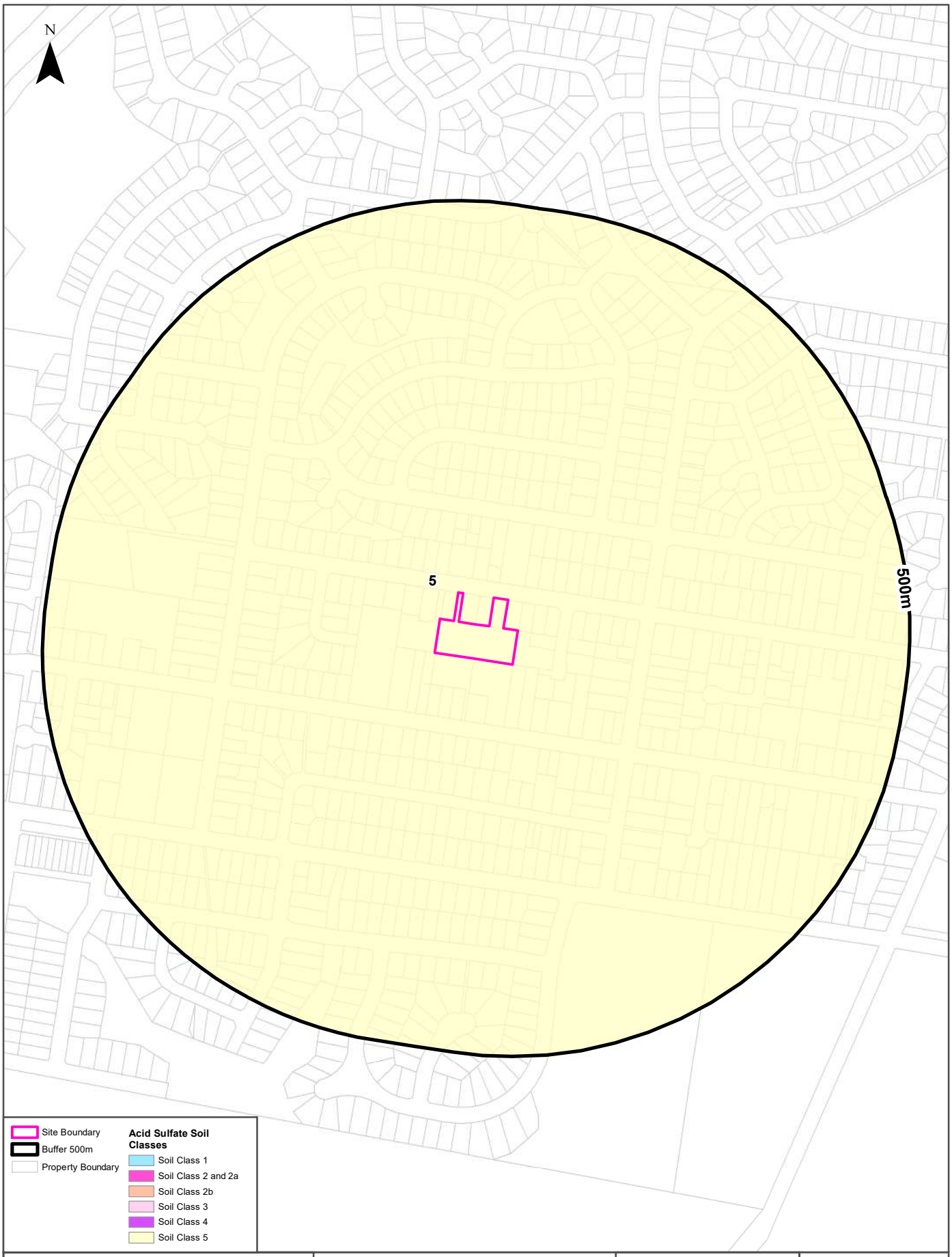

Acid Sulfate Soils

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Environmental Planning Instrument - Acid Sulfate Soils

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

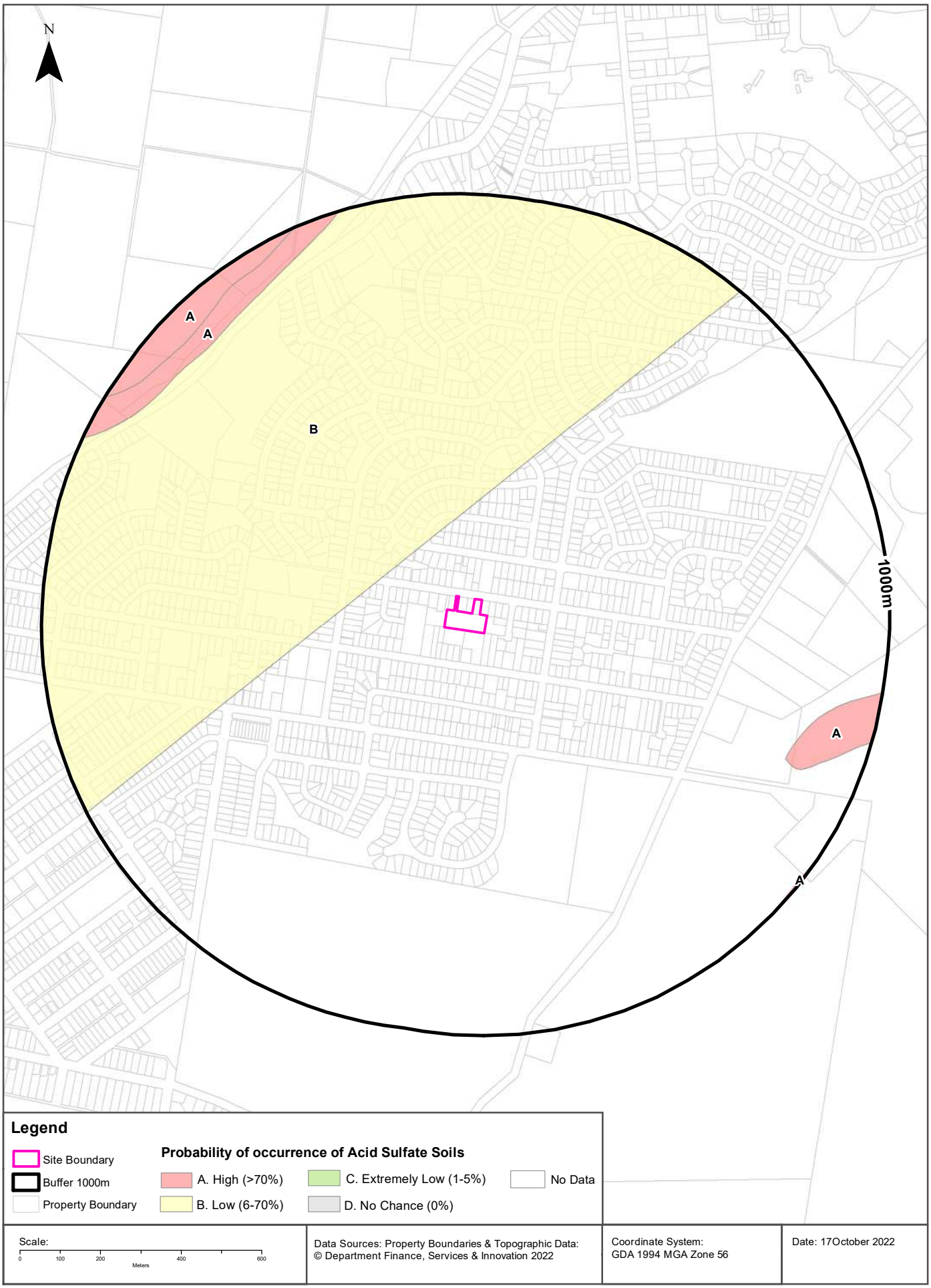
Soil Class	Description	EPI Name
5	Works within 500 metres of adjacent Class 1, 2, 3, or 4 land that is below 5 metres AHD and by which the watertable is likely to be lowered below 1 metre AHD on adjacent Class 1, 2, 3 or 4 land, present an environmental risk	Maitland Local Environmental Plan 2011

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

Soil Class	Description	EPI Name	Distance	Direction
None				

Atlas of Australian Acid Sulfate Soils

23a & 29 Robert Street, Tenambit, NSW 2323



Acid Sulfate Soils

23a & 29 Robert Street, Tenambit, NSW 2323

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.	153m	North West
A	High Probability of occurrence. >70% chance of occurrence.	873m	North West

Dryland Salinity

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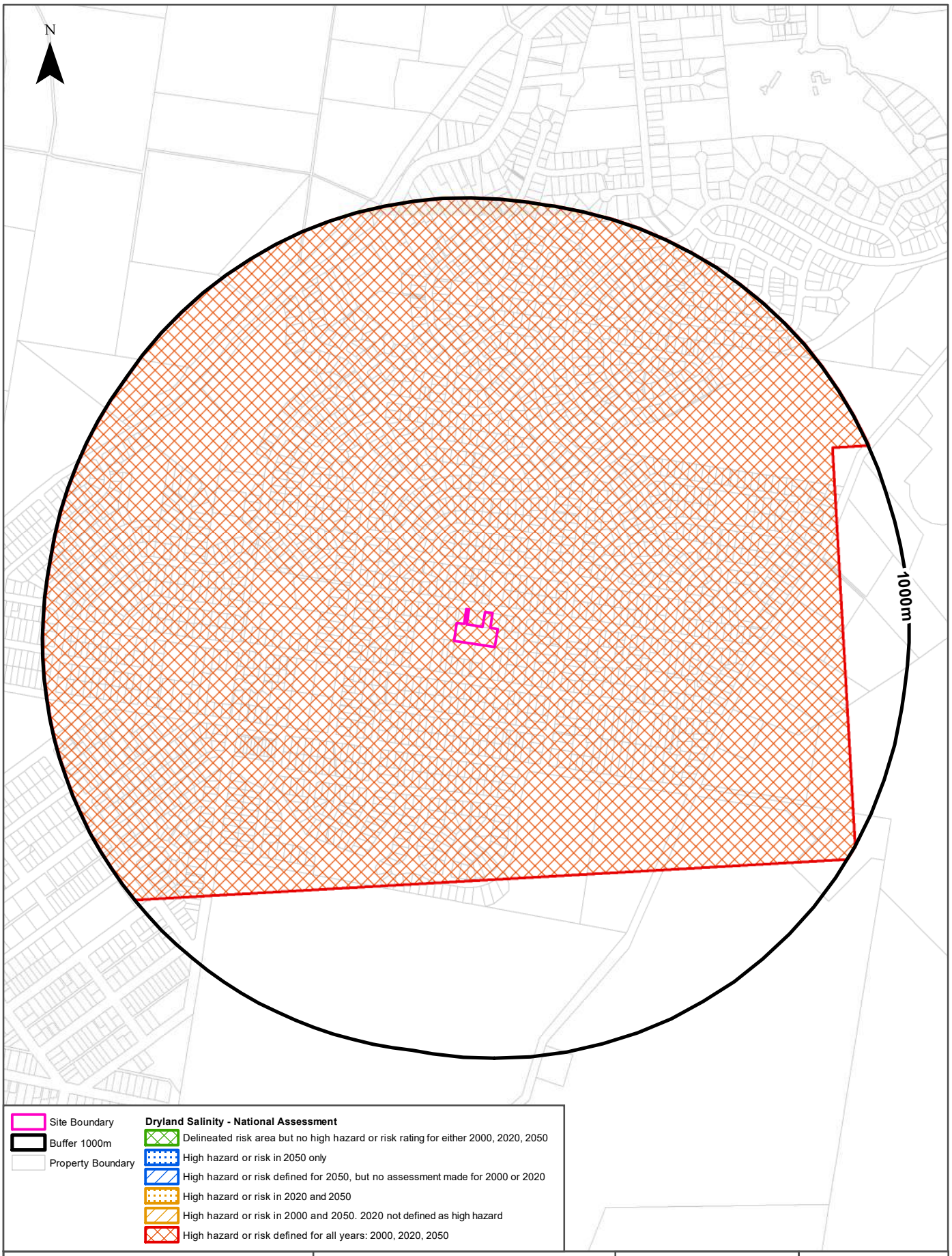

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2022

Coordinate System: GDA 1994 MGA Zone 56

Date: 17 October 2022

Dryland Salinity

23a & 29 Robert Street, Tenambit, NSW 2323

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

Yes

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

Yes

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
High hazard or risk	High hazard or risk	High hazard or risk	0m	On-site

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

23a & 29 Robert Street, Tenambit, NSW 2323

Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

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

Mining & Exploration Titles

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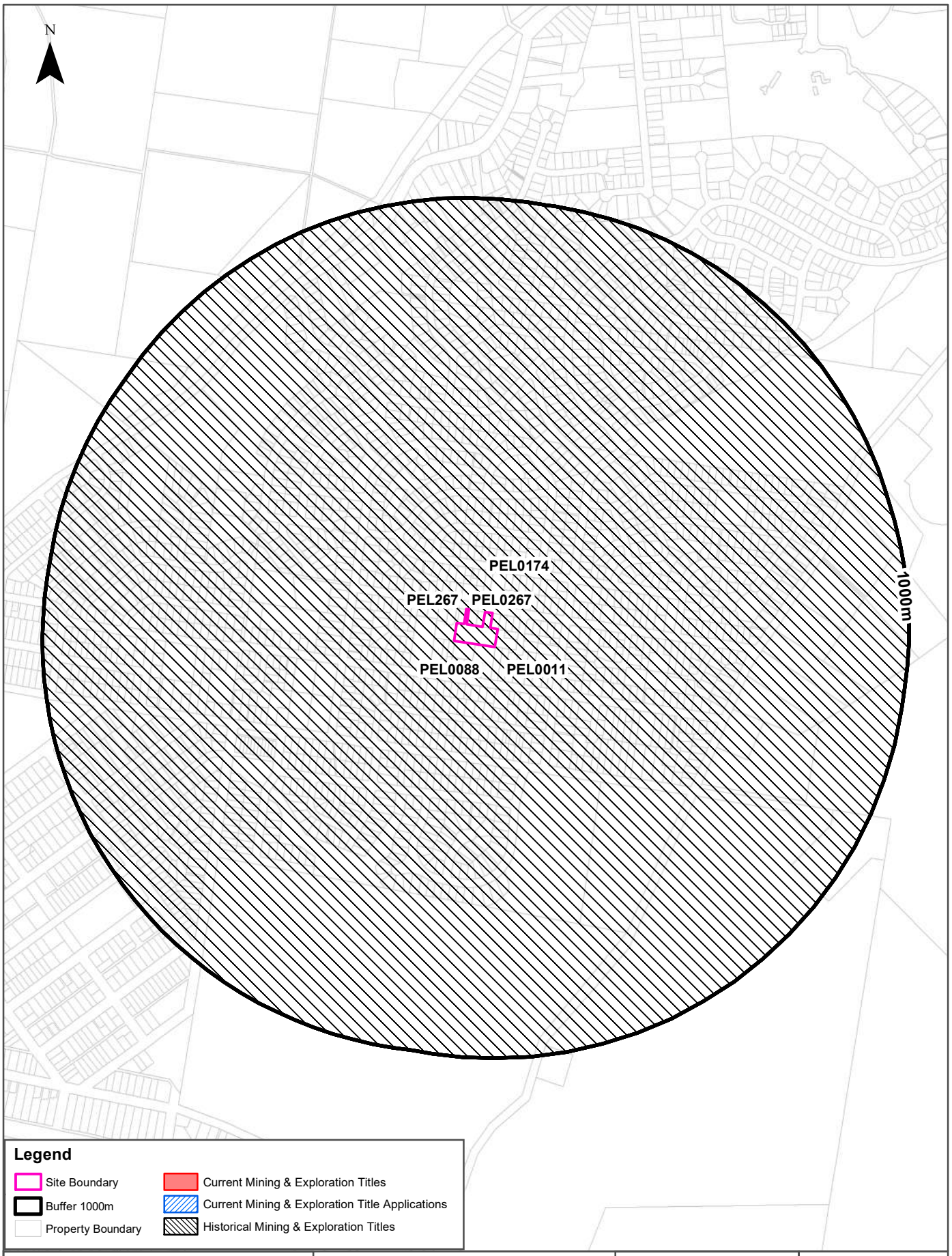

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2022

Coordinate System: GDA 1994 MGA Zone 56

Date: 17 October 2022

Mining

23a & 29 Robert Street, Tenambit, NSW 2323

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

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Historical Mining & Exploration Titles

Historical Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Start Date	End Date	Resource	Minerals	Dist	Dir
PEL0011	PLANET EXPLORATION COMPANY PTY LTD			PETROLEUM	Petroleum	0m	On-site
PEL267	AGL UPSTREAM INVESTMENTS PTY LIMITED			MINERALS		0m	On-site
PEL0174	NSW OIL AND GAS COMPANY NL			PETROLEUM	Petroleum	0m	On-site
PEL0267	SYDNEY OIL CO (NSW) PTY LTD, MANVANE PTY LTD AUSTRALIA NL, BASE RESOURCES LTD, SEAHAWK OIL AUSTRALIA NL, READING & BATES	19850801	20150607	PETROLEUM	Petroleum	0m	On-site
PEL0088	PLANET EXPLORATION COMPANY PTY LTD			PETROLEUM	Petroleum	0m	On-site

State Environmental Planning Policy

23a & 29 Robert Street, Tenambit, NSW 2323

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							

EPI Planning Zones

23a & 29 Robert Street, Tenambit, NSW 2323

Scale: 0 100 200 400 600 Meters	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2022 Planning: NSW Crown Copyright - Planning & Environment	Coordinate System: GDA 1994 MGA Zone 56	Date: 17 October 2022

Environmental Planning Instrument

23a & 29 Robert Street, Tenambit, NSW 2323

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
R1	General Residential		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		0m	On-site
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		99m	North West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		257m	North
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		266m	East
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		278m	North East
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		296m	South West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		314m	South East
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		327m	North
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		392m	South West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		433m	North West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		448m	North
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		455m	East
B1	Neighbourhood Centre		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		488m	South West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		529m	South West
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	16/07/2021	Amendment No 20	571m	East
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		576m	East
RE2	Private Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		622m	South
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		738m	West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		765m	North West
SP1	Special Activities	Cemetery	Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		847m	West
RU1	Primary Production		Maitland Local Environmental Plan 2011	25/08/2017	25/08/2017	16/07/2021	Amendment No 21	855m	North West
E2	Environmental Conservation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		856m	East
E2	Environmental Conservation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		869m	North West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		889m	West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	16/07/2021		969m	South West

Heritage

23a & 29 Robert Street, Tenambit, NSW 2323

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

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

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
N/A	No records in buffer							

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

Environmental Planning Instrument - Heritage

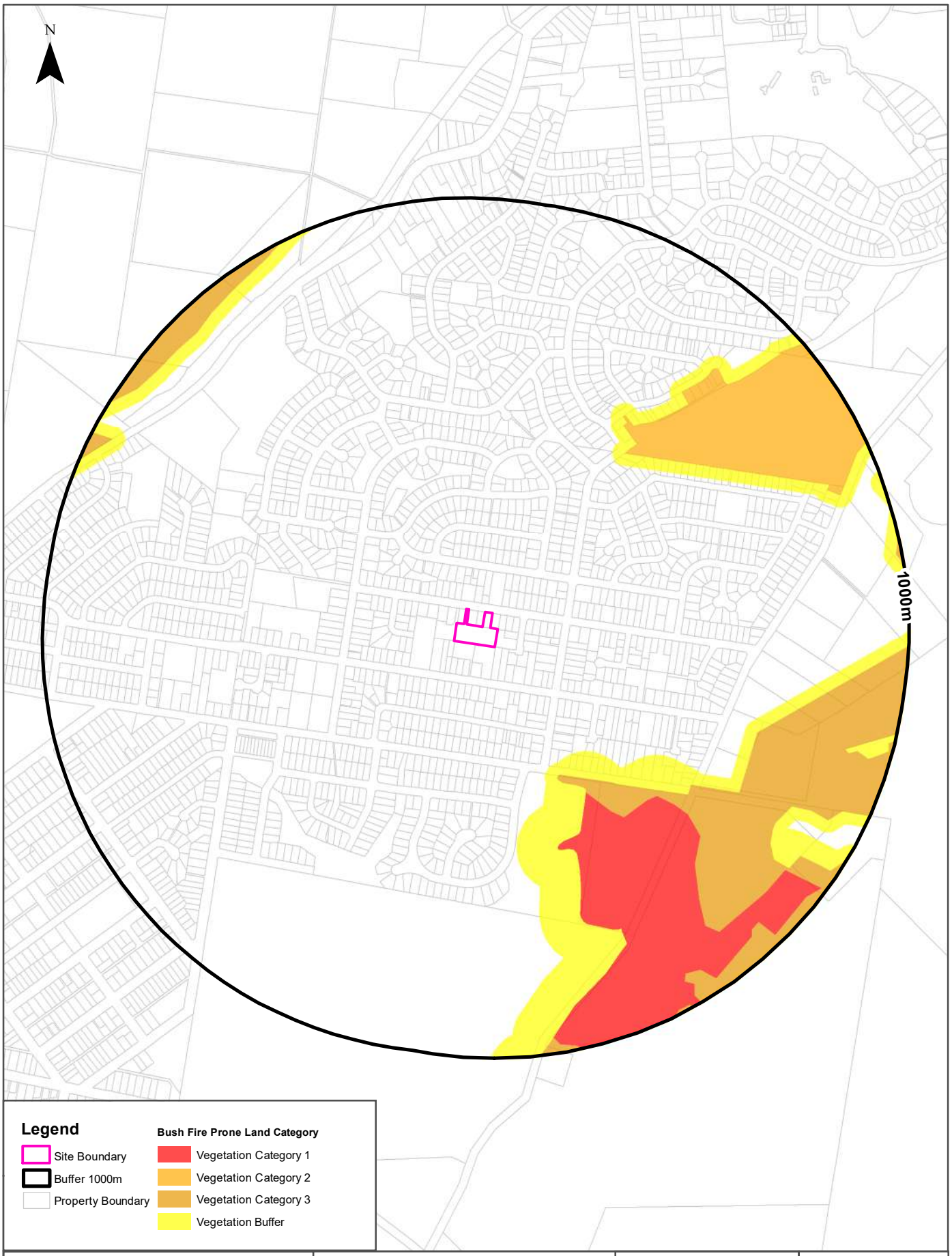
What are the EPI Heritage Items located within the dataset buffer?

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

Heritage Data Source: NSW Crown Copyright - Planning & Environment

Natural Hazards - Bush Fire Prone Land

23a & 29 Robert Street, Tenambit, NSW 2323



Data Sources: Bush Fire Prone Land: © NSW Rural Fire Service 2022. Property Boundaries: © Department Finance, Services & Innovation 2022

Coordinate System: GDA 1994 MGA Zone 56

Date: 17 October 2022

Natural Hazards

23a & 29 Robert Street, Tenambit, NSW 2323

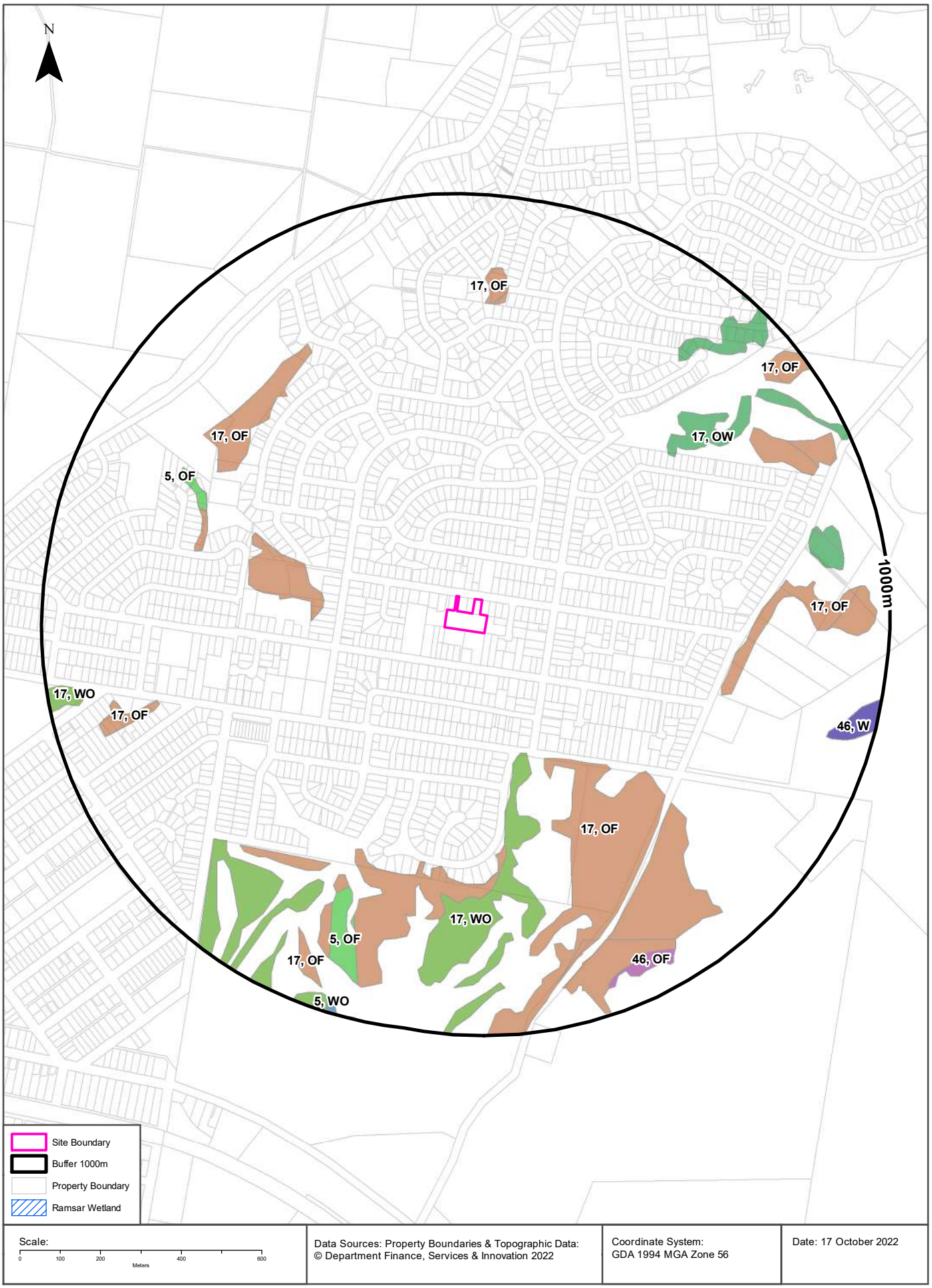
Bush Fire Prone Land

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

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	317m	South East
Vegetation Category 3	348m	South East
Vegetation Category 1	416m	South East
Vegetation Category 2	503m	North East

Ecological Constraints - Vegetation & Ramsar Wetlands

23a & 29 Robert Street, Tenambit, NSW 2323



Ecological Constraints

23a & 29 Robert Street, Tenambit, NSW 2323

Lower Hunter and Central Coast Regional Vegetation Survey

What vegetation from the Lower Hunter and Central Coast Regional Survey exists within the dataset buffer?

Map Id	Unit Desc	Canopy Code	Canopy Cover	Species	Distance	Direction
17	Lower Hunter Spotted Gum - Ironbark Forest	OF	Mid Dense (Open Forest) 50-<100% cover	C. maculata / E. fibrosa / E. punctata	307m	West
17	Lower Hunter Spotted Gum - Ironbark Forest	WO	Sparse (Woodland) 20-<50% cover	C. maculata / E. fibrosa / E. punctata	311m	South
17	Lower Hunter Spotted Gum - Ironbark Forest	OW	Very Sparse (Open Woodland) 10-20% cover	C. maculata / E. fibrosa / E. punctata	585m	North East
5	Alluvial Tall Moist Forest	OF	Mid Dense (Open Forest) 50-<100% cover	E. saligna / S. glomulifera / Glochidion ferdinandi	646m	North West
46	Freshwater Wetland Complex	W	Wetland	Ludwigia peploides subsp montevidensis / Paspalum distichum / Eleocharis sphacelata / Juncus usitatus	885m	East
46	Freshwater Wetland Complex	OF	Mid Dense (Open Forest) 50-<100% cover	Ludwigia peploides subsp montevidensis / Paspalum distichum / Eleocharis sphacelata / Juncus usitatus	889m	South East
5	Alluvial Tall Moist Forest	WO	Sparse (Woodland) 20-<50% cover	E. saligna / S. glomulifera / Glochidion ferdinandi	962m	South

Lower Hunter and Central Coast Regional Vegetation Survey: NSW Office of Environment and Heritage

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 - Groundwater Dependent Ecosystems Atlas

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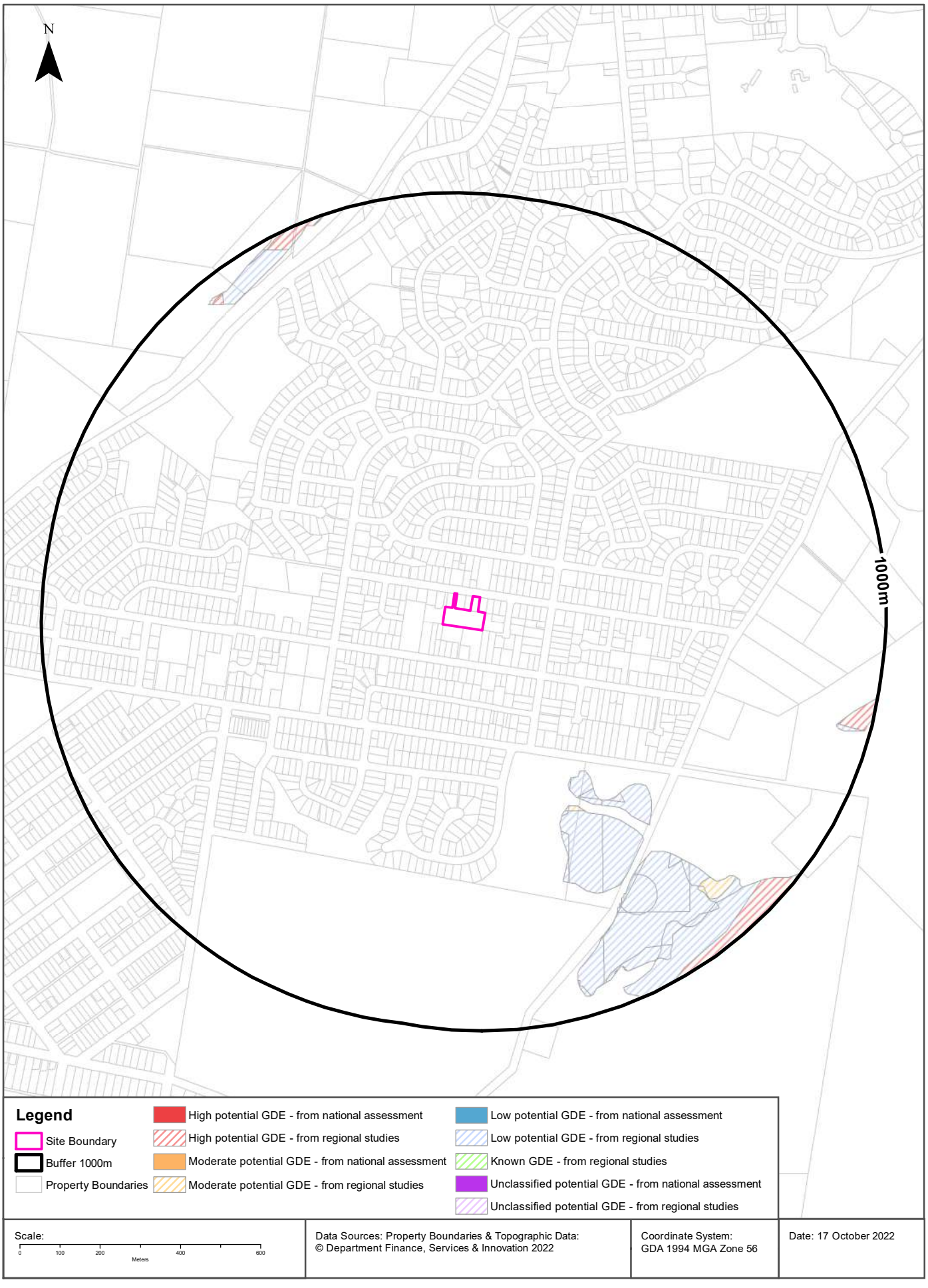

Ecological Constraints

23a & 29 Robert Street, Tenambit, NSW 2323

Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial	Low potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		426m	South East
Terrestrial	Moderate potential GDE - from regional studies	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		487m	South East
Terrestrial	Low potential GDE - from regional studies	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		495m	South East
Terrestrial	High potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		914m	East
Terrestrial	High potential GDE - from regional studies	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		924m	North West

Ecological Constraints - Inflow Dependent Ecosystems Likelihood

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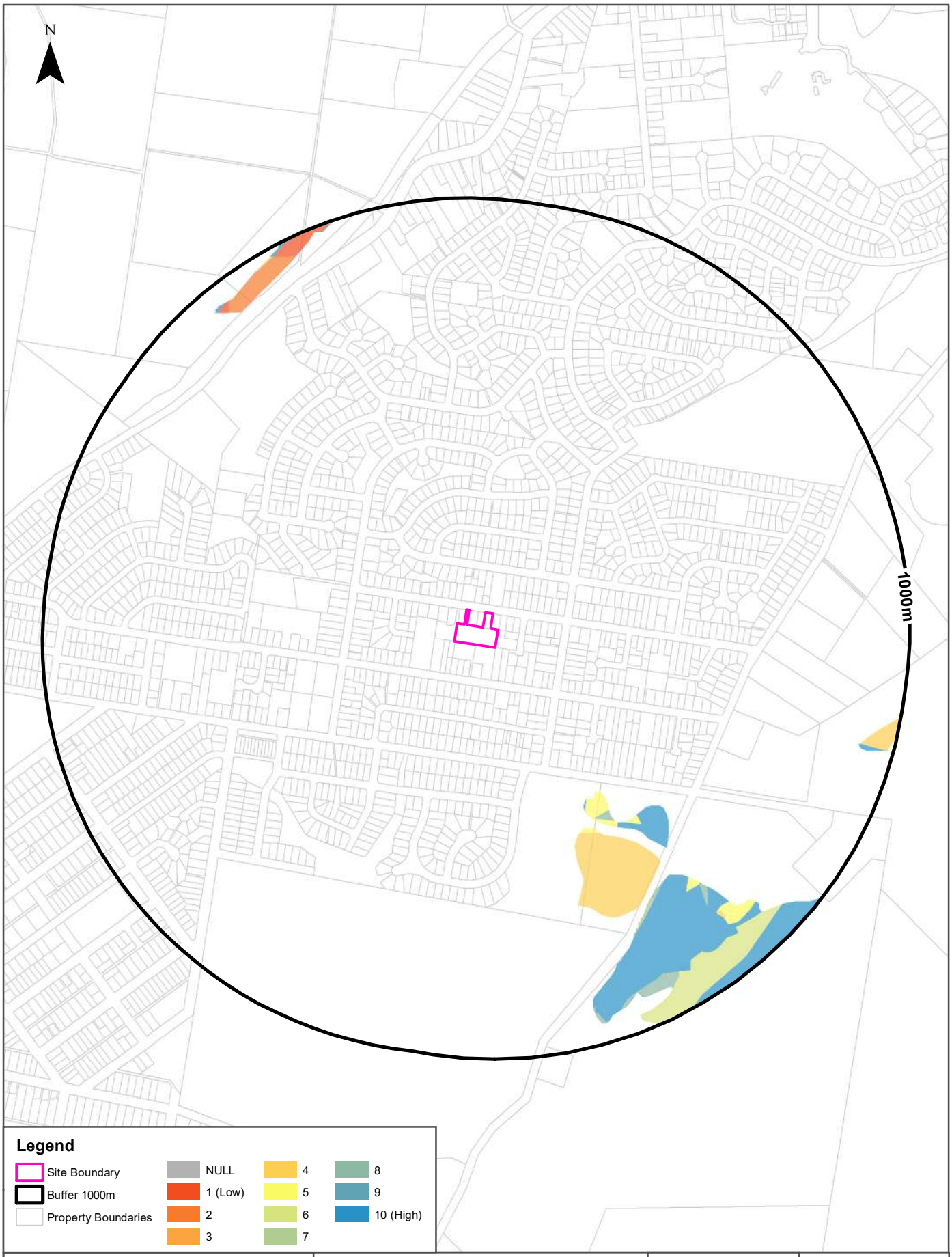

Ecological Constraints

23a & 29 Robert Street, Tenambit, NSW 2323

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial	5	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		426m	South East
Terrestrial	10	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		428m	South East
Terrestrial	8	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		479m	South East
Terrestrial	5	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		487m	South East
Terrestrial	4	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		495m	South East
Terrestrial	7	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		715m	South East
Terrestrial	6	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		892m	South East
Terrestrial	2	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		908m	North West
Terrestrial	4	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		914m	East
Terrestrial	1	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		924m	North West

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology

Ecological Constraints

23a & 29 Robert Street, Tenambit, NSW 2323

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	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Amphibia	Litoria littlejohni	Littlejohn's Tree Frog	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Ardenna pacifica	Wedge-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ardenna tenuirostris	Short-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Botaurus poiciloptilus	Australasian Bittern	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris canutus	Red Knot	Not Listed	Not Sensitive	Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris ferruginea	Curlew Sandpiper	Endangered	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris melanotos	Pectoral Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Calidris ruficollis	Red-necked Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Endangered	
Animalia	Aves	Calyptorhynchus banksii samueli	Red-tailed Black-Cockatoo (inland subspecies)	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Charadrius veredus	Oriental Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Chlidonias leucopterus	White-winged Black Tern	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Chthonicola sagittata	Speckled Warbler	Vulnerable	Not Sensitive	Not Listed	
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	Cuculus optatus	Oriental Cuckoo	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Epthianura albifrons	White-fronted Chat	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Falco subniger	Black Falcon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Gelochelidon nilotica	Gull-billed Tern	Not Listed	Not Sensitive	Not Listed	CAMBA
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	Hamirostra melanosternon	Black-breasted Buzzard	Vulnerable	Category 3	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	Hydroprogne caspia	Caspian Tern	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Irediparra gallinacea	Comb-crested Jacana	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Limosa lapponica	Bar-tailed Godwit	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Limosa limosa	Black-tailed Godwit	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Motacilla flava	Yellow Wagtail	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Neophema pulchella	Turquoise Parrot	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	Numenius madagascariensis	Eastern Curlew	Not Listed	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Numenius minutus	Little Curlew	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Numenius phaeopus	Whimbrel	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pachycephala inornata	Gilbert's Whistler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pandion cristatus	Eastern Osprey	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet 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	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pterodroma leucoptera leucoptera	Gould's Petrel	Vulnerable	Not Sensitive	Endangered	
Animalia	Aves	Ptilinopus magnificus	Wompoo Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Ptilinopus regina	Rose-crowned Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Rostratula australis	Australian Painted Snipe	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Sterna hirundo	Common Tern	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Sternula albifrons	Little Tern	Endangered	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Thalasseus bergii	Crested Tern	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Thinornis cucullatus cucullatus	Eastern Hooded Dotterel	Critically Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Tringa brevipes	Grey-tailed Tattler	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa glareola	Wood Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
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
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto tenebricosa	Sooty Owl	Vulnerable	Category 3	Not Listed	
Animalia	Mammalia	Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	Not Sensitive	Vulnerable	
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 australis	Little Bent-winged 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	Greater Glider	Not Listed	Not Sensitive	Endangered	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascogale tapoatafa	Brush-tailed Phascogale	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Vespadelus troughtoni	Eastern Cave Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Aspidites ramsayi	Woma	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Caretta caretta	Loggerhead Turtle	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Cymbidium canaliculatum	Tiger Orchid	Endangered Population	Category 2	Not Listed	
Plantae	Flora	Dillwynia tenuifolia		Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Eucalyptus camaldulensis	River Red Gum	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus glaucina	Slaty Red Gum	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus parramattensis subsp. decadens		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Maundia triglochinoides		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Pterostylis chaetophora		Vulnerable	Category 2	Not Listed	
Plantae	Flora	Rhodamnia rubescens	Scrub Turpentine	Critically Endangered	Not Sensitive	Critically Endangered	
Plantae	Flora	Rhodomyrtus psidioides	Native Guava	Critically Endangered	Not Sensitive	Critically Endangered	
Plantae	Flora	Rutidosis heterogama	Heath Wrinklewort	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Tetratheca juncea	Black-eyed Susan	Vulnerable	Not Sensitive	Vulnerable	

Data does not include NSW category 1 sensitive species.

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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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Report or these Terms;

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    (a) any indirect, incidental, consequential, special or exemplary damages arising out of or in relation to the Report or these Terms; or
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Annex E

BOREHOLE LOG REPORT

HOLE NO: BH1
FILE / JOB NO: E0007
SHEET: 1 OF 1

CLIENT: Hilton Grugeon
PROJECT: Preliminary Site Investigation
LOCATION: 23a Robert Street, Tenambit NSW

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
DRILLING METHOD: Hand Auger	CONTRACTOR:	DRILLER:
DATE LOGGED: 20/10/2022 DATE SAMPLED:	LOGGED BY: JD	CHECKED BY: JD

TESTING & SAMPLING					MATERIAL					
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
					0.2			Sandy SILT, fine to medium grained, low plasticity, brown			TOPSOIL
				ES 0.20-0.30				0.30m			
					0.4			Silty Sandy CLAY, fine to coarse grained, medium plasticity, light brown			RESIDUAL SOIL
				ES 0.40-0.50				0.50m			
					0.6			with weathered SANDSTONE inclusions, orange mottled red			
					0.8						
					1.0			1.00m			
								Terminated at 1.00 m			
					1.2						
					1.4						

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

BOREHOLE LOG REPORT

HOLE NO: BH2
FILE / JOB NO: E0007
SHEET: 1 OF 1

CLIENT: Hilton Grugeon
PROJECT: Preliminary Site Investigation
LOCATION: 23a Robert Street, Tenambit NSW

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
DRILLING METHOD: Hand Auger	CONTRACTOR:	DRILLER:
DATE LOGGED: 20/10/2022 DATE SAMPLED:	LOGGED BY: JD	CHECKED BY: JD

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
								Sandy SILT, fine to medium grained, low plasticity, brown			TOPSOIL
				ES 0.20-0.30	0.2			0.20m Gravelly Clayey SAND, medium to coarse grained, light brown, rounded gravel inclusions			RESIDUAL SOIL
					0.4			0.40m Silty Sandy CLAY, fine to coarse grained, medium plasticity, light brown			
				ES 0.70-0.80	0.6						
					0.8						
					1.0			1.00m Terminated at 1.00 m			
					1.2						
					1.4						

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

BOREHOLE LOG REPORT

HOLE NO: BH3
FILE / JOB NO: E0007
SHEET: 1 OF 1

CLIENT: Hilton Grugeon
PROJECT: Preliminary Site Investigation
LOCATION: 23a Robert Street, Tenambit NSW

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
DRILLING METHOD: Hand Auger	CONTRACTOR:	DRILLER:
DATE LOGGED: 20/10/2022 DATE SAMPLED:	LOGGED BY: JD	CHECKED BY: JD

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
				ES 0.10-0.20	0.2			Sandy SILT, fine to medium grained, low plasticity, brown			TOPSOIL
					0.30m			Silty Sandy CLAY, fine to coarse grained, medium plasticity, light brown			RESIDUAL SOIL
					0.4						
					0.50m			with weathered SANDSTONE inclusions, orange mottled red			
				ES 0.50-0.60	0.6						
					0.8						
					1.00m						
					1.0			Terminated at 1.00 m			
					1.2						
					1.4						

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

BOREHOLE LOG REPORT

HOLE NO: BH4
FILE / JOB NO: E0007
SHEET: 1 OF 1

CLIENT: Hilton Grugeon
PROJECT: Preliminary Site Investigation
LOCATION: 23a Robert Street, Tenambit NSW

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
DRILLING METHOD: Hand Auger	CONTRACTOR:	DRILLER:
DATE LOGGED: 20/10/2022 DATE SAMPLED:	LOGGED BY: JD	CHECKED BY: JD

TESTING & SAMPLING					MATERIAL					
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
				ES 0.10-0.20	0.2			Sandy SILT, fine to medium grained, low plasticity, brown			TOPSOIL
								0.30m Silty Sandy CLAY, fine to coarse grained, medium plasticity, light brown			RESIDUAL SOIL
					0.4			0.50m with weathered SANDSTONE inclusions, orange mottled red			
				ES 0.70-0.80	0.6						
					0.8						
					1.0			1.00m Terminated at 1.00 m			
					1.2						
					1.4						

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

BOREHOLE LOG REPORT

HOLE NO: BH5
FILE / JOB NO: E0007
SHEET: 1 OF 1

CLIENT: Hilton Grugeon
PROJECT: Preliminary Site Investigation
LOCATION: 23a Robert Street, Tenambit NSW

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
DRILLING METHOD: Hand Auger	CONTRACTOR:	DRILLER:
DATE LOGGED: 20/10/2022 DATE SAMPLED:	LOGGED BY: JD	CHECKED BY: JD

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
				ES 0.10-0.20	0.2			Sandy SILT, fine to medium grained, low plasticity, brown			TOPSOIL
								0.30m Silty Sandy CLAY, fine to coarse grained, medium plasticity, light brown			RESIDUAL SOIL
					0.4			0.50m with weathered SANDSTONE inclusions, orange mottled red			
				ES 0.60-0.70	0.6						
					0.8						
					1.0			1.00m Terminated at 1.00 m			
					1.2						
					1.4						

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

BOREHOLE LOG REPORT

HOLE NO: BH6
FILE / JOB NO: E0007
SHEET: 1 OF 1

CLIENT: Hilton Grugeon
PROJECT: Preliminary Site Investigation
LOCATION: 23a Robert Street, Tenambit NSW

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
DRILLING METHOD: Hand Auger	CONTRACTOR:	DRILLER:
DATE LOGGED: 20/10/2022 DATE SAMPLED:	LOGGED BY: JD	CHECKED BY: JD

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
				ES 0.10-0.20	0.2			Sandy SILT, fine to medium grained, low plasticity, brown			TOPSOIL
								0.30m Silty Sandy CLAY, fine to coarse grained, medium plasticity, light brown			RESIDUAL SOIL
				ES 0.40-0.50	0.4			0.50m with weathered SANDSTONE inclusions, orange mottled red			
					0.6						
					0.8						
					1.0			1.00m Terminated at 1.00 m			
					1.2						
					1.4						

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

HUNTER
ENVIRONMENTAL CONSULTING

Annex F

Soil Screening Criteria

	Metals								TRH NEPM (2013)							BTEX			
	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	TRH C6-C10 Fraction	TRH C6-C10 minus BTEX (F1)	TRH >C10-C16 Fraction	TRH >C10-C16 - Naphthalene (F2)	TRH >C16-C34 (F3)	TRH >C34-C40 (F4)	Napthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Limit of Reporting	1	0.3	0.5	0.5	1	0.5	2	0.05	25	25	25	25	90	120	0.1	0.1	0.1	0.1	0.3
EILs (NEPM 2013)	100				1100										170				
ESLs - Fine (NEPM 2013)										180		120	1300	5600		65	105	125	105
ESLs - Coarse (NEPM 2013)										180		120	300	2800		50	85	70	45
HIL A (NEPM 2013)	100	20	100	6000	300	400	7400	40											
HSL A - Soil Vapour Sand 0 - <1m (NEPM 2013)										45		110			3	0.5	160	55	40
HSL A - Soil Vapour Sand 1 - <2m (NEPM 2013)										70		240			NL	0.5	220	NL	60
HSL A - Soil Vapour Sand 2 - <4m (NEPM 2013)										110		440			NL	0.5	310	NL	95
HSL A - Soil Vapour Sand 4m+ (NEPM 2013)										200		NL			NL	0.5	540	NL	170
HSL A - Soil Vapour Silt 0 - <1m (NEPM 2013)										40		230			4	0.6	390	NL	95
HSL A - Soil Vapour Silt 1 - <2m (NEPM 2013)										65		NL			NL	0.7	NL	NL	210
HSL A - Soil Vapour Silt 2 - <4m (NEPM 2013)										100		NL			NL	1	NL	NL	NL
HSL A - Soil Vapour Silt 4m+ (NEPM 2013)										190		NL			NL	2	NL	NL	NL
HSL A - Soil Vapour Clay 0 - <1m (NEPM 2013)										50		280			5	0.7	480	NL	110
HSL A - Soil Vapour Clay 1 - <2m (NEPM 2013)										90		NL			NL	1	NL	NL	310
HSL A - Soil Vapour Clay 2 - <4m (NEPM 2013)										150		NL			NL	2	NL	NL	NL
HSL A - Soil Vapour Clay 4m+ (NEPM 2013)										290		NL			NL	3	NL	NL	NL
Management Limits - Fine Soil (NEPM 2013)									*800*		*1,000*		*3,500*	*10,000*					
Management Limits - Coarse Soil (NEPM 2013)									*700*		*1,000*		*2,500*	*10,000*					
HSL A - Direct Contact (CRC Care 2011)									**4,400**		**3,300**		**4,500**	**6,300**	**1,400**	**100**	**14,000**	**4,500**	**12,000**

Sample ID	Sampled Date																		
BH1 0.1-0.2	20/10/2022	**1**	<0.3	**3.4**	**4.2**	**16**	**1.5**	**93**	<0.05	<25	<25	**27**	**27**	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH1 0.5-0.6	20/10/2022	**1**	<0.3	**5.4**	**1.6**	**20**	**2.4**	**27**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH2 0.2-0.3	20/10/2022	<1	<0.3	**2.7**	**1.9**	**8**	**0.9**	**29**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH2 0.7-0.8	20/10/2022	**2**	<0.3	**20**	<0.5	**8**	**4.7**	**2.9**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH3 0.1-0.2	20/10/2022	<1	<0.3	**3.7**	**2.5**	**6**	**1.2**	**33**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH3 0.5-0.6	20/10/2022	<1	<0.3	**5.7**	**1.2**	**3**	**2.2**	**13**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH4 0.1-0.2	20/10/2022	**1**	<0.3	**7.6**	**0.8**	**5**	**3.5**	**18**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH4 0.7-0.8	20/10/2022	**2**	<0.3	**17**	<0.5	**7**	**3.6**	**3.8**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH5 0.1-0.2	20/10/2022	<1	<0.3	**5.9**	**0.9**	**5**	**2.3**	**9.8**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH5 0.6-0.7	20/10/2022	**2**	<0.3	**24**	<0.5	**8**	**4.7**	**3.0**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH6 0.1-0.2	20/10/2022	<1	<0.3	**3.5**	**3.3**	**15**	**1.9**	**59**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3
BH6 0.4-0.5	20/10/2022	**1**	<0.3	**9.0**	**0.7**	**5**	**3.8**	**15**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3

Statistical Summary																			
Number of Results	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Number of Detects	7	0	12	9	12	12	12	0	0	0	1	1	0	0	0	0	0	0	0
Minimum Detect	1	0	2.7	0.7	3	0.9	2.9	0	0	0	27	27	0	0	0	0	0	0	0
Maximum Detect	2	0	24	4.2	20	4.7	93	0	0	0	27	27	0	0	0	0	0	0	0
Average Concentration	1.42857	-	8.99167	1.9	8.83333	2.725	25.5417	-	-	-	27	27	-	-	-	-	-	-	-
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Soil Screening Criteria

	PAH						OCP														OPP	PCB
	Naphthalene	Benzo(a)pyrene	Carcinogenic PAHs, BaP TEQ <LOR=0	Carcinogenic PAHs, BaP TEQ <LOR=LOR	Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	Total PAH	Aldrin	o,p'-DDE	o,p'-DDD	o,p'-DDT	Gamma Chlordane	Alpha Chlordane	Dieldrin	Alpha Endosulfan	Beta Endosulfan	Endrin	Heptachlor	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Chlorpyrifos (Chlorpyrifos Ethyl)	Total PCBs (Arochlors)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Limit of Reporting	0.1	0.1	0.2	0.3	0.2	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	1	0.2	1
EILs (NEPM 2013)	170									180												
ESLs - Coarse/Fine (NEPM 2013)		0.7																				
HIL A (NEPM 2013)			3	3	3	300	6	240	240	240	50	50	6	270	270	10	6	10	300	20	160	1
HSL A - Direct Contact (CRC Care 2011)	**1,400**																					
Sample ID	**Sampled Date**																					
BH1 0.1-0.2	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH1 0.5-0.6	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH2 0.2-0.3	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH2 0.7-0.8	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH3 0.1-0.2	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<1	<0.2	<1
BH3 0.5-0.6	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH4 0.1-0.2	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH4 0.7-0.8	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH5 0.1-0.2	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<1	<0.2	<1
BH5 0.6-0.7	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH6 0.1-0.2	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH6 0.4-0.5	20/10/2022	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Statistical Summary																						
Number of Results	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Detect	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Detect	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Concentration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note:

(1) The NEPM presents a cumulative HIL for DDD, DDE and DDT (240 mg/kg). Concentrations for each of these compounds are presented separately above and conservatively assessed against the HIL.

(2) The NEPM presents a cumulative HIL for Aldrin and Dieldrin (6 mg/kg). Concentrations for each of these compounds are presented separately above and conservatively assessed against the HIL.

(3) The NEPM presents onee HIL for Endosulfan (270 mg/kg). Concentrations for Alpha Endosulfan and Beta Endosulfan are presented separately above and conservatively assessed against the HIL.

Soil Screening Criteria

	LOR	Unit	Primary Sample	QA Sample	RPD
			BH1 0.5-0.6	DUP	
Metals					
Arsenic	1	mg/kg	**1**	0.5	66.7
Cadmium	0.3	mg/kg	0.15	0.15	0.0
Chromium	0.5	mg/kg	**5.4**	**4.8**	11.8
Copper	0.5	mg/kg	**1.6**	**1.9**	17.1
Lead	1	mg/kg	**20**	**32**	46.2
Nickel	0.5	mg/kg	**2.4**	**1.7**	34.1
Zinc	2	mg/kg	**27**	**35**	25.8
Mercury	0.05	mg/kg	0.025	0.025	0.0

Notes

RPD = Relative Percentage Difference.

RPD assessment criteria were adopted in general accordance with NEPM Schedule B3 Section 3.5 (NEPC 2013). RPDs where both primary and duplicate results were < 2.5 times the LOR were not considered. RPDs where primary and/or duplicate results were >2.5 times the LOR were assessed based on a threshold of +/- 30%. Exceedence of this trheshold triggered consideration of associated data quality.

Water Screening Criteria

HUNTER ENVIRONMENTAL CONSULTING	LOR	RINS
Date		
Unit of Measure	mg/L	mg/L
Metals		
Arsenic	0.001	<0.001
Cadmium	0.0002	<0.0002
Chromium	0.001	<0.001
Copper	0.001	<0.001
Lead	0.001	<0.001
Nickel	0.001	<0.001
Zinc	0.005	<0.005
Mercury	0.0001	<0.0001

Annex G

Photograph 1 – 29 Robert Street Site

Photograph 2 – 23a Robert Street Site and adjacent residence

Photograph 3 – 23a Robert Street site facing northern boundary

Photograph 4 – 23a Robert Street site facing southern boundary

Photograph 5 – Residual clay with weathered rock inclusions

HUNTER
ENVIRONMENTAL CONSULTING

Annex H

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Jake Duck
Client	HUNTER ENVIRONMENTAL CONSULTING PTY LTD
Address	PO BOX 3127 THORNTON NSW 2322
Telephone	61 2 49661844
Facsimile	(Not specified)
Email	jd@hunterenviro.com.au
Project	**E0007 (Tenambit)**
Order Number	**HEC0007**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE238139 R0**
Date Received	21/10/2022
Date Reported	28/10/2022

COMMENTS

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

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head

Shane MCDERMOTT
Inorganic/Metals Chemist

Teresa NGUYEN
Organic Chemist

VOC's in Soil [AN433] Tested: 26/10/2022

PARAMETER	UOM	LOR	BH1 0.1-0.2 SOIL - 20/10/2022 SE238139.001	BH1 0.5-0.6 SOIL - 20/10/2022 SE238139.002	BH2 0.2-0.3 SOIL - 20/10/2022 SE238139.003	BH2 0.7-0.8 SOIL - 20/10/2022 SE238139.004	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH3 0.5-0.6 SOIL - 20/10/2022 SE238139.006	BH4 0.1-0.2 SOIL - 20/10/2022 SE238139.007	BH4 0.7-0.8 SOIL - 20/10/2022 SE238139.008	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009	BH5 0.6-0.7 SOIL - 20/10/2022 SE238139.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH6 0.1-0.2 SOIL - 20/10/2022 SE238139.011	BH6 0.4-0.5 SOIL - 20/10/2022 SE238139.012
Benzene	mg/kg	0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6
Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 26/10/2022

PARAMETER	UOM	LOR	BH1 0.1-0.2 SOIL - 20/10/2022 SE238139.001	BH1 0.5-0.6 SOIL - 20/10/2022 SE238139.002	BH2 0.2-0.3 SOIL - 20/10/2022 SE238139.003	BH2 0.7-0.8 SOIL - 20/10/2022 SE238139.004	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH3 0.5-0.6 SOIL - 20/10/2022 SE238139.006	BH4 0.1-0.2 SOIL - 20/10/2022 SE238139.007	BH4 0.7-0.8 SOIL - 20/10/2022 SE238139.008	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009	BH5 0.6-0.7 SOIL - 20/10/2022 SE238139.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH6 0.1-0.2 SOIL - 20/10/2022 SE238139.011	BH6 0.4-0.5 SOIL - 20/10/2022 SE238139.012
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 26/10/2022

PARAMETER	UOM	LOR	BH1 0.1-0.2 SOIL - 20/10/2022 SE238139.001	BH1 0.5-0.6 SOIL - 20/10/2022 SE238139.002	BH2 0.2-0.3 SOIL - 20/10/2022 SE238139.003	BH2 0.7-0.8 SOIL - 20/10/2022 SE238139.004	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005
TRH C10-C14	mg/kg	20	**23**	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	**56**	<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	**27**	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	**27**	<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	BH3 0.5-0.6 SOIL - 20/10/2022 SE238139.006	BH4 0.1-0.2 SOIL - 20/10/2022 SE238139.007	BH4 0.7-0.8 SOIL - 20/10/2022 SE238139.008	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009	BH5 0.6-0.7 SOIL - 20/10/2022 SE238139.010
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	BH6 0.1-0.2 SOIL - 20/10/2022 SE238139.011	BH6 0.4-0.5 SOIL - 20/10/2022 SE238139.012
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	**64**	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 26/10/2022

PARAMETER	UOM	LOR	BH1 0.1-0.2 SOIL - 20/10/2022 SE238139.001	BH1 0.5-0.6 SOIL - 20/10/2022 SE238139.002	BH2 0.2-0.3 SOIL - 20/10/2022 SE238139.003	BH2 0.7-0.8 SOIL - 20/10/2022 SE238139.004	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH3 0.5-0.6 SOIL - 20/10/2022 SE238139.006	BH4 0.1-0.2 SOIL - 20/10/2022 SE238139.007	BH4 0.7-0.8 SOIL - 20/10/2022 SE238139.008	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009	BH5 0.6-0.7 SOIL - 20/10/2022 SE238139.010
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: 26/10/2022 (continued)

PARAMETER	UOM	LOR	BH6 0.1-0.2 SOIL - 20/10/2022 SE238139.011	BH6 0.4-0.5 SOIL - 20/10/2022 SE238139.012
Naphthalene	mg/kg	0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 26/10/2022

PARAMETER	UOM	LOR	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1
trans-Nonachlor	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
Endrin	mg/kg	0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1
Mirex	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

OP Pesticides in Soil [AN420] Tested: 26/10/2022

PARAMETER	UOM	LOR	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009
Dichlorvos	mg/kg	0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 26/10/2022

PARAMETER	UOM	LOR	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009
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	<0.2	<0.2
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

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 27/10/2022

PARAMETER	UOM	LOR	BH1 0.1-0.2 SOIL - 20/10/2022 SE238139.001	BH1 0.5-0.6 SOIL - 20/10/2022 SE238139.002	BH2 0.2-0.3 SOIL - 20/10/2022 SE238139.003	BH2 0.7-0.8 SOIL - 20/10/2022 SE238139.004	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005
Arsenic, As	mg/kg	1	1	1	<1	2	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.4	5.4	2.7	20	3.7
Copper, Cu	mg/kg	0.5	4.2	1.6	1.9	<0.5	2.5
Lead, Pb	mg/kg	1	16	20	8	8	6
Nickel, Ni	mg/kg	0.5	1.5	2.4	0.9	4.7	1.2
Zinc, Zn	mg/kg	2	93	27	29	2.9	33

PARAMETER	UOM	LOR	BH3 0.5-0.6 SOIL - 20/10/2022 SE238139.006	BH4 0.1-0.2 SOIL - 20/10/2022 SE238139.007	BH4 0.7-0.8 SOIL - 20/10/2022 SE238139.008	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009	BH5 0.6-0.7 SOIL - 20/10/2022 SE238139.010
Arsenic, As	mg/kg	1	<1	1	2	<1	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	5.7	7.6	17	5.9	24
Copper, Cu	mg/kg	0.5	1.2	0.8	<0.5	0.9	<0.5
Lead, Pb	mg/kg	1	3	5	7	5	8
Nickel, Ni	mg/kg	0.5	2.2	3.5	3.6	2.3	4.7
Zinc, Zn	mg/kg	2	13	18	3.8	9.8	3.0

PARAMETER	UOM	LOR	BH6 0.1-0.2 SOIL - 20/10/2022 SE238139.011	BH6 0.4-0.5 SOIL - 20/10/2022 SE238139.012	DUP SOIL - 20/10/2022 SE238139.013
Arsenic, As	mg/kg	1	<1	1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.5	9.0	4.8
Copper, Cu	mg/kg	0.5	3.3	0.7	1.9
Lead, Pb	mg/kg	1	15	5	32
Nickel, Ni	mg/kg	0.5	1.9	3.8	1.7
Zinc, Zn	mg/kg	2	59	15	35

Mercury in Soil [AN312] Tested: 27/10/2022

PARAMETER	UOM	LOR	BH1 0.1-0.2 SOIL - 20/10/2022 SE238139.001	BH1 0.5-0.6 SOIL - 20/10/2022 SE238139.002	BH2 0.2-0.3 SOIL - 20/10/2022 SE238139.003	BH2 0.7-0.8 SOIL - 20/10/2022 SE238139.004	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH3 0.5-0.6 SOIL - 20/10/2022 SE238139.006	BH4 0.1-0.2 SOIL - 20/10/2022 SE238139.007	BH4 0.7-0.8 SOIL - 20/10/2022 SE238139.008	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009	BH5 0.6-0.7 SOIL - 20/10/2022 SE238139.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH6 0.1-0.2 SOIL - 20/10/2022 SE238139.011	BH6 0.4-0.5 SOIL - 20/10/2022 SE238139.012	DUP SOIL - 20/10/2022 SE238139.013
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 26/10/2022

PARAMETER	UOM	LOR	BH1 0.1-0.2 SOIL - 20/10/2022 SE238139.001	BH1 0.5-0.6 SOIL - 20/10/2022 SE238139.002	BH2 0.2-0.3 SOIL - 20/10/2022 SE238139.003	BH2 0.7-0.8 SOIL - 20/10/2022 SE238139.004	BH3 0.1-0.2 SOIL - 20/10/2022 SE238139.005
% Moisture	%w/w	1	15.4	13.8	14.6	16.6	13.0

PARAMETER	UOM	LOR	BH3 0.5-0.6 SOIL - 20/10/2022 SE238139.006	BH4 0.1-0.2 SOIL - 20/10/2022 SE238139.007	BH4 0.7-0.8 SOIL - 20/10/2022 SE238139.008	BH5 0.1-0.2 SOIL - 20/10/2022 SE238139.009	BH5 0.6-0.7 SOIL - 20/10/2022 SE238139.010
% Moisture	%w/w	1	13.3	20.2	15.5	15.9	15.9

PARAMETER	UOM	LOR	BH6 0.1-0.2 SOIL - 20/10/2022 SE238139.011	BH6 0.4-0.5 SOIL - 20/10/2022 SE238139.012	DUP SOIL - 20/10/2022 SE238139.013
% Moisture	%w/w	1	25.0	14.8	15.1

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 24/10/2022

PARAMETER	UOM	LOR	RINS WATER - 20/10/2022 SE238139.014
Arsenic	µg/L	1	<1
Cadmium	µg/L	0.1	<0.1
Copper	µg/L	1	<1
Chromium	µg/L	1	<1
Nickel	µg/L	1	<1
Lead	µg/L	1	<1
Zinc	µg/L	5	<5

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 24/10/2022

PARAMETER	UOM	LOR	RINS WATER - 20/10/2022 SE238139.014
Mercury	mg/L	0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid , mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser . Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique,, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting .
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

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

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

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

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

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

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

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

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

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

STATEMENT OF QA/QC PERFORMANCE

SE238139 R0

CLIENT DETAILS

Contact	Jake Duck
Client	HUNTER ENVIRONMENTAL CONSULTING PTY LTD
Address	PO BOX 3127 THORNTON NSW 2322
Telephone	61 2 49661844
Facsimile	(Not specified)
Email	jd@hunterenviro.com.au
Project	**E0007 (Tenambit)**
Order Number	**HEC0007**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE238139 R0**
Date Received	21 Oct 2022
Date Reported	28 Oct 2022

COMMENTS

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

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

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

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

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	13 Soil, 1 Water
Date documentation received	21/10/2022	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	20.9C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE238139 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

Mercury (dissolved) in Water — Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINS	SE238139.014	LB261601	20 Oct 2022	21 Oct 2022	17 Nov 2022	24 Oct 2022	17 Nov 2022	26 Oct 2022

Mercury in Soil — Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.1-0.2	SE238139.001	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH4 0.1-0.2	SE238139.007	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH6 0.1-0.2	SE238139.011	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022
DUP	SE238139.013	LB262096	20 Oct 2022	21 Oct 2022	17 Nov 2022	27 Oct 2022	17 Nov 2022	28 Oct 2022

Moisture Content — Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.1-0.2	SE238139.001	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH4 0.1-0.2	SE238139.007	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH6 0.1-0.2	SE238139.011	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022
DUP	SE238139.013	LB261982	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	31 Oct 2022	28 Oct 2022

OC Pesticides in Soil — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.1-0.2	SE238139.001	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH4 0.1-0.2	SE238139.007	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH6 0.1-0.2	SE238139.011	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022

OP Pesticides in Soil — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.1-0.2	SE238139.001	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH4 0.1-0.2	SE238139.007	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022

HOLDING TIME SUMMARY

SE238139 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

OP Pesticides in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6 0.1-0.2	SE238139.011	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.1-0.2	SE238139.001	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH4 0.1-0.2	SE238139.007	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH6 0.1-0.2	SE238139.011	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.1-0.2	SE238139.001	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH4 0.1-0.2	SE238139.007	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH6 0.1-0.2	SE238139.011	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022

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 0.1-0.2	SE238139.001	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH4 0.1-0.2	SE238139.007	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH6 0.1-0.2	SE238139.011	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022
DUP	SE238139.013	LB262092	20 Oct 2022	21 Oct 2022	18 Apr 2023	27 Oct 2022	18 Apr 2023	28 Oct 2022

Trace Metals (Dissolved) in Water by ICPMS

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINS	SE238139.014	LB261622	20 Oct 2022	21 Oct 2022	18 Apr 2023	24 Oct 2022	18 Apr 2023	25 Oct 2022

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 0.1-0.2	SE238139.001	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022

HOLDING TIME SUMMARY

SE238139 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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH4 0.1-0.2	SE238139.007	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH6 0.1-0.2	SE238139.011	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB261970	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	05 Dec 2022	28 Oct 2022

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.1-0.2	SE238139.001	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH4 0.1-0.2	SE238139.007	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH6 0.1-0.2	SE238139.011	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022

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 0.1-0.2	SE238139.001	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH1 0.5-0.6	SE238139.002	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH2 0.2-0.3	SE238139.003	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH2 0.7-0.8	SE238139.004	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH3 0.1-0.2	SE238139.005	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH3 0.5-0.6	SE238139.006	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH4 0.1-0.2	SE238139.007	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH4 0.7-0.8	SE238139.008	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH5 0.1-0.2	SE238139.009	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH5 0.6-0.7	SE238139.010	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH6 0.1-0.2	SE238139.011	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022
BH6 0.4-0.5	SE238139.012	LB261973	20 Oct 2022	21 Oct 2022	03 Nov 2022	26 Oct 2022	03 Nov 2022	28 Oct 2022

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

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

OC Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH3 0.1-0.2	SE238139.005	%	60 - 130%	103
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	101

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH3 0.1-0.2	SE238139.005	%	60 - 130%	97
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	108
d14-p-terphenyl (Surrogate)	BH3 0.1-0.2	SE238139.005	%	60 - 130%	105
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	116

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1 0.1-0.2	SE238139.001	%	70 - 130%	95
	BH1 0.5-0.6	SE238139.002	%	70 - 130%	92
	BH2 0.2-0.3	SE238139.003	%	70 - 130%	94
	BH2 0.7-0.8	SE238139.004	%	70 - 130%	90
	BH3 0.1-0.2	SE238139.005	%	70 - 130%	97
	BH3 0.5-0.6	SE238139.006	%	70 - 130%	88
	BH4 0.1-0.2	SE238139.007	%	70 - 130%	94
	BH4 0.7-0.8	SE238139.008	%	70 - 130%	88
	BH5 0.1-0.2	SE238139.009	%	70 - 130%	108
	BH5 0.6-0.7	SE238139.010	%	70 - 130%	91
	BH6 0.1-0.2	SE238139.011	%	70 - 130%	92
	BH6 0.4-0.5	SE238139.012	%	70 - 130%	90
d14-p-terphenyl (Surrogate)	BH1 0.1-0.2	SE238139.001	%	70 - 130%	102
	BH1 0.5-0.6	SE238139.002	%	70 - 130%	102
	BH2 0.2-0.3	SE238139.003	%	70 - 130%	103
	BH2 0.7-0.8	SE238139.004	%	70 - 130%	102
	BH3 0.1-0.2	SE238139.005	%	70 - 130%	105
	BH3 0.5-0.6	SE238139.006	%	70 - 130%	97
	BH4 0.1-0.2	SE238139.007	%	70 - 130%	104
	BH4 0.7-0.8	SE238139.008	%	70 - 130%	101
	BH5 0.1-0.2	SE238139.009	%	70 - 130%	116
	BH5 0.6-0.7	SE238139.010	%	70 - 130%	101
	BH6 0.1-0.2	SE238139.011	%	70 - 130%	101
	BH6 0.4-0.5	SE238139.012	%	70 - 130%	102
d5-nitrobenzene (Surrogate)	BH1 0.1-0.2	SE238139.001	%	70 - 130%	108
	BH1 0.5-0.6	SE238139.002	%	70 - 130%	105
	BH2 0.2-0.3	SE238139.003	%	70 - 130%	105
	BH2 0.7-0.8	SE238139.004	%	70 - 130%	106
	BH3 0.1-0.2	SE238139.005	%	70 - 130%	107
	BH3 0.5-0.6	SE238139.006	%	70 - 130%	97
	BH4 0.1-0.2	SE238139.007	%	70 - 130%	108
	BH4 0.7-0.8	SE238139.008	%	70 - 130%	98
	BH5 0.1-0.2	SE238139.009	%	70 - 130%	120
	BH5 0.6-0.7	SE238139.010	%	70 - 130%	104
	BH6 0.1-0.2	SE238139.011	%	70 - 130%	103
	BH6 0.4-0.5	SE238139.012	%	70 - 130%	104

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH3 0.1-0.2	SE238139.005	%	60 - 130%	103
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	101

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1 0.1-0.2	SE238139.001	%	60 - 130%	64
	BH1 0.5-0.6	SE238139.002	%	60 - 130%	76
	BH2 0.2-0.3	SE238139.003	%	60 - 130%	83
	BH2 0.7-0.8	SE238139.004	%	60 - 130%	81
	BH3 0.1-0.2	SE238139.005	%	60 - 130%	89
	BH3 0.5-0.6	SE238139.006	%	60 - 130%	83

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

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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH4 0.1-0.2	SE238139.007	%	60 - 130%	74
	BH4 0.7-0.8	SE238139.008	%	60 - 130%	73
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	84
	BH5 0.6-0.7	SE238139.010	%	60 - 130%	84
	BH6 0.1-0.2	SE238139.011	%	60 - 130%	75
	BH6 0.4-0.5	SE238139.012	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	BH1 0.1-0.2	SE238139.001	%	60 - 130%	74
	BH1 0.5-0.6	SE238139.002	%	60 - 130%	84
	BH2 0.2-0.3	SE238139.003	%	60 - 130%	87
	BH2 0.7-0.8	SE238139.004	%	60 - 130%	89
	BH3 0.1-0.2	SE238139.005	%	60 - 130%	100
	BH3 0.5-0.6	SE238139.006	%	60 - 130%	92
	BH4 0.1-0.2	SE238139.007	%	60 - 130%	83
	BH4 0.7-0.8	SE238139.008	%	60 - 130%	71
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	86
	BH5 0.6-0.7	SE238139.010	%	60 - 130%	91
	BH6 0.1-0.2	SE238139.011	%	60 - 130%	85
	BH6 0.4-0.5	SE238139.012	%	60 - 130%	93
d8-toluene (Surrogate)	BH1 0.1-0.2	SE238139.001	%	60 - 130%	72
	BH1 0.5-0.6	SE238139.002	%	60 - 130%	81
	BH2 0.2-0.3	SE238139.003	%	60 - 130%	84
	BH2 0.7-0.8	SE238139.004	%	60 - 130%	85
	BH3 0.1-0.2	SE238139.005	%	60 - 130%	95
	BH3 0.5-0.6	SE238139.006	%	60 - 130%	89
	BH4 0.1-0.2	SE238139.007	%	60 - 130%	81
	BH4 0.7-0.8	SE238139.008	%	60 - 130%	69
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	80
	BH5 0.6-0.7	SE238139.010	%	60 - 130%	89
	BH6 0.1-0.2	SE238139.011	%	60 - 130%	82
	BH6 0.4-0.5	SE238139.012	%	60 - 130%	91

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1 0.1-0.2	SE238139.001	%	60 - 130%	64
	BH1 0.5-0.6	SE238139.002	%	60 - 130%	76
	BH2 0.2-0.3	SE238139.003	%	60 - 130%	83
	BH2 0.7-0.8	SE238139.004	%	60 - 130%	81
	BH3 0.1-0.2	SE238139.005	%	60 - 130%	89
	BH3 0.5-0.6	SE238139.006	%	60 - 130%	83
	BH4 0.1-0.2	SE238139.007	%	60 - 130%	74
	BH4 0.7-0.8	SE238139.008	%	60 - 130%	73
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	84
	BH5 0.6-0.7	SE238139.010	%	60 - 130%	84
	BH6 0.1-0.2	SE238139.011	%	60 - 130%	75
	BH6 0.4-0.5	SE238139.012	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	BH1 0.1-0.2	SE238139.001	%	60 - 130%	74
	BH1 0.5-0.6	SE238139.002	%	60 - 130%	84
	BH2 0.2-0.3	SE238139.003	%	60 - 130%	87
	BH2 0.7-0.8	SE238139.004	%	60 - 130%	89
	BH3 0.1-0.2	SE238139.005	%	60 - 130%	100
	BH3 0.5-0.6	SE238139.006	%	60 - 130%	92
	BH4 0.1-0.2	SE238139.007	%	60 - 130%	83
	BH4 0.7-0.8	SE238139.008	%	60 - 130%	71
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	86
	BH5 0.6-0.7	SE238139.010	%	60 - 130%	91
	BH6 0.1-0.2	SE238139.011	%	60 - 130%	85
	BH6 0.4-0.5	SE238139.012	%	60 - 130%	93
d8-toluene (Surrogate)	BH1 0.1-0.2	SE238139.001	%	60 - 130%	72
	BH1 0.5-0.6	SE238139.002	%	60 - 130%	81
	BH2 0.2-0.3	SE238139.003	%	60 - 130%	84
	BH2 0.7-0.8	SE238139.004	%	60 - 130%	85

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

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

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH3 0.1-0.2	SE238139.005	%	60 - 130%	95
	BH3 0.5-0.6	SE238139.006	%	60 - 130%	89
	BH4 0.1-0.2	SE238139.007	%	60 - 130%	81
	BH4 0.7-0.8	SE238139.008	%	60 - 130%	69
	BH5 0.1-0.2	SE238139.009	%	60 - 130%	80
	BH5 0.6-0.7	SE238139.010	%	60 - 130%	89
	BH6 0.1-0.2	SE238139.011	%	60 - 130%	82
	BH6 0.4-0.5	SE238139.012	%	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 (dissolved) in Water

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

Sample Number	Parameter	Units	LOR	Result
LB261601.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB262096.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB261970.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	102

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB261970.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	95
		d14-p-terphenyl (Surrogate)	%	-	103

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB261970.001	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

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
LB261970.001		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	108
		2-fluorobiphenyl (Surrogate)	%	-	95
		d14-p-terphenyl (Surrogate)	%	-	103

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB261970.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	102

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

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

Sample Number	Parameter	Units	LOR	Result
LB262092.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

Trace Metals (Dissolved) in Water by ICPMS

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

Sample Number	Parameter	Units	LOR	Result
LB261622.001	Arsenic	µg/L	1	<1
	Cadmium	µg/L	0.1	<0.1
	Chromium	µg/L	1	<1
	Copper	µg/L	1	<1
	Lead	µg/L	1	<1
	Nickel	µg/L	1	<1
	Zinc	µg/L	5	<5
LB261622.025	Arsenic	µg/L	1	<1
	Cadmium	µg/L	0.1	<0.1
	Chromium	µg/L	1	<1
	Copper	µg/L	1	<1
	Lead	µg/L	1	<1
	Nickel	µg/L	1	<1
	Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB261970.001	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

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

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

Sample Number		Parameter	Units	LOR	Result
LB261973.001	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)	%	-	97
		d8-toluene (Surrogate)	%	-	100
		Bromofluorobenzene (Surrogate)	%	-	93
	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
LB261973.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	97

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

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

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

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

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

Mercury (dissolved) in Water

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238163.009	LB261601.022	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	77

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.010	LB262096.014	Mercury	mg/kg	0.05	<0.05	0.06	139	21
SE238203.006	LB262096.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.007	LB261982.022	% Moisture	%w/w	1	20.2	20.5	35	1
SE238139.013	LB261982.029	% Moisture	%w/w	1	15.1	15.9	36	5
SE238149.010	LB261982.011	% Moisture	%w/w	1	14.9	15.9	37	6

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.009	LB261970.037		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.18	30	14
SE238149.010	LB261970.014		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0

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

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

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

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

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

OC Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238149.010	LB261970.014		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.18	0.18	30	1

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.009	LB261970.037		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	15
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	12
SE238149.010	LB261970.014		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.009	LB261970.037	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

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

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

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

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.009	LB261970.037		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	mg/kg	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	30	14
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	15
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	12
SE238149.010	LB261970.014		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
			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	mg/kg	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.009	LB261970.037		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
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	14
SE238149.010	LB261970.014		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

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

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

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

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

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

PCBs in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238149.010	LB261970.014		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	1

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.010	LB262092.014	Arsenic, As	mg/kg	1	2	1	94	9
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	24	24	32	3
		Copper, Cu	mg/kg	0.5	<0.5	<0.5	200	0
		Nickel, Ni	mg/kg	0.5	4.7	5.0	40	6
		Lead, Pb	mg/kg	1	8	8	42	1
		Zinc, Zn	mg/kg	2	3.0	2.9	97	1
SE238203.006	LB262092.024	Arsenic, As	mg/kg	1	2	2	83	37
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	5.2	5.7	39	9
		Copper, Cu	mg/kg	0.5	<0.5	<0.5	200	0
		Nickel, Ni	mg/kg	0.5	<0.5	<0.5	138	0
		Lead, Pb	mg/kg	1	5	6	48	20
		Zinc, Zn	mg/kg	2	2.6	2.6	107	1

Trace Metals (Dissolved) in Water by ICPMS

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238129.010	LB261622.014	Arsenic	µg/L	1	<1	<1	132	0
		Cadmium	µg/L	0.1	<0.1	<0.1	200	0
		Chromium	µg/L	1	<1	<1	200	0
		Copper	µg/L	1	2	2	59	4
		Lead	µg/L	1	<1	<1	200	0
		Nickel	µg/L	1	1	1	85	1
		Zinc	µg/L	5	<5	<5	200	0
SE238163.009	LB261622.029	Arsenic	µg/L	1	<1	<1	200	0
		Cadmium	µg/L	0.1	<0.1	<0.1	200	0
		Chromium	µg/L	1	<1	<1	200	0
		Copper	µg/L	1	<1	<1	200	0
		Lead	µg/L	1	<1	<1	200	0
		Nickel	µg/L	1	<1	<1	200	0
		Zinc	µg/L	5	<5	<5	200	0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.012	LB261970.035		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
SE238149.010	LB261970.014		TRH C10-C14	mg/kg	20	25	<20	123	22
			TRH C15-C28	mg/kg	45	59	54	110	9
			TRH C29-C36	mg/kg	45	63	64	101	2
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	150	120	113	22
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	34	25	115	31
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	34	25	115	31
			TRH >C16-C34 (F3)	mg/kg	90	95	93	126	2
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

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

Original	Duplicate	Parameter	Units	LOR

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

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

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

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

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

VOC's in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.007	LB261973.037	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Hydrocarbons	Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.3	9.1	50	9
			d8-toluene (Surrogate)	mg/kg	-	8.1	8.9	50	10
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.4	8.3	50	11
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE238139.012	LB261973.035	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Hydrocarbons	Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	9.1	50	2
			d8-toluene (Surrogate)	mg/kg	-	9.1	8.8	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	8.0	50	4
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE238149.010	LB261973.015	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Hydrocarbons	Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	9.1	50	1
			d8-toluene (Surrogate)	mg/kg	-	9.2	9.0	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	7.8	50	5
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE238139.007	LB261973.037		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	-	8.3	9.1	30	9
			d8-toluene (Surrogate)	mg/kg	-	8.1	8.9	30	10
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.4	8.3	30	11
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE238139.012	LB261973.035		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	9.1	30	2
			d8-toluene (Surrogate)	mg/kg	-	9.1	8.8	30	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.4	8.0	30	4
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE238149.010	LB261973.015		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	9.1	30	1
			d8-toluene (Surrogate)	mg/kg	-	9.2	9.0	30	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.2	7.8	30	5
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB262096.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	102

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB261970.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	80
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	86
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	82
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	83
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	77
		p,p'-DDT	mg/kg	0.1	0.1	0.2	60 - 140	61
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	92

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB261970.002		Dichlorvos	mg/kg	0.5	1.3	2	60 - 140	67
		Diazinon (Dimpylate)	mg/kg	0.5	1.7	2	60 - 140	87
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	85
		Ethion	mg/kg	0.2	1.7	2	60 - 140	84
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	99

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB261970.002		Naphthalene	mg/kg	0.1	4.2	4	60 - 140	106
		Acenaphthylene	mg/kg	0.1	4.1	4	60 - 140	103
		Acenaphthene	mg/kg	0.1	4.1	4	60 - 140	102
		Phenanthrene	mg/kg	0.1	3.9	4	60 - 140	98
		Anthracene	mg/kg	0.1	3.8	4	60 - 140	94
		Fluoranthene	mg/kg	0.1	3.7	4	60 - 140	92
		Pyrene	mg/kg	0.1	4.3	4	60 - 140	108
		Benzo(a)pyrene	mg/kg	0.1	3.9	4	60 - 140	96
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	109
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	99

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB261970.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	115

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 %
LB262092.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	111
	Cadmium, Cd	mg/kg	0.3	4.0	4.81	70 - 130	83
	Chromium, Cr	mg/kg	0.5	41	38.31	80 - 120	106
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	112
	Nickel, Ni	mg/kg	0.5	200	187	80 - 120	106
	Lead, Pb	mg/kg	1	100	89.9	80 - 120	112
	Zinc, Zn	mg/kg	2	290	273	80 - 120	107

Trace Metals (Dissolved) in Water by ICPMS

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB261622.002	Arsenic	µg/L	1	21	20	80 - 120	103
	Cadmium	µg/L	0.1	22	20	80 - 120	108
	Chromium	µg/L	1	22	20	80 - 120	109
	Copper	µg/L	1	21	20	80 - 120	107
	Lead	µg/L	1	20	20	80 - 120	98
	Nickel	µg/L	1	21	20	80 - 120	104
	Zinc	µg/L	5	21	20	80 - 120	107
LB261622.026	Arsenic	µg/L	1	20	20	80 - 120	102
	Cadmium	µg/L	0.1	22	20	80 - 120	108

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.

Trace Metals (Dissolved) in Water by ICPMS (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB261622.026		Chromium	µg/L	1	21	20	80 - 120	107
		Copper	µg/L	1	21	20	80 - 120	105
		Lead	µg/L	1	20	20	80 - 120	99
		Nickel	µg/L	1	21	20	80 - 120	105
		Zinc	µg/L	5	21	20	80 - 120	104

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB261970.002		TRH C10-C14	mg/kg	20	49	40	60 - 140	123
		TRH C15-C28	mg/kg	45	50	40	60 - 140	125
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	108
	TRH F Bands	TRH >C10-C16	mg/kg	25	50	40	60 - 140	125
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	118
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	110

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB261973.002	Monocyclic	Benzene	mg/kg	0.1	4.7	5	60 - 140	94
	Aromatic	Toluene	mg/kg	0.1	4.5	5	60 - 140	89
	Hydrocarbons	Ethylbenzene	mg/kg	0.1	4.8	5	60 - 140	95
		m/p-xylene	mg/kg	0.2	9.2	10	60 - 140	92
		o-xylene	mg/kg	0.1	4.9	5	60 - 140	98
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.4	10	70 - 130	104
		d8-toluene (Surrogate)	mg/kg	-	10.0	10	70 - 130	100
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	10	70 - 130	87

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB261973.002		TRH C6-C10	mg/kg	25	68	92.5	60 - 140	73
		TRH C6-C9	mg/kg	20	59	80	60 - 140	74
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.4	10	70 - 130	104
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	10	70 - 130	87
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	40	62.5	60 - 140	64

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

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

Mercury (dissolved) in Water

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238139.014	LB261601.004	Mercury	mg/L	0.0001	0.0021	<0.0001	0.008	107

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238139.001	LB262096.004	Mercury	mg/kg	0.05	0.24	<0.05	0.2	112

OC Pesticides in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238149.001	LB261970.004	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0.000384069	-	-
		Alpha BHC	mg/kg	0.1	<0.1	0	-	-
		Lindane	mg/kg	0.1	<0.1	0.000451788	-	-
		Heptachlor	mg/kg	0.1	0.2	0	0.2	124
		Aldrin	mg/kg	0.1	0.3	0	0.2	131
		Beta BHC	mg/kg	0.1	<0.1	0.001192856	-	-
		Delta BHC	mg/kg	0.1	0.3	0.001044356	0.2	125
		Heptachlor epoxide	mg/kg	0.1	<0.1	0	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	0	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	0	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	0	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	0	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	0	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	0	-	-
		Dieldrin	mg/kg	0.2	0.2	0	0.2	123
		Endrin	mg/kg	0.2	0.2	0.000329295	0.2	115
		o,p'-DDD	mg/kg	0.1	<0.1	0.015826306	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	0	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	0	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	0	-	-
		p,p'-DDT	mg/kg	0.1	0.1	0	0.2	60
		Endosulfan sulphate	mg/kg	0.1	<0.1	0.000916697	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	0.000822912	-	-
		Methoxychlor	mg/kg	0.1	<0.1	0.002145874	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	0.012409612	-	-
		Isodrin	mg/kg	0.1	<0.1	0.001954724	-	-
		Mirex	mg/kg	0.1	<0.1	0	-	-
		Total CLP OC Pesticides	mg/kg	1	1	0	-	-
		Total OC VIC EPA	mg/kg	1	1	0	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.11	0.185947856	-	73

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238149.001	LB261970.004	Naphthalene	mg/kg	0.1	4.2	0.000386929	4	106
		2-methylnaphthalene	mg/kg	0.1	<0.1	0.000112427	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	0.000216982	-	-
		Acenaphthylene	mg/kg	0.1	4.2	0.001264697	4	104
		Acenaphthene	mg/kg	0.1	4.1	0	4	104
		Fluorene	mg/kg	0.1	<0.1	0.000626336	-	-
		Phenanthrene	mg/kg	0.1	4.0	0.004624176	4	99
		Anthracene	mg/kg	0.1	3.9	0.000944624	4	97
		Fluoranthene	mg/kg	0.1	3.7	0.001809866	4	93
		Pyrene	mg/kg	0.1	4.4	0.002277946	4	111
		Benzo(a)anthracene	mg/kg	0.1	<0.1	0.007039709	-	-
		Chrysene	mg/kg	0.1	<0.1	0.001234666	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.001702948	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.001754109	-	-
		Benzo(a)pyrene	mg/kg	0.1	3.9	0.001370231	4	98
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.000639178	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	-	-

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238149.001	LB261970.004		Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.000638755	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	3.9	0	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.0	0.242	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.0	0.121	-	-
			Total PAH (18)	mg/kg	0.8	32	0	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.530945482	-	107
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.465717752	-	96
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.504224595	-	98

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238149.001	LB261970.004		Arochlor 1016	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1248	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1260	mg/kg	0.2	0.5	0	0.4	125
			Arochlor 1262	mg/kg	0.2	<0.2	0	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	0	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1	0	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.185947856	-	73

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%
SE238139.001	LB262092.004	Arsenic, As	mg/kg	1	49	1	50	95
		Cadmium, Cd	mg/kg	0.3	47	<0.3	50	94
		Chromium, Cr	mg/kg	0.5	51	3.4	50	96
		Copper, Cu	mg/kg	0.5	52	4.2	50	95
		Nickel, Ni	mg/kg	0.5	49	1.5	50	95
		Lead, Pb	mg/kg	1	60	16	50	88
		Zinc, Zn	mg/kg	2	120	93	50	52 ⑤

Trace Metals (Dissolved) in Water by ICPMS

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238129.001	LB261622.004	Arsenic	µg/L	1	24	0.694	20	114
		Cadmium	µg/L	0.1	21	0.006	20	106
		Chromium	µg/L	1	22	0.374	20	109
		Copper	µg/L	1	23	2.325	20	103
		Lead	µg/L	1	19	0.185	20	96
		Nickel	µg/L	1	22	1.568	20	101
		Zinc	µg/L	5	23	2.54	20	103

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238149.001	LB261970.004		TRH C10-C14	mg/kg	20	51	0	40	128
			TRH C15-C28	mg/kg	45	51	0	40	128
			TRH C29-C36	mg/kg	45	47	0	40	118
			TRH C37-C40	mg/kg	100	<100	0	-	-
			TRH C10-C36 Total	mg/kg	110	150	0	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	51	0	40	128
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	51	0	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	40	130
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238149.001	LB261973.004	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	3.1	0.030689706	5	62
			Toluene	mg/kg	0.1	3.1	0.013532086	5	63
			Ethylbenzene	mg/kg	0.1	3.5	0.011635185	5	69
			m/p-xylene	mg/kg	0.2	6.8	0.029692786	10	68
			o-xylene	mg/kg	0.1	3.6	0.016558474	5	72

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

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

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238149.001	LB261973.004	Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	0.002209776	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.7	10.7332	10	87
			d8-toluene (Surrogate)	mg/kg	-	8.3	11.0299	10	83
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.3	10.0916	10	73
		Totals	Total Xylenes	mg/kg	0.3	10	0.046251260	-	-
			Total BTEX	mg/kg	0.6	20	0	-	-

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE238149.001	LB261973.004		TRH C6-C10	mg/kg	25	65	0.367510952	92.5	69
			TRH C6-C9	mg/kg	20	59	0.216979903	80	73
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.7	10.7332	10	87
			d8-toluene (Surrogate)	mg/kg	-	8.3	11.0299	10	83
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.3	10.0916	-	73
		VPH F	Benzene (F0)	mg/kg	0.1	3.1	0.030689706	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	44	0.367510952	62.5	70

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

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

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

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

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

QC Sample	Sample Number	Parameter	Units	LOR

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.

CHAIN OF CUSTODY & ANALYSIS REQUEST

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

Company Name:	Hunter Civilab	Project Name/No:	E0007 (Tenambit) HEC0007
Address:	3/62 Sandringham Avenue Thornton 2322	Purchase Order No:	
		Results Required By:	STD
		Telephone:	0499 151 225 / 0499 160 449 / 0427 496 618
Contact Name:	Malcolm Adrien	Facsimile:	
		Email Results:	ma@huntercivilab.com.au; jd@huntercivilab.com.au; jgr@huntercivilab.com.au

SGS EHS Sydney COC
SE238139

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL10	CL17	CL2
BH1 0.1-0.2	20/10	1		X		1	X		
BH1 0.5-0.6		2					X		
BH2 0.2-0.3		3					X		
BH2 0.7-0.8		4					X		
BH3 0.1-0.2		5						X	
BH3 0.5-0.6		6					X		
BH4 0.1-0.2		7					X		
BH4 0.7-0.8		8					X		
BH5 0.1-0.2		9						X	
BH5 0.6-0.7		10					X		

Relinquished By:	Date/Time: 20/10/2022	Received By:	Date/Time 21/10/22 10:20
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments:		

CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 2 of 2

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Company Name:	Hunter Civilab	Project Name/No:	E0007 (Tenambit) HEC0007
Address:	3/62 Sandringham Avenue Thornton 2322	Purchase Order No:	
		Results Required By:	STD.
		Telephone:	0499 151 225 / 0499 160 449 / 0427 496 618
Contact Name:	Malcolm Adrien	Facsimile:	
		Email Results:	ma@huntercivilab.com.au; jd@huntercivilab.com.au; jgr@huntercivilab.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL10	CL17	CL2
BH6 0.1-0.2	20/10	11		X		-	X		
BH6 0.4-0.5	↓	12		↓		↓	X		
DUP		13							X
RINS	↓	14		↓		↓			X

Relinquished By:	Date/Time: 20/10/2022	Received By:	Date/Time
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments:		