Preliminary Site Investigation

56 Hilldowns Road, Kalkite, NSW

Prepared for Cardno (ACT/NSW) Pty Ltd

8 December 2021

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REVISIONS

Revision	Date	Description	Prepared	Approved
R00	7/12/2021	Draft for Review	LB	KL
R01	8/12/2021	Final	LB	CG

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Executive Summary

Lanterra Consulting Pty Ltd (Lanterra) was engaged by Cardno (ACT/NSW) Pty Ltd to complete a phase 1 preliminary site investigation (PSI) Lot 190 DP756727 and Lot 5 DP529579, Kalkite, NSW (herein referred to as the Site) located at 56 Hilldowns Road, Kalkite NSW.

The site is zoned RU1 – Primary Production under the Snowy River Local Environment Management Plan 2013 and has an estimated area of 798,500 square metres (m^2). The site is currently a rural property with a homestead and hay shed and historical shearing shed.

A masterplan for the site has been prepared which proposes a possible mixed residential and community space development. The objective of the PSI was to assess the potential risk of contamination across the site that may affect its suitability for development of the site in accordance with the masterplan.

One (AEC) was identified in the vicinity of the shearing shed based on the storage of chemicals. The COPCs assessed were as follows:

- Total recoverable hydrocarbons (TRH)
- Benzene, toluene, ethylbenzene, xylene (BTEX)
- Polycyclic aromatic hydrocarbons (PAH)
- Polychlorinated biphenyls (PCBs)
- Phenols
- Organochlorine pesticides/organophosphorus pesticides (OCP/OPPs)
- Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc)
- Asbestos

Results of samples collected from around the shearing shed identified traces of dieldrin and DDT below the adopted National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended in 2013) health-based investigation levels for standard residential use (HIL A) criteria.

The concentration of zinc was recorded at a maximum concentration of 1,300 mg/kg from around the base of the shearing shed, which exceeds the ecological investigation level (EIL) criterion, but was below the HIL A value. The source of the zinc was attributed to the galvanised metal sheeting used in the shed construction. Based on the similar construction of the hay shed, it is possible that the soil around the perimeter of the hay shed may also contain elevated concentrations of zinc and sampling of the soil beneath the hay shed will be required after the shed is demolished.

Overall, the majority of the site is suitable for the proposed large lot residential with a neighbourhood centre and community space. Remedial works to remove zinc impacted soil from around the shearing shed and possibly around the hay shed will be required should the site be redeveloped. After the demolition of these structures, validation of the underling soil will be required.

Based on the results of this investigation, Lanterra recommends the following:

- After the shearing and hay sheds have been demolished, validation sampling of the soil beneath the sheds should be completed to assess whether the soil is suitable for the proposed land uses.

- The tyres located in the central portion of the site are to be removed and disposed to a suitably licensed landfill.
- An unexpected finds protocol (UFP) to manage any unexpected occurrences of contamination should they be encountered during development of the site (including building demolition) should be prepared prior to any earthworks commencing.

1. Introduction

Lanterra Consulting Pty Ltd (Lanterra) has been engaged by Cardno (ACT/NSW) Pty Ltd (Cardno) to complete a phase 1 preliminary site investigation (PSI) Lot 190 DP756727 and Lot 5 DP529579, Kalkite, NSW (herein referred to as the Site) located at 56 Hilldowns Road, Kalkite NSW. **Figure 1, Appendix A** shows the location of the site.

The site is zoned RU1 – Primary Production under the Snowy River Local Environment Management Plan 2013 and has an estimated area of 798,500 square metres (m^2). The site is currently a rural property with a homestead and hay shed and historical shearing shed. A detailed site plan is shown on **Figure 2, Appendix A**.

A masterplan for the site has been prepared which proposes a possible mixed residential and community space development. Based on the plans provided, the western section of the site, which is adjacent to the shoreline of Lake Jindabyne may be the location of a neighbourhood centre / community space, while large lot housing may be located in the eastern sections of the site. **Figure 3, Appendix A** shows the proposed land uses outlined in the Master Plan.

This PSI has been completed to assess the site for activities that may introduce contaminants in the environment and assess whether the site may be suitable for the proposed uses.

The location and layout of the site is illustrated on **Figure 1** and **Figure 2, Appendix A**.

1.1 Objectives

The objective of the PSI was to assess the potential risk of contamination across the site that may affect its suitability for development of the site in accordance with the masterplan.

1.2 Scope of Work

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

- Perform a site visit to characterise the property setting, including inspection of the site surface for obvious and visible signs of potential contamination and / or contaminant sources.
- A visual evaluation of surrounding land uses to identify any neighbouring activities which may have affected or present a potential risk to the environmental quality of the site.
- An evaluation of aerial photographs to assist in assessing historical land uses and conditions on and adjacent to the site.
- Review the results of an NSW EPA contaminated sites register to assess whether there are any known contaminating activities either on the site or on neighbouring properties.
- Review of Council's Section 10.7 planning certificate.
- A review of a historical title search.
- A review of the environmental setting with regards to geology, topography, hydrology, and hydrogeology.
- Undertake the collection of near surface samples from around the historical shearing shed.
- Undertake soil analysis at a National Associated of Testing Authorities (NATA) accredited laboratory for the analyses of contaminants of potential concern (COPCs) identified by Lanterra.

- Assess laboratory results obtained from the investigation against the applicable land use criteria.
- Prepare an investigation report presenting:
    - The results of the investigation.
    - Recommendation if further investigation and/or remediation is required.

1.3 Regulatory Guidelines / Legislations

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

- *Department of Urban Affairs and Planning (1998) Managing Land Contamination Planning Guidelines SEPP 55 – Remediation of Land*
- *National Environmental Protection Council (NEPC) (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended April 2013)*
- *NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme (3rd Ed.) (2017)*
- *NSW EPA (1995) Sampling Design Guidelines (1995)*
- *NSW EPA (2020) Contaminated Land Guidelines - Consultants Reporting on Contaminated Land*
- *Standards Australia (2005). Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds AS4482.1 (2005) and Part 2: Volatile substances, AS4482.2 (2005).*

1.4 Limitations

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

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

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

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

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

2. Site Characteristics

2.1 Site Location

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

Table 1: *Summary of Site Details*

Site Characteristics	Detail
Street Address	56 Hilldowns Road, Kalkite, NSW
Approximate Easting and Northing (centre of the site) (GDA94 / MGA zone 55)	Easting: 646859 Northing: 5976590
Approximate Elevation (m AHD)	920 – 1,160 m
Lot and DP	Lot 190 DP756727 Lot 5 DP529579
Land Zoning	RU1 – Primary Production
Current Land Use	Rural Residential
Proposed Land Use	Large Lot Residential and Community Use
Site Area	798,500 m^2

2.2 Site Description

The site is a rural property located approximately 200 m to the south of the township of Kalkite.

The following description is based on observations made during a site visit conducted on Monday 4 November 2021 by a suitably qualified environmental scientist from Lanterra:

- The site is a rural property with a residential dwelling and shed, a former shearing shed and hay storage shed. Lake Jindabyne was located to the west of the site and at the time of the site inspection, cattle were located in the western paddock. An old abandoned car was located on the crest of a hill located in the western section of the site.
- The shearing shed and hay shed are both constructed with timber and galvanised metal sheeting.
- The western section of the site comprised of lower hills that was predominantly grassland with some sporadic trees, while the eastern section of the site comprised of steeper slopes and more native vegetation. Overall, the topography of the site slopes from east to west becoming steeper towards the east. Surface water from the site would flow into drainage channels and then into Lake Jindabyne.
- Kalkite Road passes through the central portion of the site on two (2) occasions as the road winds down to the township of Kalkite. Access to the residential building was via Hilldowns Road which is an unsealed road from Kalkite Road leading to the driveway of residential building located on the western side of the road.
- The former shearing shed is located approximately 20 m to the west of the residential building. The shearing shed is currently used for the storage of equipment and chemicals (pesticides). A 200 L steel drum labelled with Dow epoxy resin was located beneath a ramp on the western side of the shed. No evidence of any sheep dip in the vicinity of the shed

were observed. Around the shed are some stockpiles of materials including steel drums, fencing wire and a gate.

- The residential property was in good condition, while the adjacent shed was used for the storage of equipment and was also in good condition. No evidence of leaks or spills of chemicals or fuels were noted. The surrounds of the residential building were well maintained and no visual or olfactory indicators of contamination were noted.
- The hay shed was located on the eastern side of Hilldowns Road and at the time of the site visit, had one piece of machinery and a 1,000 litre (L) container. The floor of the hayshed was unsealed, however no visual or olfactory indicators of contamination were noted.
- In the eastern section of the site, a dam had been constructed within a drainage channel where a pump was located. An old windmill was also lying on the ground adjacent to the dam.
- To the east of the dam was an excavated hole that was approximately 10m long by 10 m wide and 3 m deep. The purpose of the excavation was not known.
- A pile of discarded tyres were located in the central portion of the site.
- Indications of spot spraying with herbicides for weed control was evidence adjacent to Hilldowns Road.

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

2.3 Surrounding Land Uses

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

- **North:** Immediately adjacent to the site boundary is vacant Crown land, while the town of Kalkite is located approximately 200 m north of the site boundary.
- **South:** Rural properties are located to the south of the site, while Lake Jindabyne is approximately 300 m to the south.
- **East:** Rural residential properties are adjacent to the site.
- **West:** Lake Jindabyne is located to the west of the site.

2.4 Sensitive Environments

The following sensitive environment receptors were identified:

- Lake Jindabyne located to the west is used primarily for recreational use.
- Residential properties of Kalkite are located approximately 200 m to the north of the site boundary.

2.5 Proposed Land Use

It is understood that the masterplan for the site includes the development of large lot residential properties in the eastern sections and a neighbourhood centre and community space to the west.

As the configuration of the site is not known, it has been assumed that standard residential dwellings could be placed anywhere on the site.

3. Site History

3.1 Previous Investigations

No previous environmental investigations were made available to Lanterra for review.

3.2 Zoning

The site is currently zoned as RU1: Primary Production under the Snowy River Local Environment Plan 2013, and encompasses the following associated objectives:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To promote tourism, educational and recreational development and living opportunities that are compatible with agricultural activities and the environmental, historical and cultural values of the zone.
- To ensure that development maintains and protects the scenic values and rural landscape characteristics of the zone through compatible, small-scale development.

3.3 Land Title Search

A land title search for the lot was lodged as part of the Lotsearch report (Section 3.4).

The results of this search show that the site have changed owners several times since 1920. A summary of the land titles is presented in Table 2 below.

Table 2: *Summary of Land Title Search for Lot 5 DP529579 and Lot 190 DP756727*

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
01.01.1920 (1920 to 1950)	John Harvey (Deceased 13.08.1929) (And his deceased estate)	Crown Tenure Conditional Purchase 1871/70 Cooma
03.08.1950 (1950 to 1967)	Richard Harvey (Labourer) (Transmission Application not investigated)	Crown Tenure Conditional Purchase 1871/70 Cooma Now Volume 6321 Folio 97 (Crown Grant)
19.04.1967 (1967 to 1997)	John Thomas Harvey (Grazier) Richard Vivian Harvey (Grazier) (Section 94 Application not investigated)	Volume 6321 Folio 97 Then Volume 10841 Folio 79 Now 5/529579
26.05.1997 (1997 to 2003)	John Thomas Harvey (Transmission Application)	5/529579
12.11.2003 (2003 to 2004)	Laurel Lynette Roberson Coral Lee Constance (Transmission Application)	5/529579
27.05.2004 (2004 to Date)	# John Sacco Enterprises Pty Limited	5/529579

Land Title search documents are shown in **Appendix E.**

3.4 Aerial and Historical Photograph Review

A Lotsearch (Environmental Risk Report) was requested to assist with the history of the site and its surroundings which included historical aerial photographs of the site. These were reviewed to assist with assessing the history of the site. A summary of each photograph examined as a part of the investigation is provided in Table 3 below. A copy of the Lotsearch Report is presented in **Appendix G**.

Table 3: *Details of the Review of Aerial Photographs*

Date	Description of the Subject Site	Description of Surrounding Land
1968	The residential building, shearing shed and hay storage sheds, are visible in the western section of the site. Both the eastern and western portions of the site has sporadic tree coverage. Kalkite Road passess through the site and appears to be unsealed. Hilldowns Road is present and also unsealed.	The area surrounding appears to be rural properties. The township of Kalkite is not visible. The properties adjacent to the northeast and south east boundaries are heavily vegetated. The water level in Lake Jindabyne appears to be low, although it is noted that the Jindabyne Dam was completed in 1967 and the lake has not yet reached capacity.
1979	No discernible differences to the site are apparent with the exception that more trees appear to have been removed.	Development of Kalkite appears to have commenced with new roads being constructed. No residential dwellings are visible. Lake Jindabyne appears to be full.
1988	No discernible differences to the site are apparent.	Residential dwellings of Kalkite are visible to the north. The Kalkite sewage treatment plant is also visible to the north of the site. The adjacent property to the north appears to have a new vehicular track that loops around the property. Kalkite Road appears to have been sealed.
1992	There is no discernible difference across the majority of the site. In the western section, some small building are visible to the north of the shearing shed.	There are no discernible differences to the surrounding properties.
1998	There is no discernible difference across the majority of the site.	There are no discernible differences to the surrounding properties.
2011	The small buildings/structure that were observed in the previous photographs are no longer present. The new shed adjacent to the residential building is present.	More residential dwellings are visible in Kalkite.
2015	No discernible differences to the site are apparent with the exception of new trees located around the residential building.	There are no discernible differences to the surrounding properties.

Date	Description of the Subject Site	Description of Surrounding Land
2018	No discernible differences to the site are apparent.	There are no discernible differences to the surrounding properties.
2020	No discernible differences to the site are apparent.	There are no discernible differences to the surrounding properties.

The site and its surroundings had been established in the earliest photograph reviewed taken 1968. The township of Kalkite appears to have been first established circa 1979.

The site has not changed significantly from 1968 to 2020.

3.5 Historical Business Directories

A historical business directories search of the site is provided as part of the Lotsearch Environmental Risk report (**Appendix G**).

This search showed no records of potentially hazardous activities have been performed within the site or within a 500 m radius of the site.

3.6 EPA Contaminated Land Search

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

- The site is not listed under the NSW EPA contaminated site notification list.
- No records of sites on the NSW EPA contaminated land list were located within a 500 m radius of the site.

3.7 Council Planning Certificates

A Section 10.7 (2) and (5) planning certificate for the site was obtained from Queanbeyan-Palerang Regional Council to review the planning instruments and development control plan that apply to the site (see **Appendix F**). A summary of the review of the planning certificate associated are as follows:

- As of the date of the Section 10.7 certificate, Council has no records to indicate that the site is potentially contaminated.
- In addition, Council has not been made aware of the land being subject to the following:
  - land declared to be significantly contaminated land;
  - land subject to a management order;
  - land subject of an approved voluntary management proposal;
  - land subject to an ongoing maintenance order; or
  - subject of a site audit statement.
- Council is not aware of any residential dwelling erectedon this land which has been identified in the Loose-Fill Asbestos Insulation Register as containing loose fillasbestos ceiling insulation. Contact NSW Fair Trading iffurther information is required.

3.8 Heritage Items

No heritage listed items are located within the site, however, several items are observed in its surroundings.

The closest is Lake Jindabyne to the west of the site.

A copy of these records is presented in the Lotsearch report in **Appendix G**.

3.9 SafeWork Dangerous Goods Search

A search of the SafeWork NSW dangerous good storage and hazardous chemicals was not undertaken for the site.

3.10 Storage Tanks

No evidence of fuel storage tanks was observed.

3.11 Waste Management & Liquid Fuel Facilities

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

3.12 Chemical Storage

Other than small quantities of pesticides stored in the shearing shed, there was no evidence of chemical storage on the site, based on the site visit on 1 November 2021.

3.13 Manufacturing Processes

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

3.14 Discharges to Land, Water and Air

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

4. Site Condition and Environmental Setting

4.1 Topography

The digital topographic map presented in **Appendix G** indicates that the site has an elevation of approximately 920-1060 m above Australian Height Datum (m AHD).

The site is undulating, although the regional topography slopes from east to west. The site is steepest to the east with gentle undulations in the western section of the site to the shore of Lake Jindabyne.

4.2 Visible Signs of Contamination

No obvious indicators of chemical contamination were noted during the site visit on 4 November 2021. A pile of tyres was observed in the central portion of the site (see **Figure 2**). These should be disposed to a facility licensed to accept tyre waste.

4.3 Fill Material

No evidence of filling on the site was observed during the site visit on 4 November 2021

4.4 Odours

There were no olfactory indicators of possible contamination during the site walkover.

4.5 Staining

There was no evidence of hydrocarbon staining on the site during the site visit on 4 November 2021

4.6 Vegetation

No vegetation stress was observed across the site. Several trees were observed in healthy conditions within the site and its surroundings.

4.7 Hazardous Materials

No evidence of hazardous materials were noted during the site visit. It is noted that this investigation did not include a hazardous materials assessment of the buildings on the site.

5. Geology and Hydrogeology

5.1 Geology

Based on information provided by the NSW Department of Industry, Resources and Energy 1:250,000 Geology Map, the site is underlain by the following Silurian aged geological units:

- Gaden Tonalite in the western section of the site which comprises of hornblende and biotite tonalite.
- Bullenbalong Granodiorite in the eastern section of the site which comprises of biotite rich granite.

The two geological units are separated by a north-south fault.

5.2 Hydrogeology

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

This search indicated that there are twelve (12) groundwater boreholes registered with the Bureau of Meteorology within 2,000 m of the site. The nearest of these boreholes is located approximately 261 m to the east of the site. (See **Appendix G**).

Based on information provided in the Lotsearch report (**Appendix G**) sourced from the Commonwealth of Australia (Geoscience Australia) Hydrogeology Map of Australia, groundwater beneath the site is hosted by fractured or fissured, extensive aquifers of low to moderate productivity.

Based on the standing water levels of boreholes located at a similar altitude, groundwater is expected to be found between 10 – 20 m below ground level (bgl). Based on the general topography of the site groundwater flow direction is inferred to be in an overall westerly direction towards Lake Jindabyne.

5.3 Hydrology

Surface water on the site is expected to follow the topographic contours of the site and flow from east to west and into Lake Jindabyne.

5.4 Acid Sulfate Soil Risk

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

6. Preliminary Conceptual Site Model

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

The following conceptual site model has been prepared based on the information presented in the Lotsearch Report, document searches and observations made during the site visit on 4 November 2021.

6.1 Areas of Environmental Concern

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

AEC 1 – Former Shearing Shed

The storage of chemicals in the shearing shed has the potential to impact the soil beneath and around the shed, including in the area around the drum labelled epoxy resin.

There was no evidence of a sheep dip in the vicinity of the shearing shed and therefore any impact to the soil would be confined to the vicinity of the shed and near the surface.

6.2 Contaminants of Potential Concern

To comprehensively characterise the site and based on some of the activities associated with the site and its surroundings and respective AEC the following contaminants of potential concern (COPC) were identified.

Table 4: *Identified COPC and the associated AECs*

AECs	COPC
Shearing Shed	• Total recoverable hydrocarbons (TRH) • Benzene, toluene, ethylbenzene, xylene (BTEX) • Polycyclic aromatic hydrocarbons (PAH) • Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc) • Organochlorine and organophosphate pesticides (OCP/OPP) • Asbestos

6.3 Exposure Pathways and Receptors

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

- On-site workers associated with the future use of the site.
- Current users of the site.
- Future construction workers engaged as part as the development.
- Future users of the development.
- Ecological receptors including Lake Jindabyne to the west.
- Groundwater.

Common pathways for which contaminants may migrate through the environment on the site and result in exposure to receptors are summarised in Table 5 below.

Table 5: *Summary of Exposure Pathways*

Pathway	Contaminants of Concern	Exposure Pathway Complete or Potentially Complete (Yes/No)	Comments
Direct Contact with Soil including dermal contact and ingestion	TRH, BTEX, PAH, Heavy Metals, OCP, OPP	Potentially Complete	Should the soil beneath and around the shearing shed be impacted, then there is potential that current and future users of the site, construction workers and fauna may have direct contact to the impacted soil.
Direct Contact with Groundwater including dermal contact and ingestion	TRH, BTEX, PAH, Heavy metals, OCP, OPP	Incomplete	No abstraction bores are located on or near the site and therefore exposure to groundwater is unlikely. Therefore, the pathway is incomplete. Furthermore, based on the volume of contaminants stored in the shearing shed, the risk to groundwater is considered negligible.
Inhalation of Asbestos Fibres	Asbestos	Potentially Complete	No evidence of asbestos containing materials were present in the vicinity of the shearing shed. However, due to the history of the shearing shed, it is possible that asbestos containing materials have been stored and/or used in the shed.
Inhalation of gasses and vapour	TRH, BTEX, PAH	Incomplete	The storage of volatile compounds at volumes that may pose a vapour risk

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

6.4 Frequency of Potential Exposure to Contaminants

The site is unoccupied and the frequency of potential exposure to contaminants is limited. Any occupants that visit the shearing would only do so for short periods of time, that is prolonged time on the site such as regular business hours (e.g., 8 hours per day, 5 days per week) is highly unlikely and therefore, based on this the potential exposure risk is low.

7. Assessment Criteria

The assessment criteria that would be adopted for the investigation is based on the current zoning of the site and the proposed residential development which is considered a sensitive land use. Therefore, the criteria adopted from the 'National Environment Protection (Assessment of Site Contamination) Measure 1999' as amended in 2013 (ASC NEPM 2013) is HIL A residential land use.

7.1 Land Use Soil Assessment Criteria

The following soil assessment criteria have been adopted from the ASC NEPM 2013:

- Health Investigation Levels for Residential Sites (HIL A) - residential with garden accessible soil.
- Health Screening Levels for Residential Sites (HSL A) for vapour intrusion screening – low to high density residential based on sand lithology at 0-1m depth (most conservative soil and depth criteria).
- Ecological Investigation Levels (EIL) for aged contaminants Urban Residential and Public Open Space.
- Ecological Screening Levels (ESL) for Urban Residential and Public Open Space based on fine texture.
- EIL criteria was derived based on conservative physicochemical properties for pH, cation exchange capacity (CEC) and clay content. The values used for determining the EILs are summarised in **Table 6** below (**Table 1, Appendix B**).
- Health Based Investigation Levels for Residential Sites for asbestos where:
    - 0.01 %w/wt asbestos for ACM
    - 0.001 %w/wt asbestos for asbestos fines (AF) and fibrous asbestos (FA).

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

Table 6: Physicochemical values used in this investigation

Physicochemical Property	Unit	Sample LC32 0.5-0.6
pH	pH Unit	5.5
CEC	meq / 100g	5.5
Clay content	% w / w	10

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

The criteria are presented in **Table 7** below.

Table 7: *Soil Assessment Criteria*

Contaminant Group	HIL/HSL – A (mg/kg)	EIL – Urban Residential and Public Open Space (mg/kg)	ESL-Urban Residential and Public Open Space (mg/kg)
Heavy Metals			
Arsenic	100	100	-
Cadmium	20	-	-
Chromium (III)	100	410	-
Copper	6,000	120	-
Lead	300	1,100	-
Nickel	400	45	-
Zinc	7,400	270	-
Mercury	40	-	-
TRH and BTEX			
TRH C_6-C_{10} – BTEX (F1)	45	-	180
TRH >C_{10}-C_{16} – Naphthalene (F2)	110	-	120
TRH >C_{16}-C_{34} (F3)	-	-	300
TRH >C_{34}-C_{40} (F4)	-	-	2800
Benzene	0.5	-	50
Toluene	160	-	85
Ethylbenzene	55	-	70
Xylenes	40	-	105
OCP/OPP			
Heptachlor		-	-
Aldrin			
Endosulfan			
Chlordane			
Dieldrin			
Endrin			

Contaminant Group	HIL/HSL – A (mg/kg)	EIL – Urban Residential and Public Open Space (mg/kg)	ESL-Urban Residential and Public Open Space (mg/kg)
DDT+DDE+DDD	180		
Methoxychlor	300		
Mirex	10		
Chlorpyrifos	160		
Phenols			
Phenol	3000	-	-
Total Cresol	400		
Pentachlorophenol	100		
PAHs			
Total PAH	300	-	-
Benzo(a)pyrene	-	-	0.7
Carcinogenic PAHs as B(a)P TEQ	3	-	-
Naphthalene	3	170	-
PCBs			
Total PCBs	1	-	-
Asbestos			
Bonded ACM	0.01%	-	-
FA and AF (friable asbestos)	0.001%	-	-
All forms of asbestos	Not visible at surface	-	-

8. Sampling, Analysis and Quality Plan

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

9.1 Chronology of Events

The chronology of key project events is summarised in **Table 8** below:

Table 8: *Summary of the Chronology of Works*

Date	Event
04 November 2021	Site visit and sample collection
16 November 2021	Receipt of Sample Results
8 December 2021	Issue of PSI report to the client.

9.2 Sampling Plan

Two (2) soil sample locations were selected from around the shearing shed. The first sample was collected adjacent to the 200 L drum located beneath the ramp on the western side of the shearing shed, while the second sample was located adjacent to the southwestern corner of the shed. It was inferred that any contaminants from beneath the shed would migrate to the south-western corner of the building.

The soil sampling locations are presented in **Figure 4, Appendix A.**

9.3 Analytical Plan

From the samples collected across the site, the analytical plan presented in **Table 9** was executed to assess the identified COPCs.

Table 9: *Analytical plan for the investigation*

Sample Type	TRH	BTEX	PAH	OCP/OPP	Phenols	PCBs	Heavy Metals	Asbestos
Primary	2	2	2	2	2	2	2	2
Duplicate (QA/QC)	1	1	1	1	1	1	1	0
Triplicate (QA/QC)	0	0	0	0	0	0	0	0

9. Methods

A suitably qualified environmental scientist was mobilised to the site with appropriate equipment to undertake the soil investigation required. Methodology as below:

- Samples were collected close to the surface from 0.0 m to 0.3 m bgl with the aid of a shovel.
- Single-use disposable nitrile gloves were used to extract the samples from each sampling location to prevent cross-contamination.
- Samples were collected directly from the shovel.
- Samples were placed in a laboratory prepared 250 millilitre (mL) glass jar with a Teflon lined screw top lid and zip lock bags for asbestos analysis. Details of the sample, including project number, sample number, sample depth and date of the sample were written on each sample container.
- Each soil sample was described in general accordance with the Unified Soil Classification System (USCS) and details of any discolouration, staining, odours or other indicators of contamination noted.
- Each sample was field screened with a PID for volatile organic compounds (VOCs).
- Samples were immediately placed and stored in an ice-filled esky to keep them chilled. Samples were transported to a NATA accredited laboratory with the signed chain of custody (COC) form with the required analysis (**Appendix C**).

10. Quality Assurance / Quality Control (QA / QC)

11.1 Field Quality Assurance / Quality Control

Field duplicate and field triplicate samples were collected for calculating the relative percent difference (RPD) and assess the precision and accuracy of the laboratory. An RPD of less than 50% is considered acceptable where the analyte concentration is greater than five (5) times the laboratory LOR. Should the RPD be greater than 50%, then further investigation as to the reason for high RPD would occur.

The duplicate sample (QC1) was collected with primary sample LC1.

The calculated RPDs of the duplicate sample for detectable concentrations of COPCs was less than 50% for all analytes excepting copper with and RPD of 51%. This exceedance is attributed to sample heterogeneity and does not compromise the outcome of this investigation.

11.2 Laboratory Quality Assurance / Quality Control

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

Holding Times

The extraction and analysis dates of samples were noted to be outside of holding times. A review of the COC indicated that an incorrect date of 1 October 2021 was on the listed, however the samples were collected on 4 November 2021 while the samples were extracted on 12 November and analysed on 15 November 2021. Therefore all holding times were within their tolerable ranges.

Laboratory Accreditation

All analysis was performed in NATA accredited laboratory as follow:

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

Surrogate and Spike Recoveries

All surrogate recoveries were within the tolerable limits.

All matrix spike recoveries were within the tolerable limits.

Laboratory Control Sample Results

All laboratory control sample results were within the tolerable limits.

Laboratory Duplicate Results

The duplicate sample RPDs were within the tolerable range for all samples except for the ones listed below.

Table 10: *Duplicate Results that Exceed the Laboratory QA/QC criteria.*

Primary	Duplicate	Analyte	Recovery (%)	Laboratory Comment
SE225619.003	LB236904.024	Lead	53	Failed due to sample heterogeneity

Based on the information provided by the laboratory, the RPD exceedances for the above analytes were due to sample heterogeneity. However, based on the nature of the site and the overall low concentrations of lead found within the site, the RPD failed acceptance criteria do not alter the outcome of this investigation.

Laboratory Blank Results

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

11. Results

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

12.1 Visual Observations / Field Measurements

The shearing shed is constructed with timber and galvanised metal sheeting. To the west of the shed, a stockpile of metal products including 200 L drums, wire fencing and gates were present. No evidence of chemical contamination were noted.

A description of the samples collected across the site are given in **Table 11**.

Table 11: *Summary of soil materials sampled across the site*

Borehole	Depth (m)	Type	Soil Description	Observations
SS1	0.0-0.1	Natural	Sandy clayey silt, brown, dry, soft.	Sample collected from adjacent to the 200 L drum labelled Epoxy Resin. Sample location was exposed soil.
SS2	0.0-0.1	Natural	Sandy clayey silt, brown, dry, soft.	Sample collected from the base of the shed wall in the southwestern corner of the building. Sample location was exposed soil.

12.2 Analytical Results

Two (2) primary soil samples were collected for analysis. A summary of the analytical results is presented in **Table 1, Appendix B,** while copies of the laboratory reports, sample receipt and COCs are presented in **Appendix C**.

BTEX and PAH

Concentrations of BTEX and PAH compounds were below the laboratory limit of reporting (LOR) and therefore below the adopted assessment criteria.

TRH

Concentrations of TRH were above the laboratory LOR for sample SS1 where TRH >C_{16}-C_{34} (F3) was 170 mg/kg which is below the ESL criteria for F3 (300 mg/kg).

Heavy Metals

Heavy metals were detected above the laboratory LOR in each sample, although with the exception of zinc, the metals concentrations were below the adopted criteria.

The concentration of zinc was 1,300 mg/kg in sample SS1 and 730 mg/kg in sample SS2. Both of these concentrations were below the adopted HIL A criteria (7,400 mg/kg), however the both exceeded the EIL criteria.

The source of the zinc is attributed to the galvanised metal sheeting (whereby the galvanising is zinc a zinc coating) which has deteriorated over time and resulted in the zinc in soil.

Asbestos

No pieces of cement sheet that may contain asbestos were observed while sampling and no traces of asbestos fibres were detected in any of the samples.

12. Discussion

Based on the results of the investigation, no significant sources of contamination that may compromise the suitability of the site were detected. While no major sources of contamination were noted, the following areas will require further action:

- The soil around the shearing shed that has been impacted with zinc will require further assessment and remediation after the shed has been demolished. The source of the zinc was attributed to the deterioration of the zinc galvanised coating of the metal sheets used in the shed construction and it is anticipated that the zinc is restricted to the immediate vicinity of the shed.
- While no sampling was conducted around the former hay shed, its construction was noted to be similar to the shearing shed and therefore it is possible that elevated concentrations of zinc may also be around the perimeter of the hay shed.
- The tyres located in the central section of the site should be removed and disposed to a suitably licensed landfill.
- The abandoned car and other metal objects should be removed from the site.

In addition to the above, it is possible that other activities that are associated with agricultural land uses may have been conducted on the site (e.g. use of carcass pits for disposal of dead stock). While there are no records or evidence of these activities, the size of the site makes it difficult to eliminate the possibility of other activities that may introduce contaminants within the site. Therefore an unexpected finds protocol (UFP) should be prepared and implemented during any future constructions.

13. Conclusions and Recommendations

Lanterra was engaged by Cardno to complete a phase 1 preliminary site investigation (PSI) Lot 190 DP756727 and Lot 5 DP529579, Kalkite, NSW (herein referred to as the Site) located at 56 Hilldowns Road, Kalkite NSW.

The site is zoned RU1 – Primary Production under the Snowy River Local Environment Management Plan 2013 and has an estimated area of 798,500 square metres (m^2). The site is currently a rural property with a homestead and hay shed and historical shearing shed.

A masterplan for the site has been prepared which proposes a possible mixed residential and community space development. The objective of the PSI was to assess the potential risk of contamination across the site that may affect its suitability for development of the site in accordance with the masterplan.

One (AEC) was identified in the vicinity of the shearing shed based on the storage of chemicals. The COPCs assessed were as follows:

- Total recoverable hydrocarbons (TRH)
- Benzene, toluene, ethylbenzene, xylene (BTEX)
- Polycyclic aromatic hydrocarbons (PAH)
- Polychlorinated biphenyls (PCBs)
- Phenols
- Organochlorine pesticides/organophosphorus pesticides (OCP/OPPs)
- Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc)
- Asbestos

Results of samples collected from around the shearing shed identified traces of dieldrin and DDT below the adopted HIL A criteria.

The concentration of zinc was recorded at a maximum concentration of 1,300 mg/kg from around the base of the shearing shed, which exceeds the EIL criterion. The source of the zinc was attributed to the galvanised metal sheeting used in the shed construction. Based on the similar construction of the hay shed, it is possible that the soil around the perimeter of the hay shed may also contain elevated concentrations of zinc.

Overall, the majority of the site is suitable for the proposed large lot residential with a neighbourhood centre and community space. Remedial works to remove zinc impacted soil from around the shearing shed and possibly around the hay shed will be required should the site be redeveloped. After the demolition of these structures, validation of the underling soil will be required.

Lanterra recommends the following:

- After the shearing and hay sheds have been demolished, validation sampling of the soil beneath the sheds should be completed to assess whether the soil is suitable for the proposed land uses.
- The tyres located in the central portion of the site are to be removed and disposed to a suitably licensed landfill.

- An unexpected finds protocol (UFP) to manage any unexpected occurrences of contamination should they be encountered during development of the site (including building demolition) should be prepared prior to any earthworks commencing.

14. References

Department of Urban Affairs and Planning (1998) Managing Land Contamination Planning Guidelines SEPP 55 – Remediation of Land

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

NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme (3rd Ed.) (2017)

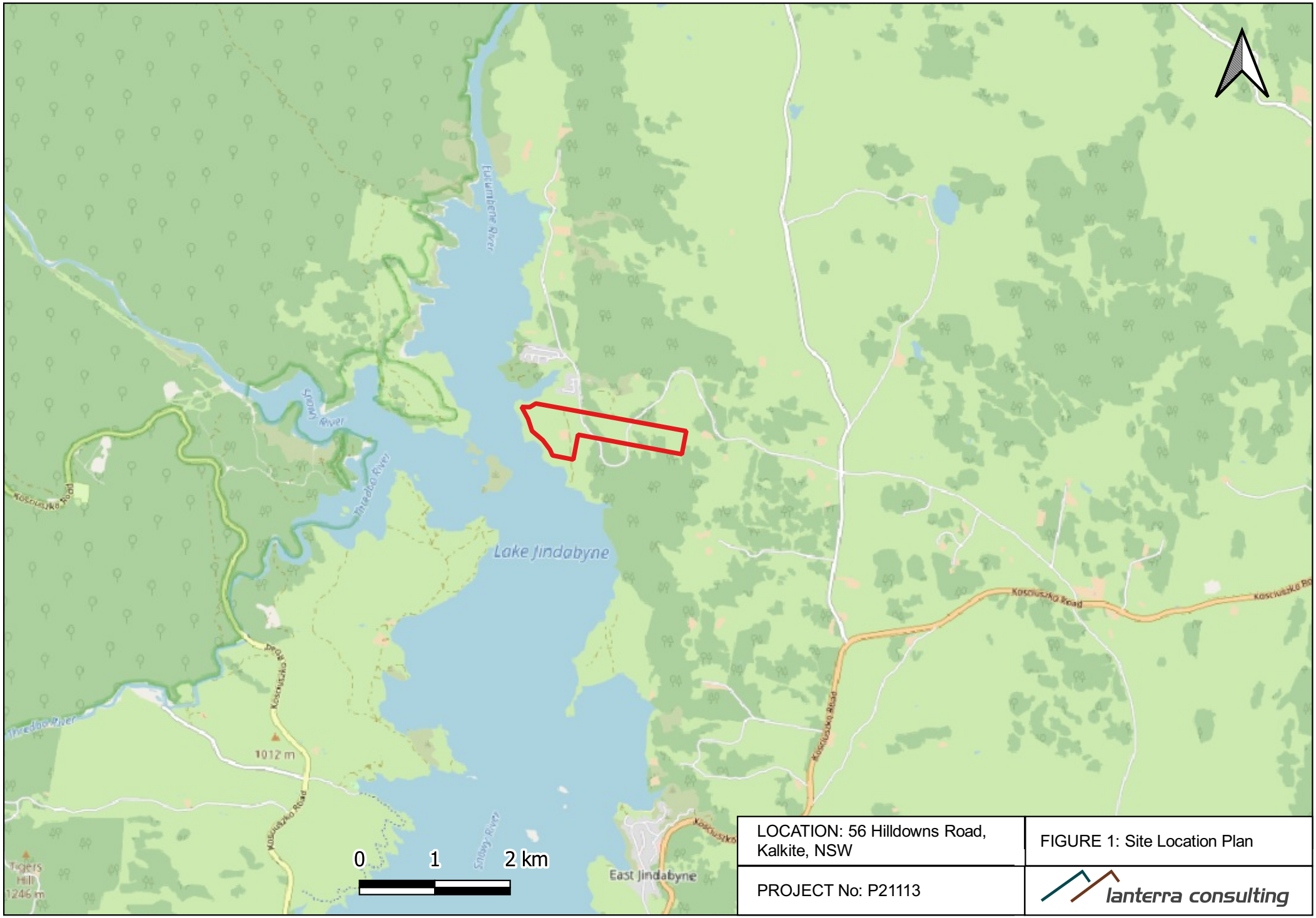
NSW EPA (1995) Sampling Design Guidelines (1995)

NSW EPA (2020) Contaminated Land Guidelines - Consultants Reporting on Contaminated Land

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

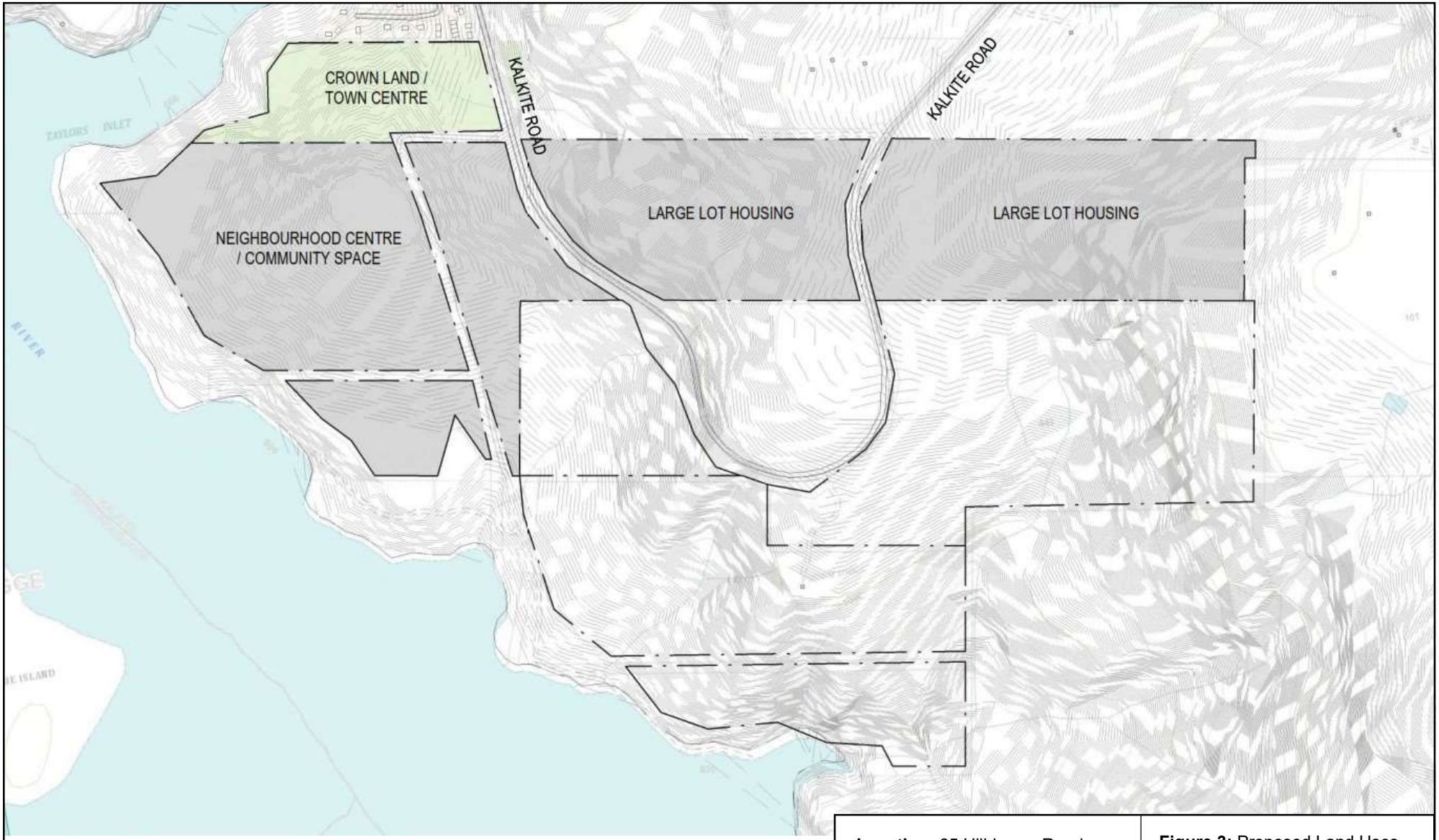
Appendix A

Figures



LOCATION: 56 Hilldowns Road, Kalkite, NSW	FIGURE 1: Site Location Plan
PROJECT No: P21113	lanterra consulting

LOCATION: 56 Hilldowns Road, Kalkite, NSW	FIGURE 2:Detailed Site Plan
PROJECT No: P21113	lanterra consulting



Location: 65 Hilldowns Road, Kalkite	**Figure 3:** Proposed Land Uses
Project No: P21113	lanterra consulting

LOCATION: 56 Hilldowns Road, Kalkite, NSW	FIGURE 4: Sample Location Plan
PROJECT No: P21113	lanterra consulting

Appendix B

Analytical Summary Table

P21113 - Preliminary Site Investigation, 56 Hilldowns Road, Kalkite, ACT

Table 1: Analytical Results

							Field_ID	SS1	QC1	RPD	SS2
							Depth m	0.2			0.2
							Sampled-date	4/11/2021	4/11/2021		4/11/2021
							Fill/Natural				
				ASC NEPM (2013) EIL/ESL Urban Residential and Public Open Space	ASC NEPM (2013) HSL A (mg/kg) 0.0-1.0m/1.0-2.0m/2.0-4.0m	ASC NEPM (2013) HIL A				
Method_Type	**ChemName**	**Units**	**EQL**								
Metals in soil	Arsenic, As	mg/kg	1	100		100	**2**	**2**	**0%**	**2**
	Cadmium, Cd	mg/kg	0.3			20	**0.5**	**0.4**	0%	**1.1**
	Chromium, Cr	mg/kg	0.3	490		100	**5**	**5.3**	**6%**	**5**
	Copper, Cu	mg/kg	0.5	180		6000	**16**	**27**	**51%**	**6**
	Lead, Pb	mg/kg	1	1100		300	**62**	**59**	**5%**	**14**
	Nickel, Ni	mg/kg	0.5	120		400	**3.1**	**3.2**	**3%**	**2.6**
	Zinc, Zn	mg/kg	2	430		7400	**1300**	**1300**	**0%**	**730**
	Mercury	mg/kg	0.05			40	<0.05	<0.05	0%	<0.05
Organochlorine Pesticides	Hexachlorobenzene (HCB)	mg/kg	0.1			10	<0.1	<0.1	0%	<0.1
	Alpha BHC	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Lindane	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Heptachlor	mg/kg	0.1			6	<0.1	<0.1	0%	<0.1
	Aldrin	mg/kg	0.1			6	<0.1	<0.1	0%	<0.1
	Beta BHC	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Delta BHC	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Heptachlor epoxide	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	o,p'-DDE	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Alpha Endosulfan	mg/kg	0.2			270	<0.2	<0.2	0%	<0.2
	Gamma Chlordane	mg/kg	0.1			50	<0.1	<0.1	0%	<0.1
	Alpha Chlordane	mg/kg	0.1			50	<0.1	<0.1	0%	<0.1
	trans-Nonachlor	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	p,p'-DDE	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Dieldrin	mg/kg	0.2			6	**0.2**	**0.2**	0%	<0.2
	Endrin	mg/kg	0.2			10	<0.2	<0.2	0%	<0.2
	o,p'-DDD	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	o,p'-DDT	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Beta Endosulfan	mg/kg	0.2				<0.2	<0.2	0%	<0.2
	p,p'-DDD	mg/kg	0.1			240	<0.1	<0.1	0%	<0.1
	p,p'-DDT	mg/kg	0.1	180		240	**0.1**	<0.1	0%	<0.1
	Endosulfan sulphate	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Endrin Aldehyde	mg/kg	0.1			10	<0.1	<0.1	0%	<0.1
	Methoxychlor	mg/kg	0.1			300	<0.1	<0.1	0%	<0.1
	Endrin Ketone	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Isodrin	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Mirex	mg/kg	0.1			10	<0.1	<0.1	0%	<0.1
Organophosphorus Pesticides	Dichlorvos	mg/kg	0.5				<0.5	<0.5	0%	<0.5
	Dimethoate	mg/kg	0.5				<0.5	<0.5	0%	<0.5
	Diazinon (Dimpylate)	mg/kg	0.5				<0.5	<0.5	0%	<0.5
	Fenitrothion	mg/kg	0.2				<0.2	<0.2	0%	<0.2
	Malathion	mg/kg	0.2				<0.2	<0.2	0%	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2			160	<0.2	<0.2	0%	<0.2
	Parathion-ethyl (Parathion)	mg/kg	0.2				<0.2	<0.2	0%	<0.2
	Bromophos Ethyl	mg/kg	0.2				<0.2	<0.2	0%	<0.2
	Methidathion	mg/kg	0.5				<0.5	<0.5	0%	<0.5
	Ethion	mg/kg	0.2				<0.2	<0.2	0%	<0.2
	Azinphos-methyl (Guthion)	mg/kg	0.2				<0.2	<0.2	0%	<0.2
PAHs in Soil	Naphthalene	mg/kg	0.1	170	5/NL/NL		<0.1	<0.1	0%	<0.1
	2-methylnaphthalene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	1-methylnaphthalene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Acenaphthylene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Acenaphthene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Fluorene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Phenanthrene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Anthracene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Fluoranthene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Pyrene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Benzo(a)anthracene	mg/kg	0.1				<0.1	<0.1	0%	<0.1
	Chrysene	mg/kg	0.1				<0.1	<0.1	0%	<0.1

P21113 - Preliminary Site Investigation, 56 Hilldowns Road, Kalkite, ACT

Table 1: Analytical Results

							Field_ID	SS1	QC1	RPD	SS2
							Depth m	0.2			0.2
							Sampled-date	4/11/2021	4/11/2021		4/11/2021
							Fill/Natural				
				ASC NEPM (2013) EIL/ESL Urban Residential and Public Open Space	ASC NEPM (2013) HSL A (mg/kg) 0.0-1.0m/1.0-2.0m/2.0-4.0m	ASC NEPM (2013) HIL A				
Method_Type	**ChemName**	**Units**	**EQL**							
	Benzo(b&j)fluoranthene	mg/kg	0.1					<0.1	<0.1	0%	<0.1
	Benzo(k)fluoranthene	mg/kg	0.1					<0.1	<0.1	0%	<0.1
	Benzo(a)pyrene	mg/kg	0.1	0.7				<0.1	<0.1	0%	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1					<0.1	<0.1	0%	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1					<0.1	<0.1	0%	<0.1
	Benzo(ghi)perylene	mg/kg	0.1					<0.1	<0.1	0%	<0.1
	Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2			3		<0.2	<0.2	0%	<0.2
	Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3			3		<0.3	<0.3	0%	<0.3
	Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2			3		<0.2	<0.2	0%	<0.2
	Total PAH (18)	mg/kg	0.8			300		<0.8	<0.8	0%	<0.8
PCBs in Soil	Arochlor 1016	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	Arochlor 1221	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	Arochlor 1232	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	Arochlor 1242	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	Arochlor 1248	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	Arochlor 1254	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	Arochlor 1260	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	Arochlor 1262	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	Arochlor 1268	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	Total PCBs (Arochlors)	mg/kg	1			1		<1	<1	0%	<1
TRH Soil C10-C40 NEPM	TRH C10-C14	mg/kg	20					<20	<20	0%	<20
	TRH C15-C28	mg/kg	45					**53**	**47**	12%	<45
	TRH C29-C36	mg/kg	45					**150**	**110**	31%	<45
	TRH C37-C40	mg/kg	100					<100	<100	0%	<100
	TRH >C10-C16	mg/kg	25					<25	<25	0%	<25
	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	120	280/NL/NL			<25	<25	0%	<25
	TRH >C16-C34 (F3)	mg/kg	90	1300				**170**	**140**	19%	<90
	TRH >C34-C40 (F4)	mg/kg	120	5600				<120	<120	0%	<120
	TRH C10-C36 Total	mg/kg	110					**210**	**160**	27%	<110
	TRH >C10-C40 Total (F bands)	mg/kg	210					<210	<210	0%	<210
BTEX + VOC	Benzene	mg/kg	0.1	65	0.7/1/2			<0.1	<0.1	0%	<0.1
	Toluene	mg/kg	0.1	105	480/NL/NL/NL			<0.1	<0.1	0%	<0.1
	Ethylbenzene	mg/kg	0.1	125	NL/NL/NL			<0.1	<0.1	0%	<0.1
	m/p-xylene	mg/kg	0.2					<0.2	<0.2	0%	<0.2
	o-xylene	mg/kg	0.1					<0.1	<0.1	0%	<0.1
	Total Xylenes	mg/kg	0.3	45	110/310/NL			<0.3	<0.3	0%	<0.3
	Total BTEX	mg/kg	0.6					<0.6	<0.6	0%	<0.6
	Benzene (F0)	mg/kg	20		0.7/1/2			<0.1	<0.1	0%	<0.1
	TRH C6-C9	mg/kg	0.1					<20	<20	0%	<20
	TRH C6-C10	mg/kg	25					<25	<25	0%	<25
	TRH C6-C10 minus BTEX (F1)	mg/kg	25	180	50/90/150			<25	<25	0%	<25
Speciated Phenol	Phenol	mg/kg	0.5			3000		<0.5	<0.5	0%	<0.5
	2-methyl phenol (o-cresol)	mg/kg	0.5					<0.5	<0.5	0%	<0.5
	3/4-methyl phenol (m/p-cresol)	mg/kg	1					<1	<1	0%	<1
	Total Cresol	mg/kg	1.5			400		<1.5	<1.5	0%	<1.5
	2-chlorophenol	mg/kg	0.5					<0.5	<0.5	0%	<0.5
	2,4-dimethylphenol	mg/kg	0.5					<0.5	<0.5	0%	<0.5
	2,6-dichlorophenol	mg/kg	0.5					<0.5	<0.5	0%	<0.5
	2,4-dichlorophenol	mg/kg	0.5					<0.5	<0.5	0%	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5					<0.5	<0.5	0%	<0.5
	2-nitrophenol	mg/kg	0.5					<0.5	<0.5	0%	<0.5
	4-nitrophenol	mg/kg	1					<1	<1	0%	<1
	2,4,5-trichlorophenol	mg/kg	0.5					<0.5	<0.5	0%	<0.5
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1					<1	<1	0%	<1
	Pentachlorophenol	mg/kg	0.5			100		<0.5	<0.5	0%	<0.5
	2,4-dinitrophenol	mg/kg	2					<2	<2	0%	<2
	4-chloro-3-methylphenol	mg/kg	2					<2	<2	0%	<2
Asbestos	Asbestos Detected	No unit	0					No	N.A.	-	No
	Estimated Fibres	%w/w	0.01					<0.01	N.A.	-	<0.01

Appendix C

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Chris Gunton
Client	LANTERRA CONSULTING PTY LTD
Address	Unit 13, 71 Leichhardt Street Kingston ACT 2604
Telephone	0432 324 348
Facsimile	(Not specified)
Email	Chris.Gunton@lanterra.com.au
Project	**P21113 - Kalkite**
Order Number	**P21113**
Samples	3

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
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Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE225619 R0**
Date Received	9/11/2021
Date Reported	16/11/2021

COMMENTS

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

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

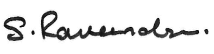
SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Chemist

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head



Ravee SIVASUBRAMANIAM
Hygiene Team Leader

Shane MCDERMOTT
Inorganic/Metals Chemist

VOC's in Soil [AN433] Tested: 9/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1
Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 9/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 9/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
TRH C10-C14	mg/kg	20	<20	<20	<20
TRH C15-C28	mg/kg	45	**53**	<45	**47**
TRH C29-C36	mg/kg	45	**150**	<45	**110**
TRH C37-C40	mg/kg	100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	**170**	<90	**140**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	**210**	<110	**160**
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 9/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	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
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	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
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8

Speciated Phenols in Soil [AN420] Tested: 9/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2

OC Pesticides in Soil [AN420] Tested: 9/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	**0.2**	<0.2	**0.2**
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	**0.1**	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 9/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 9/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 12/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
Arsenic, As	mg/kg	1	2	2	2
Cadmium, Cd	mg/kg	0.3	0.5	1.1	0.4
Chromium, Cr	mg/kg	0.5	5.0	5.0	5.3
Copper, Cu	mg/kg	0.5	16	6.0	27
Lead, Pb	mg/kg	1	62	14	59
Nickel, Ni	mg/kg	0.5	3.1	2.6	3.2
Zinc, Zn	mg/kg	2	1300	730	1300

Mercury in Soil [AN312] Tested: 12/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05

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

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002	QC1 SOIL - 1/10/2021 SE225619.003
% Moisture	%w/w	1	**10.8**	**12.8**	**11.3**

Fibre Identification in soil [AN602] Tested: 15/11/2021

PARAMETER	UOM	LOR	SS1 SOIL - 1/10/2021 SE225619.001	SS2 SOIL - 1/10/2021 SE225619.002
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

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

FOOTNOTES

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

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

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

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

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

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

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-qb/environment-health-and-safety.

STATEMENT OF QA/QC PERFORMANCE

SE225619 R0

CLIENT DETAILS

Contact	Chris Gunton
Client	LANTERRA CONSULTING PTY LTD
Address	Unit 13, 71 Leichhardt Street Kingston ACT 2604
Telephone	0432 324 348
Facsimile	(Not specified)
Email	Chris.Gunton@lanterra.com.au
Project	**P21113 - Kalkite**
Order Number	**P21113**
Samples	3

LABORATORY DETAILS

Manager	Huong Crawford
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Email	au.environmental.sydney@sgs.com
SGS Reference	**SE225619 R0**
Date Received	09 Nov 2021
Date Reported	16 Nov 2021

COMMENTS

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

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

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

Extraction Date	Mercury in Soil	3 items
	Moisture Content	3 items
	OC Pesticides in Soil	3 items
	OP Pesticides in Soil	3 items
	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	3 items
	PCBs in Soil	3 items
	Speciated Phenols in Soil	3 items
	TRH (Total Recoverable Hydrocarbons) in Soil	3 items
	VOC's in Soil	3 items
	Volatile Petroleum Hydrocarbons in Soil	3 items
Analysis Date	Mercury in Soil	3 items
	VOC's in Soil	4 items
	Volatile Petroleum Hydrocarbons in Soil	7 items
Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

There are more than 15 quality objective exceedences. Please see report for details

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	3 Soil
Date documentation received	9/11/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	18.3°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE225619 R0

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

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

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

Fibre Identification in soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236984	01 Oct 2021	09 Nov 2021	01 Oct 2022	15 Nov 2021	01 Oct 2022	16 Nov 2021
SS2	SE225619.002	LB236984	01 Oct 2021	09 Nov 2021	01 Oct 2022	15 Nov 2021	01 Oct 2022	16 Nov 2021

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236911	01 Oct 2021	09 Nov 2021	29 Oct 2021	12 Nov 2021†	29 Oct 2021	15 Nov 2021†
SS2	SE225619.002	LB236911	01 Oct 2021	09 Nov 2021	29 Oct 2021	12 Nov 2021†	29 Oct 2021	15 Nov 2021†
QC1	SE225619.003	LB236911	01 Oct 2021	09 Nov 2021	29 Oct 2021	12 Nov 2021†	29 Oct 2021	15 Nov 2021†

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236843	01 Oct 2021	09 Nov 2021	15 Oct 2021	11 Nov 2021†	16 Nov 2021	15 Nov 2021
SS2	SE225619.002	LB236843	01 Oct 2021	09 Nov 2021	15 Oct 2021	11 Nov 2021†	16 Nov 2021	15 Nov 2021
QC1	SE225619.003	LB236843	01 Oct 2021	09 Nov 2021	15 Oct 2021	11 Nov 2021†	16 Nov 2021	15 Nov 2021

OC Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
SS2	SE225619.002	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
QC1	SE225619.003	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021

OP Pesticides in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
SS2	SE225619.002	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
QC1	SE225619.003	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021

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
SS1	SE225619.001	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
SS2	SE225619.002	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
QC1	SE225619.003	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021

PCBs in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
SS2	SE225619.002	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
QC1	SE225619.003	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021

Speciated Phenols in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
SS2	SE225619.002	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
QC1	SE225619.003	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021

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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236904	01 Oct 2021	09 Nov 2021	30 Mar 2022	12 Nov 2021	30 Mar 2022	15 Nov 2021
SS2	SE225619.002	LB236904	01 Oct 2021	09 Nov 2021	30 Mar 2022	12 Nov 2021	30 Mar 2022	15 Nov 2021
QC1	SE225619.003	LB236904	01 Oct 2021	09 Nov 2021	30 Mar 2022	12 Nov 2021	30 Mar 2022	15 Nov 2021

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
SS2	SE225619.002	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021
QC1	SE225619.003	LB236663	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	19 Dec 2021	15 Nov 2021

VOC's in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236671	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	15 Oct 2021	15 Nov 2021†
SS2	SE225619.002	LB236671	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	15 Oct 2021	15 Nov 2021†
QC1	SE225619.003	LB236671	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	15 Oct 2021	15 Nov 2021†

Volatile Petroleum Hydrocarbons in Soil

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

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE225619 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

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SS1	SE225619.001	LB236671	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	15 Oct 2021	15 Nov 2021†
SS2	SE225619.002	LB236671	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	15 Oct 2021	15 Nov 2021†
QC1	SE225619.003	LB236671	01 Oct 2021	09 Nov 2021	15 Oct 2021	09 Nov 2021†	15 Oct 2021	15 Nov 2021†

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)	SS1	SE225619.001	%	60 - 130%	91
	SS2	SE225619.002	%	60 - 130%	87
	QC1	SE225619.003	%	60 - 130%	97

OP Pesticides in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SS1	SE225619.001	%	60 - 130%	92
	SS2	SE225619.002	%	60 - 130%	89
	QC1	SE225619.003	%	60 - 130%	85
d14-p-terphenyl (Surrogate)	SS1	SE225619.001	%	60 - 130%	95
	SS2	SE225619.002	%	60 - 130%	97
	QC1	SE225619.003	%	60 - 130%	92

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	SS1	SE225619.001	%	70 - 130%	92
	SS2	SE225619.002	%	70 - 130%	89
	QC1	SE225619.003	%	70 - 130%	85
d14-p-terphenyl (Surrogate)	SS1	SE225619.001	%	70 - 130%	95
	SS2	SE225619.002	%	70 - 130%	97
	QC1	SE225619.003	%	70 - 130%	92
d5-nitrobenzene (Surrogate)	SS1	SE225619.001	%	70 - 130%	75
	SS2	SE225619.002	%	70 - 130%	80
	QC1	SE225619.003	%	70 - 130%	77

PCBs in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	SS1	SE225619.001	%	60 - 130%	91
	SS2	SE225619.002	%	60 - 130%	87
	QC1	SE225619.003	%	60 - 130%	97

Speciated Phenols in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-Tribromophenol (Surrogate)	SS1	SE225619.001	%	70 - 130%	73
	SS2	SE225619.002	%	70 - 130%	78
	QC1	SE225619.003	%	70 - 130%	73
d5-phenol (Surrogate)	SS1	SE225619.001	%	50 - 130%	83
	SS2	SE225619.002	%	50 - 130%	87
	QC1	SE225619.003	%	50 - 130%	72

VOC's in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SS1	SE225619.001	%	60 - 130%	79
	SS2	SE225619.002	%	60 - 130%	79
	QC1	SE225619.003	%	60 - 130%	81
d4-1,2-dichloroethane (Surrogate)	SS1	SE225619.001	%	60 - 130%	100
	SS2	SE225619.002	%	60 - 130%	101
	QC1	SE225619.003	%	60 - 130%	104
d8-toluene (Surrogate)	SS1	SE225619.001	%	60 - 130%	101
	SS2	SE225619.002	%	60 - 130%	101
	QC1	SE225619.003	%	60 - 130%	105

Volatile Petroleum Hydrocarbons in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SS1	SE225619.001	%	60 - 130%	79
	SS2	SE225619.002	%	60 - 130%	79
	QC1	SE225619.003	%	60 - 130%	81
d4-1,2-dichloroethane (Surrogate)	SS1	SE225619.001	%	60 - 130%	100
	SS2	SE225619.002	%	60 - 130%	101
	QC1	SE225619.003	%	60 - 130%	104
d8-toluene (Surrogate)	SS1	SE225619.001	%	60 - 130%	101
	SS2	SE225619.002	%	60 - 130%	101
	QC1	SE225619.003	%	60 - 130%	105

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

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

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB236911.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB236663.001		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)	%	-	82

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB236663.001		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)	%	-	92
		d14-p-terphenyl (Surrogate)	%	-	105

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB236663.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB236663.001		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	79
		2-fluorobiphenyl (Surrogate)	%	-	92
		d14-p-terphenyl (Surrogate)	%	-	105

PCBs in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB236663.001		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)	%	-	82

Speciated Phenols in Soil

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

Sample Number		Parameter	Units	LOR	Result
LB236663.001		Phenol	mg/kg	0.5	<0.5
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1
		2-chlorophenol	mg/kg	0.5	<0.5
		2,4-dimethylphenol	mg/kg	0.5	<0.5
		2,6-dichlorophenol	mg/kg	0.5	<0.5
		2,4-dichlorophenol	mg/kg	0.5	<0.5
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5
		2-nitrophenol	mg/kg	0.5	<0.5
		4-nitrophenol	mg/kg	1	<1
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1
		Pentachlorophenol	mg/kg	0.5	<0.5
		2,4-dinitrophenol	mg/kg	2	<2
		4-chloro-3-methylphenol	mg/kg	2	<2
	Surrogates	2,4,6-Tribromophenol (Surrogate)	%	-	86
		d5-phenol (Surrogate)	%	-	103

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

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

Sample Number	Parameter	Units	LOR	Result
LB236904.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB236663.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

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

Sample Number	Parameter	Units	LOR

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

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

VOC's in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result
LB236671.001	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)	%	-	107
		d8-toluene (Surrogate)	%	-	106
		Bromofluorobenzene (Surrogate)	%	-	85
	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
LB236671.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	107

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

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

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

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

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

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225577.010	LB236911.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE225619.003	LB236911.024	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 %
SE225622.003	LB236843.011	% Moisture	%w/w	1	3.8	3.9	56	1
SE225622.009	LB236843.018	% Moisture	%w/w	1	17.5	16.3	36	7

OC Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225622.004	LB236663.023		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	-	0.14	0.13	30	2

OP Pesticides in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225622.004	LB236663.024		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
SE225622.009	LB236663.021		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	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

OP Pesticides in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225622.009	LB236663.021		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	5
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225622.004	LB236663.024		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	-	0.4	0.4	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
SE225622.009	LB236663.021		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

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 %
SE225622.009	LB236663.021		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	5
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4

PCBs in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225622.004	LB236663.023		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	2

Speciated Phenols in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225622.004	LB236663.023		Phenol	mg/kg	0.5	<0.5	<0.5	200	0
			2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	200	0
			3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	200	0
			Total Cresol	mg/kg	1.5	<1.5	<1.5	200	0
			2-chlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
			2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	200	0
			2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
			2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
			2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
			2-nitrophenol	mg/kg	0.5	<0.5	<0.5	200	0
			4-nitrophenol	mg/kg	1	<1	<1	200	0
			2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
			2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	200	0
			Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
			2,4-dinitrophenol	mg/kg	2	<2	<2	200	0
			4-chloro-3-methylphenol	mg/kg	2	<2	<2	200	0
		Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	3.6	3.6	30	0
			d5-phenol (Surrogate)	mg/kg	-	1.5	1.4	30	10

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 %
SE225577.010	LB236904.014	Arsenic, As	mg/kg	1	2	2	79	5
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	7.8	7.6	37	3
		Copper, Cu	mg/kg	0.5	8.4	8.7	36	3
		Nickel, Ni	mg/kg	0.5	6.6	8.1	37	20
		Lead, Pb	mg/kg	1	14	10	38	29
		Zinc, Zn	mg/kg	2	24	24	38	2
SE225619.003	LB236904.024	Arsenic, As	mg/kg	1	2	2	86	16
		Cadmium, Cd	mg/kg	0.3	0.4	0.5	96	1
		Chromium, Cr	mg/kg	0.5	5.3	4.7	40	13
		Copper, Cu	mg/kg	0.5	27	21	32	22
		Nickel, Ni	mg/kg	0.5	3.2	2.7	47	16
		Lead, Pb	mg/kg	1	59	35	32	53 ②
		Zinc, Zn	mg/kg	2	1300	1200	30	3

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225622.009	LB236663.021	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

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

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

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

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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225622.009	LB236663.021		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE225622.003	LB236671.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.3	10.9	50	6
			d8-toluene (Surrogate)	mg/kg	-	10.1	10.8	50	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.5	50	7
		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
SE225622.009	LB236671.021	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.4	9.5	50	1
			d8-toluene (Surrogate)	mg/kg	-	9.2	9.1	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.6	7.6	50	0
		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 %
SE225622.003	LB236671.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.3	10.9	30	6
			d8-toluene (Surrogate)	mg/kg	-	10.1	10.8	30	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.9	8.5	30	7
		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
SE225622.009	LB236671.021		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	-	9.4	9.5	30	1
			d8-toluene (Surrogate)	mg/kg	-	9.2	9.1	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.6	7.6	30	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

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 %
LB236911.002	Mercury	mg/kg	0.05	0.23	0.2	70 - 130	113

OC Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB236663.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	87
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	83
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	83
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	82
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	89
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	82
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.15	40 - 130	82

OP Pesticides in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB236663.002		Dichlorvos	mg/kg	0.5	1.6	2	60 - 140	82
		Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	60 - 140	96
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	98
		Ethion	mg/kg	0.2	1.7	2	60 - 140	83
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	85

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB236663.002		Naphthalene	mg/kg	0.1	4.8	4	60 - 140	120
		Acenaphthylene	mg/kg	0.1	4.9	4	60 - 140	123
		Acenaphthene	mg/kg	0.1	4.2	4	60 - 140	106
		Phenanthrene	mg/kg	0.1	4.6	4	60 - 140	115
		Anthracene	mg/kg	0.1	4.2	4	60 - 140	106
		Fluoranthene	mg/kg	0.1	4.3	4	60 - 140	107
		Pyrene	mg/kg	0.1	4.6	4	60 - 140	114
		Benzo(a)pyrene	mg/kg	0.1	4.7	4	60 - 140	118
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	77
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	85

PCBs in Soil

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB236663.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	77

Speciated Phenols in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB236663.002		Phenol	mg/kg	0.5	1.0	1	70 - 130	96
		2,4-dichlorophenol	mg/kg	0.5	1.1	1	70 - 130	109
		2,4,6-trichlorophenol	mg/kg	0.5	0.8	1	70 - 130	84
		Pentachlorophenol	mg/kg	0.5	0.8	1	70 - 130	77
	Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.1	5	40 - 130	82
		d5-phenol (Surrogate)	mg/kg	-	2.0	2	40 - 130	100

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 %
LB236904.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	110
	Cadmium, Cd	mg/kg	0.3	5.2	4.81	70 - 130	107
	Chromium, Cr	mg/kg	0.5	38	38.31	80 - 120	100
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	111
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	102
	Lead, Pb	mg/kg	1	97	89.9	80 - 120	108
	Zinc, Zn	mg/kg	2	290	273	80 - 120	105

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR

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

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

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB236663.002		TRH C10-C14	mg/kg	20	50	40	60 - 140	125
		TRH C15-C28	mg/kg	45	46	40	60 - 140	115
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	83
	TRH F Bands	TRH >C10-C16	mg/kg	25	46	40	60 - 140	115
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	100
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	80

VOC's in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB236671.002	Monocyclic	Benzene	mg/kg	0.1	4.5	5	60 - 140	90
	Aromatic	Toluene	mg/kg	0.1	4.7	5	60 - 140	94
		Ethylbenzene	mg/kg	0.1	5.2	5	60 - 140	104
		m/p-xylene	mg/kg	0.2	11	10	60 - 140	114
		o-xylene	mg/kg	0.1	5.6	5	60 - 140	113
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.7	10	70 - 130	117
		d8-toluene (Surrogate)	mg/kg	-	11.5	10	70 - 130	115
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	10	70 - 130	89

Volatile Petroleum Hydrocarbons in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB236671.002		TRH C6-C10	mg/kg	25	72	92.5	60 - 140	78
		TRH C6-C9	mg/kg	20	57	80	60 - 140	71
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.7	10	70 - 130	117
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	10	70 - 130	89
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	41	62.5	60 - 140	65

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

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

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225577.001	LB236911.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	103

OC Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225619.001	LB236663.004		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	0.2	<0.1	0.2	95
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	90
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	92
			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	0.4	0.2	0.2	89
			Endrin	mg/kg	0.2	0.2	<0.2	0.2	94
			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	0.3	0.1	0.2	96
			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	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.14	-	93

OP Pesticides in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225619.001	LB236663.004		Dichlorvos	mg/kg	0.5	1.7	<0.5	2	83
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	2.0	<0.5	2	98
			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	2.0	<0.2	2	100
			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	1.8	<0.2	2	90
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	7.4	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	-	88
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	90

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225619.001	LB236663.004	Naphthalene	mg/kg	0.1	4.6	<0.1	4	115
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.7	<0.1	4	118
		Acenaphthene	mg/kg	0.1	4.1	<0.1	4	102
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-

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

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

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225619.001	LB236663.004		Phenanthrene	mg/kg	0.1	4.4	<0.1	4	111
			Anthracene	mg/kg	0.1	4.0	<0.1	4	100
			Fluoranthene	mg/kg	0.1	4.2	<0.1	4	104
			Pyrene	mg/kg	0.1	4.4	<0.1	4	110
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.3	<0.1	4	108
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	4.3	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.5	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.4	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	35	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	78
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	-	88
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	90

PCBs in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225619.001	LB236663.004		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1260	mg/kg	0.2	0.3	<0.2	0.4	83
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	-	93

Speciated Phenols in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225619.001	LB236663.004		Phenol	mg/kg	0.5	0.8	<0.5	1	78
			2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	-	-
			3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	-	-
			Total Cresol	mg/kg	1.5	<1.5	<1.5	-	-
			2-chlorophenol	mg/kg	0.5	<0.5	<0.5	-	-
			2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	-	-
			2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	-	-
			2,4-dichlorophenol	mg/kg	0.5	1.1	<0.5	1	98
			2,4,6-trichlorophenol	mg/kg	0.5	0.8	<0.5	1	78
			2-nitrophenol	mg/kg	0.5	<0.5	<0.5	-	-
			4-nitrophenol	mg/kg	1	<1	<1	-	-
			2,4,5-trichlorophenol	mg/kg	0.5	0.6	<0.5	-	-
			2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	-	-
			Pentachlorophenol	mg/kg	0.5	1.0	<0.5	1	101
			2,4-dinitrophenol	mg/kg	2	<2	<2	-	-
			4-chloro-3-methylphenol	mg/kg	2	<2	<2	-	-
		Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	3.7	3.6	-	73
			d5-phenol (Surrogate)	mg/kg	-	1.6	1.7	-	81

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%
SE225577.001	LB236904.004	Arsenic, As	mg/kg	1	55	2	50	104
		Cadmium, Cd	mg/kg	0.3	44	<0.3	50	89
		Chromium, Cr	mg/kg	0.5	57	8.3	50	97
		Copper, Cu	mg/kg	0.5	65	13	50	105
		Nickel, Ni	mg/kg	0.5	52	5.2	50	94

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

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

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225577.001	LB236904.004	Lead, Pb	mg/kg	1	56	7	50	99
		Zinc, Zn	mg/kg	2	74	23	50	103

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225619.001	LB236663.004		TRH C10-C14	mg/kg	20	51	<20	40	105
			TRH C15-C28	mg/kg	45	100	53	40	118
			TRH C29-C36	mg/kg	45	150	150	40	5 ⑤
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	310	210	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	240	<210	-	-
		TRH F	TRH >C10-C16	mg/kg	25	45	<25	40	113
		Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	45	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	190	170	40	48 ⑤
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225619.001	LB236671.004	Monocyclic	Benzene	mg/kg	0.1	4.1	<0.1	5	81
		Aromatic	Toluene	mg/kg	0.1	4.3	<0.1	5	86
			Ethylbenzene	mg/kg	0.1	4.8	<0.1	5	95
			m/p-xylene	mg/kg	0.2	11	<0.2	10	105
			o-xylene	mg/kg	0.1	5.2	<0.1	5	103
		Polycyclic	Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	10.0	10	106
			d8-toluene (Surrogate)	mg/kg	-	10.3	10.1	10	103
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.7	7.9	10	77
		Totals	Total Xylenes	mg/kg	0.3	16	<0.3	-	-
			Total BTEX	mg/kg	0.6	29	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE225619.001	LB236671.004		TRH C6-C10	mg/kg	25	70	<25	92.5	76
			TRH C6-C9	mg/kg	20	61	<20	80	76
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.6	10.0	10	106
			d8-toluene (Surrogate)	mg/kg	-	10.3	10.1	10	103
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.7	7.9	-	77
		VPH F	Benzene (F0)	mg/kg	0.1	4.1	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	41	<25	62.5	66

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

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

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

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

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

No matrix spike duplicates were required for this job.

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.

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
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Alexandria NSW 2015
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Email: au.samplereceipt.sydney@sgs.com

Company Name:	Lanterra Consulting Pty Ltd	Project Name/No:	P21113 – Kalkite
Address:	Unit 134, 71 Leichhardt Street	Purchase Order No:	P21113
	Kingston, ACT, 2611	Results Required By:	**Standard TAT**
		Telephone:	0432 324 348
Contact Name:	Chris Gunton	Facsimile:	
		Email Results:	chris@lanterra.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL15 – TRH, BTEX, PAH, OCP/OPP, PCB, Phenols, 8 Metals	Asbestos ID
SS1	1/10/2021	1		X		2	X	X
SS2	1/10/2021	2		X		2	X	X
QC1	1/10/2021	3		X		2	X	

SGS EHS Sydney COC
SE225619

Relinquished By: C. Gunton	Date/Time: 8/11/2021 3.30 pm	Received By:	Date/Time 09/11/21 @ 10:30
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: (Yes) No	Temperature: Ambient / (Chilled)	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments:		

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Chris Gunton
Client	LANTERRA CONSULTING PTY LTD
Address	Unit 13, 71 Leichhardt Street Kingston ACT 2604
Telephone	0432 324 348
Facsimile	(Not specified)
Email	Chris.Gunton@lanterra.com.au
Project	**P21113 - Kalkite**
Order Number	**P21113**
Samples	2

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	**SE225619 R0**
Date Received	09 Nov 2021
Date Reported	16 Nov 2021

COMMENTS

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

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Bennet LO
Senior Chemist

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE225619.001	SS1	Soil	67g Clay,Sand,Soil, Rocks	01 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01
SE225619.002	SS2	Soil	69g Clay,Sand,Soil, Rocks	01 Oct 2021	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD SUMMARY

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

FOOTNOTES

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

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

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

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

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

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

SAMPLE RECEIPT ADVICE

SE225619

CLIENT DETAILS

Contact	Chris Gunton
Client	LANTERRA CONSULTING PTY LTD
Address	Unit 13, 71 Leichhardt Street Kingston ACT 2604
Telephone	0432 324 348
Facsimile	(Not specified)
Email	Chris.Gunton@lanterra.com.au
Project	**P21113 - Kalkite**
Order Number	**P21113**
Samples	3

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Tue 9/11/2021
Report Due	Tue 16/11/2021
SGS Reference	**SE225619**

SUBMISSION DETAILS

This is to confirm that 3 samples were received on Tuesday 9/11/2021. Results are expected to be ready by COB Tuesday 16/11/2021. Please quote SGS reference SE225619 when making enquiries. Refer below for details relating to sample integrity upon receipt.

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	3 Soil
Date documentation received	9/11/2021	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	18.3°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

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

COMMENTS

A separate portion was not supplied for Asbestos analysis . A sub-sample will be used from the jar provided.

SAMPLE RECEIPT ADVICE

SE225619

CLIENT DETAILS

Client LANTERRA CONSULTING PTY LTD

Project P21113 - Kalkite

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Speciated Phenols in Soil	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	SS1	30	14	26	11	18	10	11	7
002	SS2	30	14	26	11	18	10	11	7
003	QC1	30	14	26	11	18	10	11	7

CONTINUED OVERLEAF

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

SAMPLE RECEIPT ADVICE

SE225619

CLIENT DETAILS

Client LANTERRA CONSULTING PTY LTD

Project P21113 - Kalkite

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	Total Recoverable Elements in Soil/Waste
001	SS1	2	1	1	7
002	SS2	2	1	1	7
003	QC1	-	1	1	7

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

Appendix D

Site Photographs

lanterra consulting	**SITE PHOTOGRAPHS**	
Client Name Cardno	**Site Location** 56 Hilldowns Road, Kalkite	**Project No.** P21113

Photo No.	**Date**	
1.	4/11/2021	
Description View of the Shearing Shed from the west.		
Photo No.	**Date**	
2.	4/11/2021	
Description View of the Shearing Shed from the north.		

lanterra consulting	**SITE PHOTOGRAPHS**	
Client Name Cardno	**Site Location** 56 Hilldowns Road, Kalkite	**Project No.** P21113

Photo No.	**Date**
3.	4/11/2021

Description

200L drum located beneath the ramp of the Shearing Shed where sample SS1 was collected

Photo No.	**Date**
4.	4/11/2021

Description

Chemicals (pesticides) stored inside the Shearing Shed.

lanterra consulting	**SITE PHOTOGRAPHS**	
Client Name Cardno	**Site Location** 56 Hilldowns Road, Kalkite	**Project No.** P21113

Photo No.	**Date**	
5.	4/11/2021	
Description View of the Hay Shed from the southwest		
Photo No.	**Date**	
6.	4/11/2021	
Description View of the Hay Shed from the east.		

lanterra consulting	**SITE PHOTOGRAPHS**	
Client Name Cardno	**Site Location** 56 Hilldowns Road, Kalkite	**Project No.** P21113

Photo No.	**Date**
7.	4/11/2021

Description

View inside the Hay Shed

Photo No.	**Date**
8.	4/11/2021

Description

Abandoned car located in the western section of the site.

lanterra consulting	SITE PHOTOGRAPHS	
Client Name Cardno	**Site Location** 56 Hilldowns Road, Kalkite	**Project No.** P21113

Photo No.	**Date**	
9.	4/11/2021	
Description View of the north western section of the site with the township of Kalkite in the background.		
Photo No.	**Date**	
10.	4/11/2021	
Description Tyres located in the central portion of the site.		

lanterra consulting	**SITE PHOTOGRAPHS**

Client Name	**Site Location**	**Project No.**
Cardno	56 Hilldowns Road, Kalkite	P21113

Photo No.	**Date**
11.	20/01/2021

Description

Dam and pump housing with the fallen windmill located in the central section of the site.

Photo No.	**Date**
12.	20/01/2021

Description

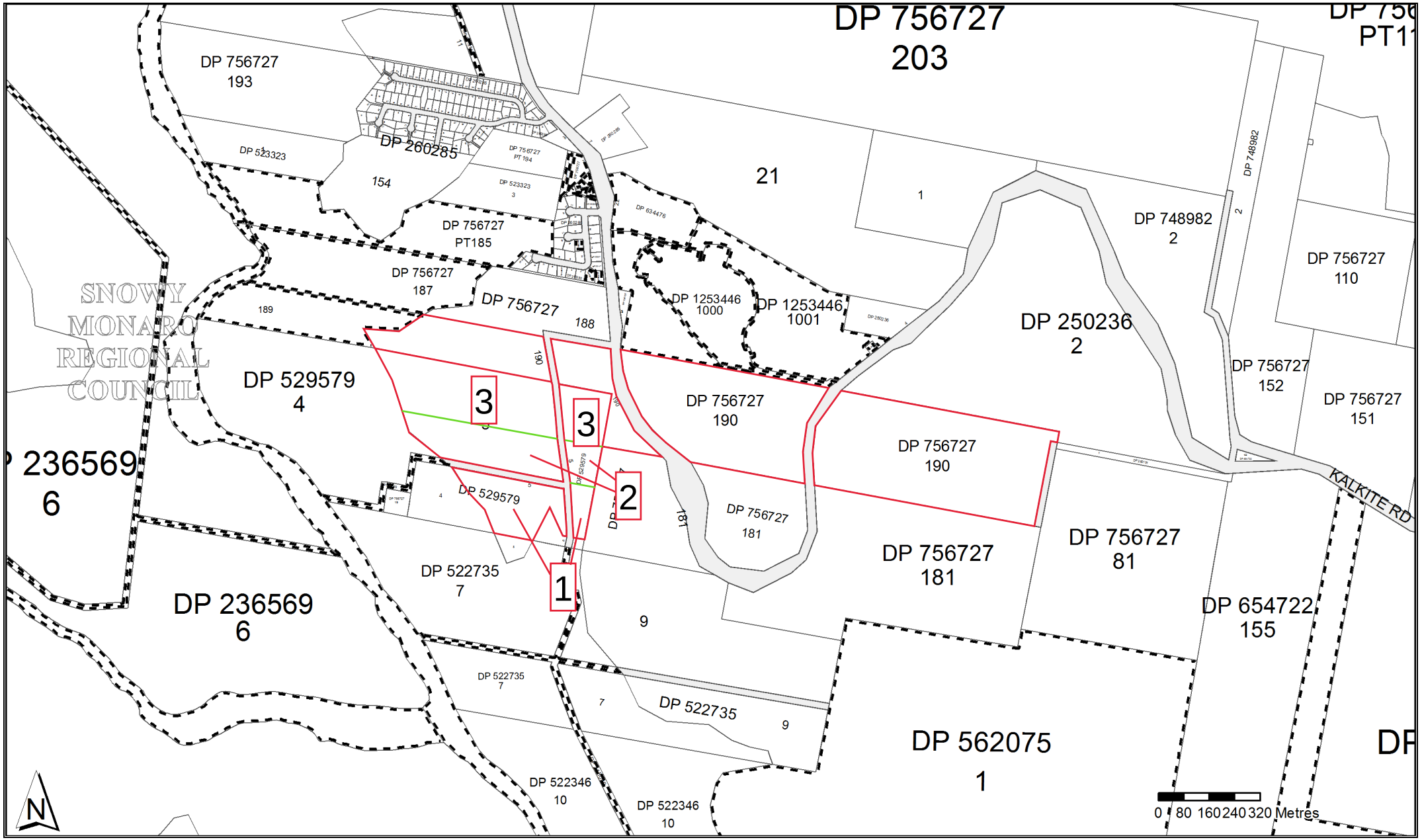
Excvation located in the central section of the site.

Appendix E

Cadastral Records Enquiry Report : Lot 190 DP 756727

Ref : 56 Hilldowns Road, Kalkite

Locality : KALKITE
Parish : TOWNSEND
LGA : SNOWY MONARO REGIONAL
County : WALLACE



This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps

Form 1

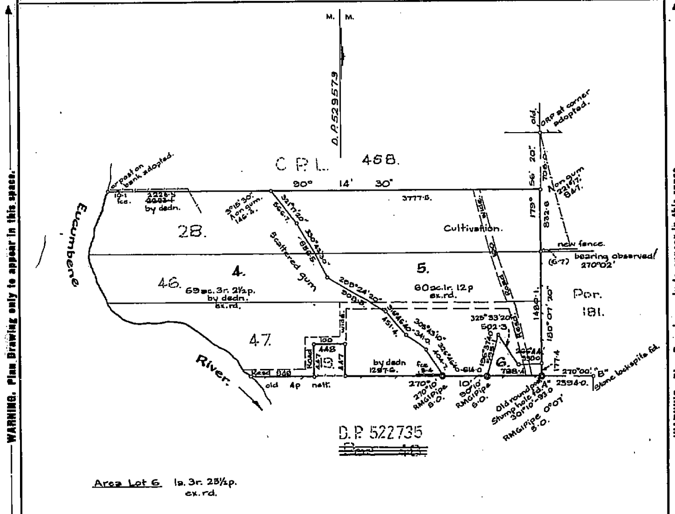
OFFICE USE ONLY

PLAN OF SUBDIVISION OF Portions 28, 46 & 47.

Mun./Shire/City..Snowy..River
Town or Locality..Jindabyne
Parish...Townsend
County...Wallace
Scale. 10ch to an Inch

D. P. 529579
Registered 10.7.1968
C.A.: 21/1966 of 19-10-1966
Title System: Torrens
Purpose: Subdivision
Ref. Map: Parish
Last Plan: Parish

WARNING. Plan Drawing only to appear in this space.



Area Lot 6 1a. 3r. 25½p. ex.rd.

Signatures, Seals and Statements of intention to dedicate public roads or public reserves or create drainage reserves, easements, or restrictions as to user.

I, Peter William Lean of 109 Bigges Street LIVERPOOL a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan is accurate and has been made* (1) ~~by me~~ (2) under my immediate supervision in accordance with the Survey Practice Regulations, 1933, and was completed on† 11.3.66

Datum Line of Azimuth. "A"–"B". Signature [signature] Surveyor Registered under Surveyors Act, 1929, as amended.
* Strike out either (1) or (2). † Insert date of survey.

Council Clerk's Certificate.

I hereby certify that—
(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and
*(b) the requirements of Section 34B of the Metropolitan Water, Sewerage, and Drainage Act, 1924, as amended,
have been complied with by the applicant in relation to the proposed subdivision (insert "new road" or "subdivision") set out herein.
Subdivision No. 21/1966
Date 19th October 1966
(Signature) [signature] Council Clerk.

* NOTE.—This part of certificate to be deleted where the application is only for the opening of a new road or where the land to be subdivided is wholly outside the area of operations of the Metropolitan Water Sewerage and Drainage Board.

M.P.D.

D. P. 529579

SURVEYORS REFERENCE 1471 – E3.
J5592

CONVERSION TABLE ADDED IN REGISTRAR GENERAL'S DEPARTMENT

DP 529579

LINKS	METRES
5	1.006
5.4	1.086
6.7	1.348
10.1	2.032
59.5	11.969
84.4	16.979
84.7	17.039
93	18.709
100	20.117
146.4	29.451
177.4	35.687
335	67.391
341	68.598
404.7	81.413
447	89.922
448	90.123
451.4	90.807
502.3	101.047
566.7	114.002
595.1	119.715
614	123.517
706	142.025
788.4	158.601
832.6	167.492
848	170.590
856.5	172.300
908.3	182.721
1297.6	261.036
1480.1	297.749
2228.5	448.303
2394	481.596
3777.5	759.912
4447	894.594

AC RD P	SQ M
1 3 25 1/2	7727

AC RD P	HA
60 1 12	24.41
69 3 2 1/2	28.23

I, Jack Hayward Watson, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 31st day of May, 1976.

[signature]

Coonara

Plan of 50 acs

W. 9181

No 28 Parish of Townsend

County of Wallace

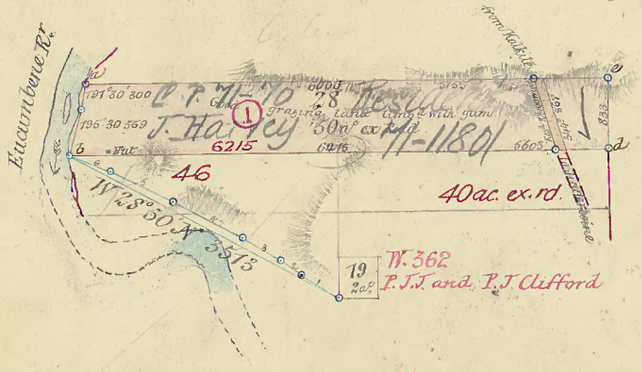
Applied for under the 13th Section of the Crown Lands Alienation Act of 1861.

by [redacted]

Scale 20 Chains to 1 Inch

NOTE.—In the event of the Conditional Purchase becoming either LAPSED or FORFEITED the plan should be forwarded to the RESERVE BRANCH with a view of including the area in Kiandra G.F. Extn Procld 7th April 84.

[redacted]



W 929

Traverse					
1	301°	500	4	298°	900
2	307°	300	5	237°	800
3	302½	500	6	298	520
		1300			2220

PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE

Original plan indicates bank is the portion boundary (ADDED FOR MICROFILM PURPOSES)

Charted 8th Sept 71

12 Sept 1871

TRACED FOR D.S.D. 10.2.86

6645 – 1604

Reference to Corners.

Corner	Bearing	From	Links	No on tree
a	267°	Gum	125	28
b	345°15	Gum	79	28
d	330°15	do	61	28
e	229°	do	29	28

Marked in accordance with the Regulations

Instrument used Circumferentor

Transmitted to the Surveyor General with my letter No 40 of July 31st 1871

Cornelius Haylock
Licensed Surveyor

Date of Survey July 3rd 71
Name of Run Guiderbone
Value of Improvements £15.0.0

W 6645 1604

W 929

14
1344

Amended

PLAN OF 82 acres in two blocks

Nos 46 and 47 PARISH OF Townsend

COUNTY OF WALLACE.

Applied for under the Clause of the Crown Lands Alienation Act of 1861 by

[redacted]

John Harvey

[redacted] 47. 42 acres measured for sale under the 23rd section of the C. L. A. Act of 1861

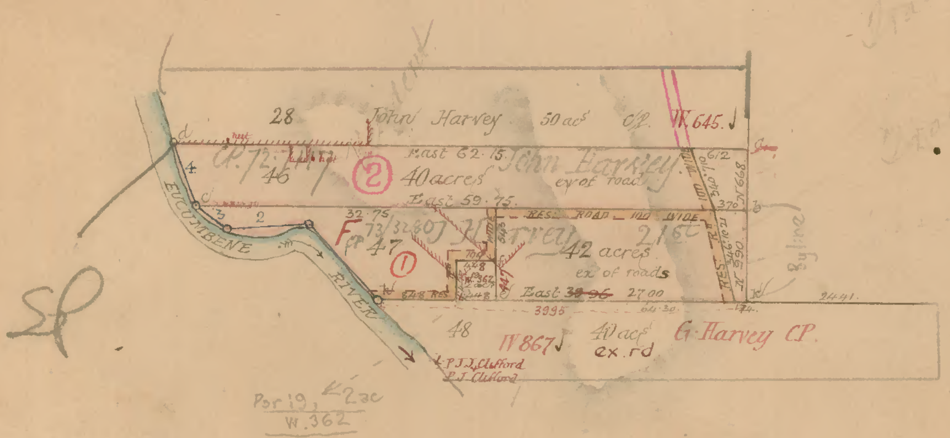
Cancels plan by 73.5447 Ar.

Sale at Cooma 26th April 1875
Country lot F . . . . . Portion 47
Vide Aln Ps 23160 above lot withdrawn from sale

[redacted]

NOTE.—In the event of the Conditional Purchase becoming either LAPSED or FORFEITED the plan should be forwarded to the RESERVE BRANCH with a view of including the area in Kiandra G.F. Extn Procl'd 7th April 84.

[redacted]



PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE

Original plan indicates
bank is the portion boundary
(ADDED FOR MICROFILM PURPOSES)

Reference to Corners.

Corner	Bearing	From	Links	No. on Tree
a	S 30° E vide W5741 1604	Gum	61	28 . 46
b	E 44° N	Muzzlewood	17	46 . 47
c	N 15° W	Gum	31	46 . 47
d	N 15° W	"	79	28 . 46
w	W 31° N	"	42	47 . 48
x	N 59 W vide W5741 1604	"	93	47
e	Stake			
f	Stake			

Reference to Traverse.

Line	Bearing	Distance
1	317° 15	11 00
2	266° 15	09 . 00
3	305° 45	04 . 13
4	340° 15	07 . 10

Scale 20 Chains to an Inch.

Marked in accordance with regulations.

Instrument used in Survey. Theodolite.

Date of Survey 26 March 1873

Value of Improvements £5

Situated in the Kalkite Run.

929 — 1604

Original Plan Transmitted to the Surveyor-General with my letter of the 10th April 1873 No 73/

Jan: 15 1874 No 74/3.

R. J. Campbell

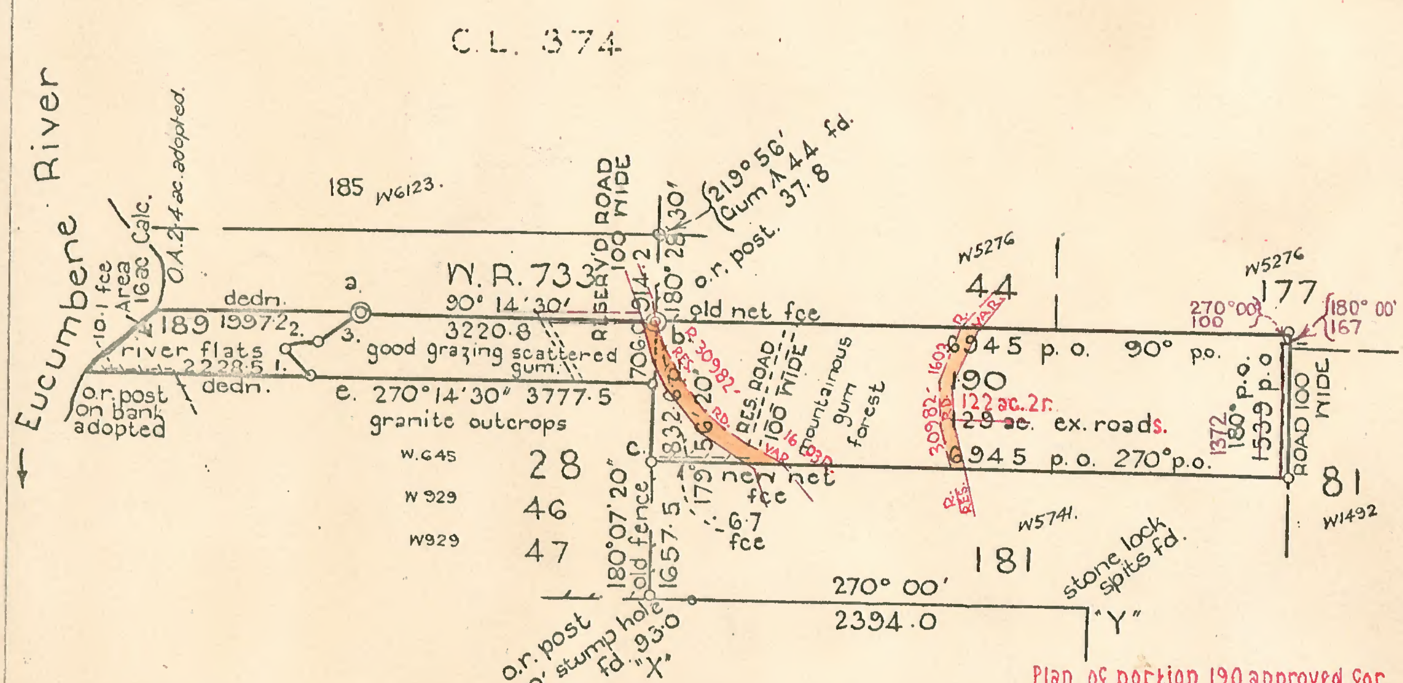
25 Feb 75

11.2.86

PLAN OF Por. 189 & 190 PARISH TOWNSEND COUNTY WALLACE
LAND DISTRICT COOMA SHIRE SNOWY RIVER

NOTATION PLAN
I, the Officer-in-Charge, General Drafting Branch, CERTIFY that this notation plan is a PHOTOGRAPHIC COPY OF THE ORIGINAL AT DATE OF ITS APPROVAL. M.M.
DATE 4 Nov '68

Por. 190: 6ac. 2r. (in 3 pts.) resumed for road R. 30982-1603 R. Gaz. 10-1-1969. R.68-898.



Plan of portion 190 approved for 122 ac. 2 r. Op. ex. rds. by ded? R.68-898
W.S. Hamley
Authorised Officer.
1/12/70

TRAVERSE

1.	321° 17' 20"	377.6
2.	78° 04' 40"	335.5
3.	53° 47' 00"	575.2
4.	48° 57' 30"	801.0 p.o.
5.	48° 00' 30"	262.0 p.o.

REFERENCE MARKS

CORNER	BEARING	FROM	DISTANCE	NO. ON TREE
a.	233° 47	G.I. pipe	5.8	
b.	0° 28'	G.I. pipe	5.0	
d.	221° 17'	Gum	84.7	∧ 190
e.	3° 15' 30"	Gum	146.4	∧ 189.190

PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE

Charted on Head Office Maps

Examined

SCALE 20 ch. TO AN INCH.
All measurements shown in links.
AZIMUTH TAKEN FROM X Y.
FIELD BOOK 4936 PAGES 7-48

I, Peter William Lean of 109 Bigges St., LIVERPOOL a Surveyor registered under the Surveyors Act, 1929-1946, hereby certify that the survey represented in this plan is accurate and has been made under my immediate supervision in accordance with the Survey Practice Regulations, 1933, and the special requirements of the Department of Lands and was completed on 24.3.66

Signature
Surveyor registered under the Surveyors Act, 1929-1946.

This space for office use only.

Cancels plan C.P.L. 179 Ca.
Within: Kiandra Gold Field Extension, Proclaimed 7th April, 1884.
Snowy River & tributaries erosion hazard Area, under Sec. 16 S.C. Act, 1938.
Snowy Mountains Area, Proclaimed Commonwealth Gazette 6th May, 1954.
Snowy River Shire Council's Town & Country Planning Scheme Gaz. 7th Sept. 1951.
Portion 189: Pt. C.L. 468, 10th Jany. 1885, of 150 acres, now C.L. 68.5 of 10th Jany. 1885, John Thomas Harvey & Richard Vivian Harvey.
Portion 190: Pt. C.L. 468, 10th Jany 1885 of 150 acres, John Thomas Harvey & Richard Vivian Harvey, now 129 acres by subdivision.

CHECKED & CHARTED
PLAN APPROVED
Authorised Officer 18-9-1968

PAPER NO. LB 68/495 TEN 68/3689 CAT. NO. W6151-1604.

NOTATION PLAN ref: 1471: E2 J5591

Amended Survey

Land District of Cooma

County of Wallace Parish of Townsend

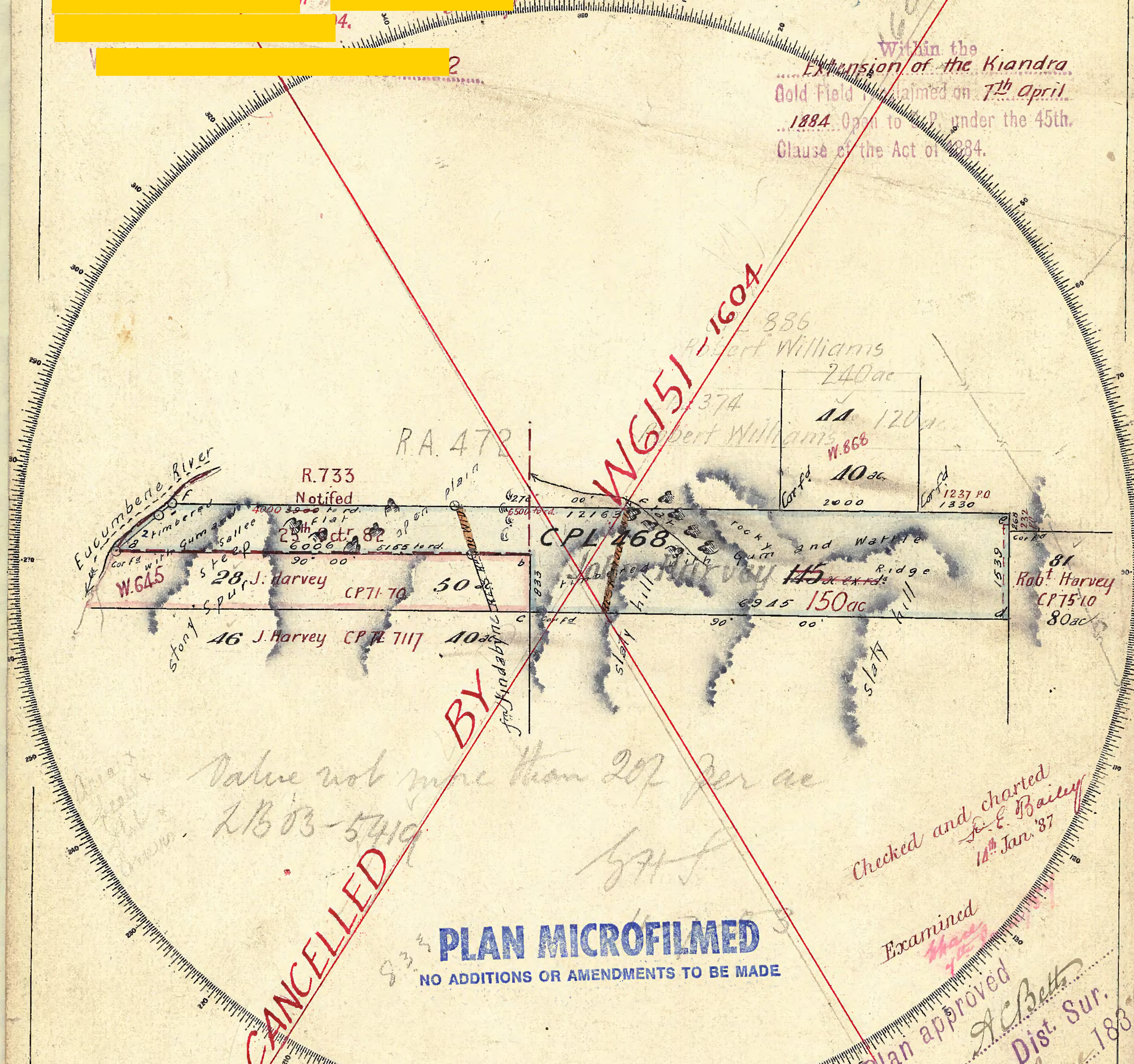
PLAN OF CONVERTED PRE-LEASE Containing ~~150~~ 150 Acres

Measured on the Application of [redacted]y CPL 179 ba

[redacted] Approved Vide Government Gazette dated 11th Aug '85 No. 468.

[redacted]

Within the Extension of the Kiandra Gold Field proclaimed on 7th April 1884. Open to C.P. under the 45th Clause of the Act of 1884.



Azimuth taken from

Reference to Corners

Corner	Bearing	From	Links	Nº on Tree
a	267° 0'	Gum	125	28. CPL
b	229° 0'	Gum	29	28
c	330° 15'	Gum	61	28 46. CPL
d	142° 0'	Gum	15	CPL
e	95° 52'	Gum	55½	CPL
f	136° 0' / 159° 11'	Gum / Gum	57 C / 54	177 / CPL by W 527 L

Reference to Traverse

Line	Bearing	Distance
1	227° 46'	262
2	228° 43'	801

Account No 86·181
197.10 ch @ £2 per mile
Tracing @ 2½ %
Plan £1.1
Local Increase 15%

Report 10/- passed (vide Dr. Sur...) 20th April 87

I hereby certify that I in person made and on the 9th Decr 86 completed the survey represented on this plan, on which are written the bearings and lengths of the lines measured by me; and I declare that the survey has been executed in accordance with the regulations published for the guidance of Licensed Surveyors, and the practice of the Surveyor General's Department.

179-3021

Edwin J. [signature]
Licensed Surveyor

Value of Improvements Nil

Situated in the

Certified Tracing to Head Office 3rd Aug 1887

179-3021

Scale 20 Chains to an Inch

Transmitted to the District Surveyor with my letter of the 31st Decr No 86/196

Cal Book 1882 page 19

[4885]

Department of Lands,
Sydney, 24th December, 1913.

CONDITIONAL LEASES.

NOTICE is hereby given that the Conditional Leases particularised in the following Schedule have been brought under the provisions of section 6 of the Crown Lands Act Amendment Act of 1903 (now section 310 of the Crown Lands Consolidation Act, 1913), and the term of the Conditional Leases has been extended to forty years from the date of their commencement.

The rents of the leases have been reappraised in accordance with the provisions of the above section, and determined at the rates per acre stated.

The rents as determined will apply to the leases from the dates mentioned in the Schedule.

Any difference of rent found to be due to the Crown in consequence of such reappraisement must be paid within one month from this date to the Crown Land Agent of the district, or to the State Treasurer.

Any rent paid after the due date will bear interest from the due date, in accordance with the provisions of section 11 of the Crown Lands (Amendment) Act of 1893 (now section 278 of the Crown Lands Consolidation Act, 1913).

J. L. TREFLÉ.

SCHEDULE.

No. of Conditional Lease.	Papers.	Lessee.	Address.	County.	Parish.	Area.	Rate per Acre.	Annual Rent.	Date of commencement of Rent, as reappraised.	Rent now owing.		Shire.
										Amount.	For period ending—	
			EASTERN DIVISION.									
			LAND DISTRICT OF CARCOAR.									
	C.S.					a. r. p.	s. d.	£ s. d.		£ s. d.		
4405	1913-24620	Emmeline Ann Cobb, Amie Eleanor Cobb, Frank Darvall Cobb, and William King Howell, executrices and executors of late B. Stimpson, of Blenheim, Carcoar.	Blayney	Bathurst ...	Bracebridge ...	1,802 0 0	0 3½	26 5 7	4 Mar., 1912	10 3 0	31 Dec., 1913	Waugoola.
15084	24619	Do do ...	do	do ...	Purfleet ...	564 0 0	0 3½	8 4 6	30 „ „	3 8 3	5 Mar., 1914	do
	C.S.			**LAND DISTRICT OF COOMA.**								
59	1913-23423	Edmond John Bede O'Brien	Berridale	Wallace ...	Bulgundara ...	420 0 0	0 2	3 10 0	20 Dec., 1912	Nil.	.....	Dalgety.
156	23410	Fanny Rebecca Williams	Jindabyne	do ...	Townsend ...	300 0 0	0 2½	2 16 3	30 Nov., „	5 6 8	31 Dec., 1913	do
241	23422	The Australian Joint Stock Bank (Limited). (per Thomas Wroe)	Sydney ... ... Jimenbuan, Cooma.	do ...	Tongaroo ...	510 0 0	0 3½	7 6 3	12 Oct., „	0 13 9	31 „ „	do
374	23433	James Taylor	Lake Plain, Cooma ...	do ...	Townsend ...	120 0 0	0 3½	1 15 0	9 Nov., „	0 17 2	31 „ „	do
375	23409	Adeline Williamson	Jindabyne	do ...	do ...	106 0 0	0 2½	0 19 11	30 „ „	0 2 5	31 „ „	do
452	23425	George Constance	Cootralantra, Cooma..	do ...	Gygederick ...	113 0 0	0 3½	1 13 0	22 „ „	0 5 3	31 „ „	do
468	23426	John Harvey	Jindabyne	do ...	Townsend ...	150 0 0	0 3½	2 0 8	9 Dec., „	0 6 6	31 „ 1914	do
~~699~~	~~23414~~	~~John Langhorn and Thomas Langhorn~~	~~Jimenbuan ... ...~~	~~do ...~~	~~Tongaroo ...~~	~~1,880 0 0~~	~~0 2½~~	~~19 11 8~~	~~6 Aug., „~~	~~9 8 5~~	~~31 „ „~~	~~do~~
886	23407	Susan Williamson	Jindabyne	do ...	Townsend ...	240 0 0	0 2½	2 5 0	21 Nov., „	0 5 7	31 „ 1913	do
952	23421	The Commissioners Government Savings Bank of New South Wales. (per Alfred Roberson)	Sydney ... ... Berridale.	do ...	do ...	136 0 0	0 4	2 5 4	10 July, „	1 5 2	31 „ „	do
958	23411	Adeline Williamson	Jindabyne	do ...	do ...	65 0 0	0 2½	0 12 3	30 Nov., „	0 1 6	31 „ „	do
1176	23412	William Wallace	do	do ...	do ...	240 0 0	0 3	3 0 0	5 Dec., „	1 1 6	31 „ „	do
4788	23127	The Commissioners Government Savings Bank of New South Wales. (per James Deegan)	Sydney ... ... Berridale.	do ...	Gygederick ...	618 0 0	0 2	5 3 0	18 „ „	15 9 0	31 „ „	do
6602	23424	John Sorrell	Care of Crown Land Agent, Cooma.	do ...	Chippendale ...	240 0 0	0 4	4 0 0	20 „ „	1 9 4	8 June, 1914	do
29473	23430	The Commissioners Government Savings Bank of New South Wales. (per Alfred Roberson)	Sydney ... ... Kara, Berridale.	do ...	Jinderboine ...	192 1 0	0 3	2 8 1	10 July, „	3 8 6	18 Oct., „	do

CONDITIONAL LEASES—*continued.*

CENTRAL DIVISION.

LAND DISTRICT OF NARRABRI.

No. of Conditional Lease.	Papers.	Lessee.	Address.	County.	Parish.	Area.	Rate per Acre.	Annual Rent.	Date of commencement of Rent, as reappraised.	Rent now owing. Amount.	Rent now owing. For period ending—	Shire.
	C.S.					a. r. p.	s. d.	£ s. d.		£ s. d.		
2935	1913-24911	The Commercial Banking Company of Sydney (Limited). (per Thomas Knight)	Sydney ... ... Wee Waa.	Jamison ...	Weeta Waa ...	600 0 0	0 3	7 10 0	12 Dec., 1912	Nil.	.....	Namoi.
2945*	24373	The Bank of Australasia ... ... (per Lillias Thompson)	Sydney ... ... Wee Waa.	do ...	Tulla Dunna...	1,079 0 0	0 4	17 19 8	7 „ „	1 16 7	31 Dec., 1913	do
4814	24910	The Commercial Banking Company of Sydney (Limited). (per Thomas Knight)	Sydney ... ... Wee Waa.	do ...	Weeta Waa ...	57 1 0	0 3	0 14 4	12 „ „	0 1 3	31 „ „	do

LAND DISTRICT OF WARREN.

No. of Conditional Lease.	Papers.	Lessee.	Address.	County.	Parish.	Area.	Rate per Acre.	Annual Rent.	Date of commencement of Rent, as reappraised.	Rent now owing. Amount.	Rent now owing. For period ending—	Shire.
	C.S.					a. r. p.	s. d.	£ s. d.		£ s. d.		
5725	1913-25079	The Commercial Banking Company of Sydney (Limited). (per James McCalman)	Sydney ... ... Bullagreen.	Ewenmar ...	Bullagreen ...	1,920 0 0	0 3½	28 0 0	24 April, 1913	Nil.	.....	Marthaguy.
6755	25082	George Alexander Munro and Donald McCalman Munro (executors and trustees of late David Munro).	Care of H. W. Lovett, Warren.	Gregory ...	Mellerstain ...	652 1 0	0 4	10 17 5	12 Mar., „	2 5 6	15 Nov., 1914	do
8840	25033	The Commercial Banking Company of Sydney (Limited). (per Charles Ernest Campbell)	Sydney ... ... Keswick, near Nevertire.	Oxley... ...	Garule ...	1,920 0 0	0 4	32 0 0	15 April, „	1 15 0	28 Feb., „	do
9491	25086	The Commercial Banking Company of Sydney (Limited). (per James McCalman)	Sydney ... ... Bullagreen, Warren.	Ewenmar ...	Bullagreen ...	1,731 2 0	0 4	28 17 2	24 „ „	3 13 10	2 May, „	do
9492	25005	Do do ...	do do ...	do ...	do ...	800 0 0	0 3½	11 13 4	24 „ „	1 14 2	2 „ „	do
10132	25009	George Alexander Munro and Donald McCalman Munro (executors late David Munro.)	Care of H. W. Lovett, Warren.	Gregory ...	Mellerstain ...	1,915 0 0	0 4	31 18 4	12 Mar., „	5 19 4	5 Dec., „	do
10170	25008	The Commercial Banking Company of Sydney (Limited). (per Thomas William Tyers)	Sydney ... ... Warren.	Oxley... ...	Narromine ...	1,404 0 0	0 3¾	21 18 9	11 „ „	2 7 5	23 Oct., „	do
10912	25087	The Commercial Banking Company of Sydney (Limited). (per Charles Ernest Campbell)	Sydney ... ... Nevertire.	do	Gobabla ...	1,224 0 0	0 4	20 8 0	15 April, „	7 19 8	30 April, „	do
15382	25085	Do do ...	do	do	do ...	491 2 0	0 4½	9 4 4	15 „ „	Nil.	.....	do
15458	25006	The Commercial Banking Company of Sydney (Limited). (per James McCalman)	Sydney ... ... Bullagreen.	Ewenmar ...	Merrigal ...	140 0 0	0 3	1 15 0	24 April, „	0 3 2	21 May, 1914	do
19090	25014	George Alexander Munro and Donald McCalman Munro (Executors of late David Munro).	Care of H. W. Lovett, Warren.	Gregory ...	Mellerstain ...	267 3 0	0 4	4 9 3	12 Mar., „	0 13 2	20 „ „	do
27652	25084	The Commercial Banking Company of Sydney (Limited). (per Charles Ernest Campbell)	Sydney ... ... Nevertire.	Oxley... ...	Gobabla ...	1,428 2 0	0 4½	26 15 9	15 April, „	Nil.	.....	do

* Area reduced by 691 acres, viz.:—Conditional purchase 1912-86, applied for 20th December, 1912; confirmed, 14th May, 1913.

F277515 D

No.

This form should be marked by the Commissioner of Stamp Duties before lodgment at the Land Titles Office.

R.P.3.

APPLICATION TO BE REGISTERED UNDER THE REAL PROPERTY ACT, 1900 (SECTION 94), AS PROPRIETOR BY TRANSMISSION.

REGISTRAR-GENERAL NEW SOUTH WALES

Fees:	£ s. d.
Certificate ...	: :
Lodgment	1 10 –
Endorsements	: 5 –
Total ...£	1–15 –

3-8-50

I/~~We~~ (a) [redacted] of Hilldowns, Ealkite near Jindabyne, N. S. W. [redacted].

do solemnly and sincerely declare that I/~~we~~ believe myself/~~ourselves~~ to be entitled for an estate (in fee simple) (b) to the land described in the following Certificates of Title and Crown Grants held by [redacted]

[redacted] :—

(c) Vol.	Fol.	Vol.	Fol.	Vol.	Fol.	Vol.	Fol.	Vol.	Fol.	Vol.	Fol.
[redacted]											
[redacted]											

(2)

REGISTRATION NOT OPPOSED
E. Moore
Commissioner of Stamp Duties.
22.6.50

lodged herewith I/~~we~~ having become so entitled as (d) devisee under the will

of the said deceased who died on the 13th day of August 1929 and (e) Probate (No. 163324) of whose will dated 25.11.19 ~~Letters of Administration (No. ——————) of whose Estate~~ (e) was/~~were~~ g[redacted] on the 19th day of November 1929. In further verification whereof I/~~we~~ have deposited the abovementioned deeds and also the documents mentioned in the schedule hereunder.

I/~~We~~ also declare that no other person is within my/~~our~~ knowledge entitled to any estate or interest in the said land :—(f)

SCHEDULE OF DOCUMENTS DEPOSITED.

1. (e) Probate of the will of the said deceased. ~~Letters of Administration of the Estate of the said deceased.~~
2. (g) ~~Office copy of the said will.~~
3. (g) ~~Federal Commissioner's Receipt for payment of estate duty; or~~ Evidence that the Estate is not liable therefor. (see note A)
4. (h) Declaration negativing any application under the Testator's Family Maintenance and Guardianship of Infants Act, 1916-1938. & Annexures "A" & "B"
5. (i) [redacted]

Sech. 1, 4 Death Certo (2) & Cts (2)

Received Documents Nos. and Grants/C's. T.

Receiving Clerk

AND I/~~WE~~ MAKE THIS SOLEMN DECLARATION conscientiously believing the same to be true and by virtue of the provisions of the Oaths Act, 1900 (j)

(k) I/~~We~~ also certify that this application is correct for the purposes of the Real Property Act, 1900.

(l) MADE and subscribed by the abovenamed RICHARD HARVEY at Cooma the 25th day of May 1950 in the presence of— [signature] J.P.

Richard Harvey

NEW SOUTH WALES ONE POUND STAMP DUTY 0 1 6 50

Applicant(s).

I, [redacted] hereby consent to this application.
Dated at Cooma this 25th day of May 1950.
SIGNED in my presence by the said RICHARD HARVEY who is personally known to me:- [signature] Solicitor Cooma

Richard Harvey.

ALL BLANKS SHOULD BE RULED BEFORE SIGNING.

The Justice of the Peace or other person who attests the application should initial all alterations.

CAUTION.—This application is in form a statutory declaration, and applicants are reminded that, by virtue of the provisions of the Crimes Act, 1900, the penalties of perjury are attached to a false declaration concerning any matter or procedure under the Act. The utmost care is therefore necessary in framing (or reading over if the form be filled up by an Attorney) every particular statement therein.

It is further provided by Section 126 of the Real Property Act, 1900, that any applicant procuring a Certificate through any fraud, error, omission, misrepresentation or misdescription will, notwithstanding the issue of such Certificate, remain liable for damages to any person thereby prejudiced. And any person who fraudulently procures, assists in fraudulently procuring, or is privy to the fraudulent procurement of any Certificate of Title is declared guilty of a misdemeanour and liable to a penalty not exceeding £500, or imprisonment not exceeding three years, and any Certificate thereby procured is rendered void as between all parties or privy to the fraud.

(See back for "Hints.")

No alterations should be made by erasure. The words rejected should be scored through with the pen, and those substituted written over them, the alteration being verified by signature or initials in the margin, or noticed in the attestation.

ATTENTION IS DIRECTED TO THE HINTS ON THE BACK HEREOF.

(a) Christian name(s) and surname(s) in full with residence(s) and occupation(s).

(b) If a less estate, alter to accord with the fact.

(c) Where the deeds are very numerous, a fuller schedule may be made an annexure.

(d) Executor, or administrator, or trustee, or devisee, or as case may be—adding any necessary information or particulars. Applicants should not claim as "executor and devisee" or "executor and trustee."

(e) Strike out inappropriate words.

(f) If there be any contract, mortgage, lease, &c., or other interest affecting the land, add the words "except as follows," and insert particulars thereof.

(g) See "Hints."

(h) See Note C

(i) Here state nature of other documents lodged, e.g., declarations as to identity, &c.

(j) If made outside the State, strike out "Oaths Act, 1900," and insert reference to local Act.

(k) CAUTION.—Any person negligently certifying is liable to a penalty of £50. See Sec. 117 of R. P. Act, 1900.

(l) This Declaration must be attested by the Registrar General or Deputy Registrar General, or a Notary Public, or by a Justice of the Peace, or by a Commissioner for Affidavits. [This applies only to declarations made within the State.] If made outside the State, the declaration should be made according to the law of the State in which it is made, and before a person authorised by that law to take declarations.

5b 8479—W K 976

63960

5128 / 110 5615 / 197

F277515

No.

APPLICATION BY TRANSMISSION.

Lodged by GALLOWAY & CO. Law Stationers & Conveyancing Agents 128 PITT ST. SYDNEY

LEAVE THESE SPACES FOR DEPARTMENTAL USE.

(*Applicant.*)

PARTICULARS ENTERED IN REGISTER BOOK

Vol. 5128 Fol. 110
" 5615 " 197

the 24th day of August 1950, at 12 o'clock noon.

INDEXED

L. Wells
Registrar-General

HINTS FOR APPLICANTS.

(A) APPLICATION BY EXECUTORS OR ADMINISTRATORS.

1. There should be lodged with the application :—
   (*a*) The Probate or Letters of Administration.
   (*b*) The Certificate of Title or Grant.
   (*c*) An office copy of the Will for permanent lodgment. (See under "General.")

2. Evidence should be lodged with the application :—
   (*a*) Of the payment of Federal Estate Duty, or—
   (*b*) That the Estate is not liable to duty, or—
   (*c*) (From the Federal Commissioner of Taxation) that sufficient security is held for the payment of the duty.
   If this cannot be furnished, the application will be allowed to proceed subject to a Caveat as in 3 (*b*) being entered. (See Note A.)
   (*d*) (In appropriate cases) that Double Probate has not been applied for.

3. A Caveat will be entered to prevent dealings :—
   (*a*) Not in accordance with the powers and duties of such executor or administrator, and
   (*b*) In contravention of the Estate Duty Assessment Act (Federal) (unless evidence of payment or non-liability has been furnished).

The fee (15/– and 5/– for every extra folium) for such Caveat should be paid at the time of lodging the application.

(B) APPLICATION BY DEVISEE.

1. There should be lodged with the application :—
   (*a*) The probate or Letters of Administration, c.t.a.
   (*b*) The Certificates of Title or Grants.
   (*c*) The duly stamped consent of the executor or administrator, where the applicant is not such executor or administrator.

2. Evidence should be lodged with the application :—
   (*a*) Of the payment of Federal Estate Duty, or—
   (*b*) That the Estate is not liable to duty, or—
   (*c*) (From the Federal Commissioner of Taxation) that sufficient security is held for the payment of the duty.
   (*d*) (In appropriate cases) that Double Probate has not been applied for.
   (*e*) Of the payment or release of any legacy charged on subject land or the determination of any rights under the will in any person other than the applicant. (See "General" under "Receipts, Consents, &c.")
   (*f*) Of the identity, where not evident, of the land devised with that applied for. (See Note D.)
   (*g*) Of the identity, where not evident, of the devisee with the applicant.
   (*h*) That the title is not affected or liable to be affected by any Order under the Testator's Family Maintenance and Guardianship of Infants Act, 1916–1938. (See Note C.)
   (*i*) That the applicant is not a bankrupt, and has not assigned or encumbered his interest.

(C) APPLICATION BY PERSONS CLAIMING UNDER AN INTESTACY

1. There should be lodged with the application :—
   (*a*) The Letters of Administration.
   (*b*) The Certificates of Title or Grants.
   (*c*) The duly stamped consent of the administrator.
   (*d*) A certificate of death of the deceased.

2. Evidence should be lodged :—
   (*a*) Of the payment of Federal Estate Duty, or—
   (*b*) That the Estate is not liable to duty, or—
   (*c*) (From the Federal Commissioner of Taxation) that sufficient security is held for the payment of the duty.
   (*d*) That the applicant is not a bankrupt, and has not assigned or encumbered his interest.
   (*e*) Of facts showing that the applicants are the only persons entitled in distribution to the estate of the intestate. (See Notes C and E.)

GENERAL.

1. Such other evidence which any case may require should also be lodged.

Caveats and Office Copies of Wills.

2. When a transfer of the whole of the land in the application is lodged therewith a caveat, as in A 3 (*a*), will not be entered, and an office copy of the will need not be lodged.
If the Probate is allowed to remain in the case until the whole of the land has been transferred, such office copy will not be required.

Statutory Declarations.

3. Declarants should fully state their means of knowledge of the facts declared to, and where the facts are not within their own knowledge they should fully state the sources of their information and belief.
Facts, and not inferences, should be declared to.
Declarations made outside the State of New South Wales should be made under the law of the State in which they are made and before a person authorised by that law to take declarations.
Declarations should be signed on each page by the declarant and the person before whom made, and should be suitably endorsed.

Receipts, Consents, &c.

4. Receipts for legacies and consents and similar documents lodged in support of applications should be accompanied by evidence as to the identity of the person signing, and that he had attained the age of twenty-one years at the date of such signing.

Applications by Persons not Resident in New South Wales.

5. See Section 94 (7) of the Real Property Act, 1900.
They will also be received, if declared at the place where the applicant resides in accordance with the law relating to statutory declarations of the State where made before a person authorised by that law to take declarations.

Alterations.

6. In no case can any alteration, however trifling, be allowed to be made after the application has been declared unless all parties re-sign and re-declare the same. If it is discovered that any alterations are necessary the applicant may make a statutory declaration setting out in what manner he desires the application to be altered, which declaration will then (unless the Registrar-General considers that a fresh application ought to be made) be read as one with the application.

Fees.

7. Application by (*a*) any persons other than executors, administrators or trustees, £1/10/0, and an additional 15/– for each such applicant after the first; (*b*) executors, administrators or trustees, £1/5/0. For every extra memorial 5/– and for every new Certificate of Title required, £1/10/0.
These are in addition to the fees mentioned above.

NOTES.

NOTE A.

Federal Estate Duty.

In applications in respect of estates of persons dying on or after the 21st December, 1914, the Caveat referred to in A 3 (*b*) will not be entered—

(*a*) when the Probate or Letters of Administration shows that the gross value of the estate in New South Wales did not exceed £1,000, or where the deceased person died on or after 20th May, 1940, and the whole estate passes to his widow, children, or grandchildren, £2,000, and evidence is furnished that the deceased did not leave any assets outside the State; or

(*b*) when a receipt for payment of duty is furnished, or the Probate or Letters of Administration bears a Certificate by the Federal Commissioner of Taxation that duty has been paid or that the estate is exempt from duty; or

(*c*) when the Federal Commissioner of Taxation certifies that he holds sufficient security for the payment of the duty.

NOTE B.

Evidence of Payment of Debts, Funeral and Testamentary or Administrative Expenses is not usually required with an application by an executor or administrator or with an application by a beneficiary on which is endorsed the consent of the executor or administrator.

NOTE C.

Testator's Family Maintenance and Guardianship of Infants' Act, 1916-1938.

An application by a devisee under the will of a testator who died since 7th October, 1915, should be accompanied by a statutory declaration by the executor that he has not received notice of an application under the said Act, or a statutory declaration showing that search in the Equity Office discloses that no proceedings under the said Act have been taken in respect of the will of the deceased. In the latter case the declaration should show the date of search.

A similar declaration showing the result of search in the Equity Office will be required in the case of a distribution of the estate of an intestate husband who died on or after 1st January, 1939—see Section 3 (1A) of the above Act.

NOTE D.

Evidence as to Identity of Land.

All facts which are necessary to establish this identity should be fully set out, and might advantageously be illustrated by a sketch in appropriate cases.

Where the testator had not, at the date of his will or codicil, as the case may be, any land in the locality or street mentioned in the devise other than that included in the application, proof of this will usually be sufficient.

Any surveyor's plans or certificates in the applicant's possession which would assist in identification might be lodged with the application.

NOTE E.

Suggestions showing the nature of Evidence necessary to prove who are entitled in certain cases in Distribution to the Estate of an Intestate.

1. When the applicant claims as the widow or widower of an intestate who died on or after 13th June, 1893, it will be necessary to prove—
   (*a*) the marriage of the applicant to the intestate;
   (*b*) that the intestate was never previously married, or if he or she were, the determination of such marriage.
   (*c*) that there were not any children of the said marriage or marriages, or if there were that they all predeceased the intestate without leaving children or remoter issue surviving him or her;
   (*d*) that the net value of the estate in New South Wales did not exceed (1) £500 as to persons dying before 1st January, 1939 and (2) £1,000 as to persons dying on or after 1st January, 1939.

2. When the applicants claim as the children of the intestate it will be necessary to prove—
   (*a*) the marriage of the intestate with applicants' mother or father, as the case may be;
   (*b*) that the father or mother of the applicants predeceased the intestate;
   (*c*) that the intestate was only once married, or if more than once, the determination of all marriages and that the applicants are the only children of such marriage or marriages.

(All the children should be accounted for, and if any predeceased the intestate, it should be shown that he or she did not leave any child or more remote issue who survived the intestate.)

3. When the applicant claims as the father of the intestate it will be necessary to prove—
   (*a*) the marriage of the applicant to the intestate's mother;
   (*b*) that the intestate was a child of such marriage;
   (*c*) that intestate did not leave any widow or widower or issue.

4. When the applicant claims as the mother of the intestate, it will be necessary to prove—
   (*a*) the marriage of the applicant to the intestate's father;
   (*b*) that the intestate was a child of such marriage;
   (*c*) that the intestate's father predeceased him;
   (*d*) that the intestate did not leave any brothers or sisters or children of brothers or sisters;
   (*e*) that the intestate did not leave any widow or widower or issue.

5. When the applicants claim as the brothers or sisters of the intestate, it will be necessary to prove—
   (*a*) the marriage or marriages of the intestate's parents;
   (*b*) that the intestate was a child of one of such marriages;
   (*c*) that the intestate's father and mother predeceased him;
   (*d*) that the applicants are all the children of such marriages who survived the intestate;
   (*e*) that the intestate did not leave any widow or widower or issue;
   (*f*) that no brother or sister predeceased intestate leaving children who survived him.

The evidence to prove who are the persons entitled in distribution to the estate of an intestate or other matters of pedigree should extend to all facts necessary for the purpose, and in each of the above cases evidence should also be furnished that no person is entitled under the Legitimation Act, 1902, or the Child Welfare Act, 1939, to share in the estate of the deceased.

Bald statements that persons named are the next of kin of the intestate and the like are useless.

As far as possible the evidence should be established by certificates of birth, marriage, or death, verified by statutory declaration.

In those cases in which certificates cannot be obtained, copies, verified by statutory declaration, of entries in family bibles should, if possible, be supplied, and evidence should be furnished by statutory declarations of persons who can speak of the facts of their own knowledge or who can depose to statements made by deceased relatives of the persons whose estate is the subject of claim.

86869 K 970 St 8479 T. H. TENNANT, GOVERNMENT PRINTER.

10841079

NEW SOUTH WALES

[redacted]ICATE OF TITLE

[redacted]PERTY ACT, 1900, as amended.

(Page 1) Vol. 10841 Fol. 79

Prior Titles (Crown Grants)

[redacted]

ID [redacted]

Edition issued 18-7-1968.

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

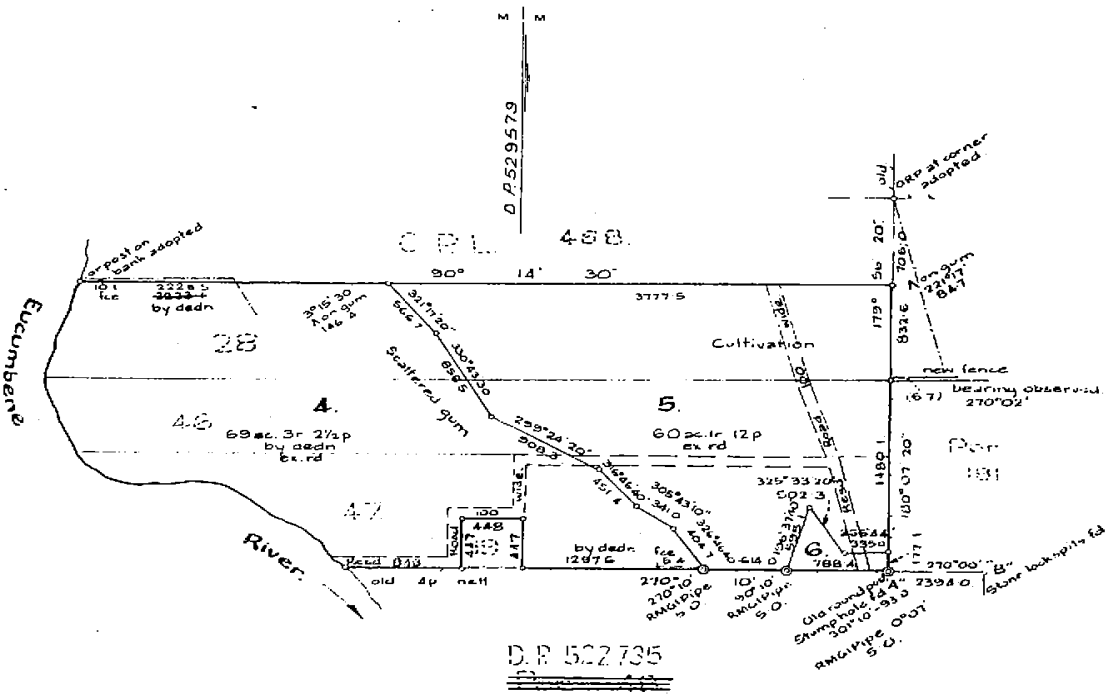
CANCELLED

Witness M Flint

Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND



Area Lot 6 1a. 3r 25½p. ex rd.

S

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in [redacted] at Jindabyne in the Shire of Snowy River Parish of Townsend and County of Wallace EXCEPTING THEREOUT the road shown in the plan hereon and the minerals reserved by the Crown Grants.

FIRST SCHEDULE (continued overleaf)

[redacted]

GRM

SECOND SCHEDULE (continued overleaf)

1. Reservations and conditions, if any, contained in the CrownGrants above referred to.
~~2. Caveat No. K641363 by the Registrar General Entered 19-4-1967.~~ Withdrawn C775980

Registrar General

V. C. N. BLIGHT, GOVERNMENT PRINTER

Vol. 16841 Fol 79

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
[redacted]				2	

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION

(Page 2 of 2 pages)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
25/11/2021 3:38PM

FOLIO: 5/529579

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 10841 FOL 79

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
1/7/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
26/5/1997	3091718	TRANSMISSION APPLICATION	EDITION 1
12/11/2003	AA151389	TRANSMISSION APPLICATION	EDITION 2
27/5/2004	AA672559	TRANSFER	EDITION 3
24/8/2012	AH195694	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

Received: 25/11/2021 15:38:59

97-03TA

TRANSMISSIO APPLICATIOI

Section 93 Real Property Act 1900

3091718 J

Office of State Revenue use only

(A) [redacted]

Show no more than 20 References to Title.

[redacted] NOW BEING 107/756727

[redacted] Volume 10122 Folio 142

+Volume 4837 Folio 84 a[redacted]

+ NOW BEING 108/756736

(B) **REGISTERED DEALING**

If applicable.

(C) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone
39u	REED HANIGAN & TURNER LAW STATIONERS SYDNEY DX. 452 SYDNEY PH.: 232 1466 REFERENCE (max. 15 characters): Blaxland Harvey

(D) [redacted]

(E) [redacted]

TA [redacted]

(F) I, the Applicant, being entitled as devisee of the **will/~~estate~~** of the Deceased Registered Proprietor (who died on between 13 & 14 September 199 6) pursuant to **Probate/~~Letters of Administration~~** No. 100253/97 granted on 14th January 199 7 to JOHN THOMAS HARVEY, apply to be registered as proprietor of the estate or interest of the Deceased Registered Proprietor in the **Land/~~Registered Dealing~~** specified above.

(G) Certified correct for the purposes of the Real property Act 1900. **DATE** 11th February 1997

Signed in my presence by the Applicant who is personally known to me.

Signature of Witness

JUNE McPHIE

Name of Witness (BLOCK LETTERS)

Dawson St Cooma

Address of Witness

J J Harvey

Signature of Applicant

EVIDENCE SIGHTED & RETURNED (office use only) ✓ copy

4 CT SIGHTED CANC. & RET. 26/5/97

CHECKED BY (office use only)

(H)

CONSENT OF EXECUTOR OR ADMINISTRATOR

I, JOHN THOMAS HARVEY ..... **Executor of the will /~~Administrator of the estate~~**

of the Deceased Registered Proprietor, hereby consent to this application.

.....
Signature of Witness

JUNE McPHIE
.....
Name of Witness (BLOCK LETTERS)

Dawson St Loom
.....
Address of Witness

J T Harvey
.....
Signature of Executor/~~Administrator~~

INSTRUCTIONS FOR COMPLETION

STAMP DUTY: if the Applicant is a devisee, beneficiary, next-of-kin or otherwise beneficially entitled or if the Deceased Registered Proprietor died prior to 31 December 1981 the application must be presented to the Office of State Revenue prior to lodgment at the Land Titles Office.

1. The Application must be completed clearly and legibly in permanent, dense, black or dark blue non-copying ink. If using a dot-matrix printer the print must be letter-quality.
2. Do not use an eraser or correction fluid to make alterations: rule through rejected material. Initial each alteration in the lefthand margin.
3. If the space provided at any point is insufficient, you may annex additional pages. These must be the same size as the form; paper quality, colour. etc, must conform to the requirements set out in Land Titles Office Information Bulletin No. 19. All pages of any annexure must be signed by the person executing the Application and any attesting witness.
4. The following instructions relate to the marginal letters on the application.

(A) LAND
Show the relevant Reference to Title. If there are more than 20 show none in this panel. Place ALL of them on an annexure (see 3 above) with 20 per sheet.

(B) REGISTERED DEALING
Show the registration number of any lease, mortgage or charge in regard to which the Applicant is applying to be registered as a proprietor.

(C) LODGED BY
This section relates to the person or firm lodging the Application at the Land Titles Office.
Reference (max. 15 characters) This is optional. Any slashes, dots, blank spaces, etc, will be counted as characters.

(D) DECEASED REGISTERED PROPRIETOR
Show the name in full. Address and occupation need not be shown.

(E) APPLICANT
Show the name in full. Address and occupation need not be shown.

(F) WILL/ESTATE, etc
Amend "will/estate", "Probate/Letters of Administation" and "Land/Registered Dealing" as appropriate.
In the relevant spaces show the capacity (executor, devisee, etc) in which the Applicant is entitled to apply, the number and date of grant of the Probate or Letters of Administration pursuant to which the application is made, and the name of the person to whom the grant was made.

(G) EXECUTION
General The application must be executed by or on behalf of the Applicant.
By the Applicant Personally The application must be signed in the presence of an adult witness who is not an Applicant and who knows the party executing personally. The witness should complete the appropriate section of the application.
By the Applicant's Attorney The Power of Attorney must be registered in the General Register of Deeds at the Land Titles Office. The execution should take the form, "AB by her attorney XY *[full name]* pursuant to Power of Attorney Book 1234 Number 567".
Under Authority If the application is made pursuant to any statutory, judicial or other authority, except a Power of Attorney (see above), the nature of the authority should be disclosed.
By a Corporation under Seal The execution should include a statement that the seal has been properly affixed, for example, "... pursuant to a resolution of the board of directors ...". Alternatively, all those attesting the affixing of the seal must state their position in the corporation.

(H) CONSENT OF EXECUTOR OR ADMINISTRATOR
This is required only where the Applicant claims to be entitled other than as executor, administrator or trustee.

The completed Application must be lodged by hand at the LAND TITLES OFFICE, Queen's Square, Sydney, together with the Certificate of Title, the probate or letters of administration (or a copy thereof certified by a solicitor to be a true copy) and a completed Notice of Sale.

If you have any questions about filling out the form, please call 228-6666 and ask for our Customer Services Branch.

Form: 03TA
Release: 1
www.lpi.nsw.gov.au

TRANSMISSION APPLICATION

New South Wales
Section 93 Real Property Act 1900

AA151389U

PRIVACY NOTE: this information is legally required and will become part of the public record

STAMP DUTY — Office of State Revenue use only

(A) [redacted]
Torrens Title
F/Id. [redacted]

(B) **REGISTERED DEALING**
Number | Torrens Title

(C) **LODGED BY**
Delivery Box: 28A
Name, Address or DX and Telephone: 28A galloways legal services
Phone: (02) 9233 1011 Fax: (02) 9232 6491
Reference: BMRLE-HARVEY
CODE: TA

(D) [redacted]

(E) [redacted]

(F) The applicant, being entitled as executors of the will of the deceased registered proprietor (who died on 29 May 2003) pursuant to probate No. 114950/03 granted on 22 Sep 2003 to LAUREL LYNETTE ROBERSON AND CORAL LEE CONSTANCE the applicants (a certified copy of which is lodged herewith) applies to be registered as proprietor of the estate or interest of the deceased registered proprietor in the abovementioned land

DATE 7th November 2003

(G) I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Certified correct for the purposes of the Real Property Act 1900 by the Applicant.

Signature of witness:

Name of witness: JUNE McPHIE
Address of witness: SOLICITOR COOMA

Signature of Applicant:

(H) **CONSENT OF EXECUTOR, ADMINISTRATOR OR TRUSTEE**
I, _____ of the deceased registered proprietor, hereby consent to this application.

Signature of witness:
Name of witness:
Address of witness:

Signature of

All handwriting must be in block capitals.
Office use only—
Evidence sighted/sighted and returned: ✓Probate

LAND AND PROPERTY INFORMATION NSW

Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 5/529579

SEARCH DATE	TIME	EDITION NO	DATE
25/11/2021	3:38 PM	3	27/5/2004

LAND

LOT 5 IN DEPOSITED PLAN 529579
AT JINDABYNE
LOCAL GOVERNMENT AREA SNOWY MONARO REGIONAL
PARISH OF TOWNSEND COUNTY OF WALLACE
TITLE DIAGRAM DP529579

FIRST SCHEDULE

JOHN SACCO ENTERPRISES PTY LIMITED (T AA672559)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)

* 2 LAND EXCLUDES THE ROAD(S) SHOWN IN THE TITLE DIAGRAM

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Received: 25/11/2021 15:38:16

STATE OF NEW SOUTH WALES

CROWN GRANT

14154-049

No. 35882

CANCELLED [redacted] Registered 30-6-1980

Registrar General

SEE AUTO FOLIO

(Page 1) Vol. 14154 Fol. 49

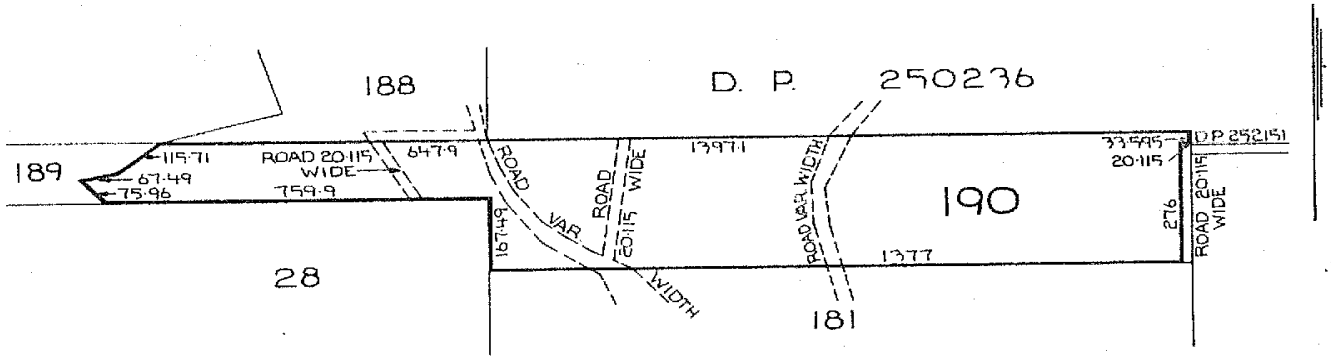
We, Elizabeth the Second, by the Grace of God Queen of Australia and Her other Realms and Territories, Head of the Commonwealth, do hereby grant to the person described in the First Schedule a Lease in Perpetuity in the land within described, subject nevertheless to such reservations, conditions and other provisions as are shown in the Second Schedule. In testimony whereof We have caused this Our Grant to be sealed with the seal of Our said State

Witness Our Governor of Our State of New South Wales and its Dependencies in the Commonwealth of Australia, at Sydney in Our said State, this twentieth day of June in the twenty ninth year of Our Reign and in the year of Our Lord one thousand nine hundred and eighty.

A. R. Cutler
Governor

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



AREA: 49·57 ha
THIS AREA DOES NOT INCLUDE THE AREA OF THE ROADS.

REDUCTION RATIO 1:12500

LAND REFERRED TO

[redacted] in the Shire of Snowy River Parish of Townsend and County of Wallace. EXCEPTING THEREOUT the roads shown in the plan hereon.

FIRST SCHEDULE

[redacted]

SECOND SCHEDULE

1. The reservation and exception unto Us Our Heirs and Successors of all minerals, land for public ways, and rights and powers in respect thereof and the provision for forfeiture as more fully set out in memorandum filed as No.Q400000.

2. The provisions of the Crown Lands Acts and Regulations thereunder in respect of Conditional Leases and in particular that the Grantee and his Assigns shall pay for the said land an annual rent of twenty dollars as determined in due course of law or such other rent as may from time to time be so determined (provided always that such rent shall not be less than the minimum for the time being provided under the said Acts) to our Treasurer or such other officer in Our said State as may from time to time be appointed for that purpose on such day or days in each year as may from time to time be determined in due course of law.

3. Perpetual Lease Grant (C.L. 468 Cooma) – Crown dues payable, reservations, conditions and restrictions as herein set out and in the Crown Lands Consolidation Act, 1913, particularly section 257.

T864494 (?) 15/6/83
T331456 Tep

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	Signature of Registrar General
J[redacted] Registered 8.12.1982.				[signature]

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
		CANCELLED				
		SEE AUTO FOLIO				

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
25/11/2021 3:38PM

FOLIO: 190/756727

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 14154 FOL 49

Recorded	Number	Type of Instrument	C.T. Issue
12/12/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
30/1/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
26/4/1991		AMENDMENT: TITLE DIAGRAM	
26/5/1997	3091718	TRANSMISSION APPLICATION	EDITION 1
12/11/2003	AA151389	TRANSMISSION APPLICATION	EDITION 2
27/5/2004	AA672559	TRANSFER	EDITION 3
7/10/2004	AA999949	APPLICATION FOR RECORDING OF ACTION AFFECTING CROWN HOLDING	
7/10/2004	AB217	APPLICATION FOR RECORDING OF ACTION AFFECTING CROWN HOLDING	EDITION 4

*** END OF SEARCH ***

Received: 25/11/2021 15:38:59

Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 190/756727

SEARCH DATE	TIME	EDITION NO	DATE
25/11/2021	3:38 PM	4	7/10/2004

LAND

LOT 190 IN DEPOSITED PLAN 756727
LOCAL GOVERNMENT AREA SNOWY MONARO REGIONAL
PARISH OF TOWNSEND COUNTY OF WALLACE
(FORMERLY KNOWN AS PORTION 190)
TITLE DIAGRAM CROWN PLAN 6151.1604

FIRST SCHEDULE

JOHN SACCO ENTERPRISES PTY LIMITED (T AA672559)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS (S.171 CROWN LANDS ACT 1989)
2 LAND EXCLUDES THE ROAD(S) SHOWN IN THE TITLE DIAGRAM

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Appendix F

Council Planning Certificates

Enquiries 1300 345 345
Our Ref Certificate Number 2631/21 | P/N 257097
Your Ref P21104

SNOWY MONARO REGIONAL COUNCIL

Lanterra Consulting Pty Ltd
13/71 Leichhardt St
KINGSTON ACT 2604

Planning Certificate – Section 10.7

Environmental Planning and Assessment Act 1979

Section 10.7(2) Details

In accordance with the requirements of section 10.7(2) of the Environmental Planning and Assessment Act 1979 (as amended), the following prescribed matters relate to the land at the date of this certificate.

Certificate Information	
Certificate Number	2631/21
Certificate Date	06/12/2021
Your Reference	P21104

Property Description	
Address	Hilldowns 56 Hilldowns Road KALKITE NSW 2627
Land Title	Lot: 5 DP: 529579
Assessment Number	40529497

This certificate provides information on how a property (such as land and buildings) may be used and the limits on its development. The certificate contains information Council is aware of through its records and environmental plans, along with data supplied by the State Government.

Snowy Monaro Regional Council does not accept any liability for anything contained in this certificate which has been supplied by third-party sources and does not warrant the accuracy of the contents.

All users of this certificate must acknowledge that Snowy Monaro Regional Council does not owe them any duty of care and they indemnify Snowy Monaro Regional Council from all claims demands suits actions and proceedings for damages and consequential loss howsoever arising from their use of this certificate and its contents where third-party information is relied upon.

Column 1 Section 10.7(2) (Schedule 4 EP&A Regulation 2000)		Identification of the matter referred to in Column 1 and the extent to which it applies to the land
1	Names of relevant planning instruments and DCPs	
(1)	The name of each environmental planning instrument that applies to the carrying out of development on the land.	Snowy River Local Environmental Plan 2013 Snowy River Local Environmental Plan 2013 (Amendment No 1) See Note 6 for list of State Environmental Planning Policies
(2)	The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).	Introduction of Snowy Mountains Special Activation Precinct - Discussion Paper June 2021
(3)	The name of each development control plan that applies to the carrying out of development on the land.	"Snowy River Shire Council Development Control Plan 2013 (Amendment 1) The plan was adopted by Council on 26 November 2013 and came into effect on 20 December 2013. The purpose of DCP 2013 is a source of information covering the technical, legislative and administrative aspects of development within the former Local Government boundary of Snowy River Shire. It provides detailed provisions to guide development so that it achieves the aims and objectives of the Snowy River Local Environmental Plan 2013. The DCP includes detailed objectives and controls for ensuring well designed, quality land use and development within the Snowy Monaro Regional Council. This plan applies to all land to which the Snowy River Local Environmental Plan 2013 applies excluding the site specific Development Control Plan T2 Tyrolean Village Stage 3.
In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.		
2	Zoning and land use under relevant LEPs	
For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):		
(a)	the identity of the zone, whether by reference to a name (such as “Residential Zone” or “Heritage Area”) or by reference to a number (such as “Zone No 2 (a)”),	RU1 Primary Production
(b)	the purposes for which the instrument provides that development may be carried out within the zone without the need for development consent,	See Note 7 – Land Use Table
(c)	the purposes for which the instrument provides that development may not be carried out within the zone except with development consent,	See Note 7 – Land Use Table

(d)	the purposes for which the instrument provides that development is prohibited within the zone,	See Note 7 – Land Use Table
(e)	whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed,	Yes. Refer to the NSW Planning Portal https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address for details or contact Councils Development section.
(f)	whether the land includes or comprises critical habitat,	No
(g)	whether the land is in a conservation area (however described),	Not in Heritage Conservation Area
(h)	whether an item of environmental heritage (however described) is situated on the land.	No Heritage Item
2A	Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006	
To the extent that the land is within any zone (however described) under:		
(a)	Part 3 of the State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (the 2006 SEPP), or	N/A
(b)	a Precinct Plan (within the meaning of the 2006 SEPP), or	N/A
(c)	a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the Act,	N/A
the particulars referred to in clause 2 (a)–(h) in relation to that land (with a reference to "the instrument" in any of those paragraphs being read as a reference to Part 3 of the 2006 SEPP, or the Precinct Plan or proposed Precinct Plan, as the case requires).		
3	Complying Development	
(1)	The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A(1)(c) to (e), (2), (3) and (4), 1.18 (1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.	The following Codes are not applicable to this land: Housing Code Commercial and Industrial Alterations Code Commercial and Industrial (New Buildings and Additions) Code Container Recycling Facilities Code Low Rise Medium Density House Code The following Codes are applicable to the land and complying development may be carried out on the whole of the land under these Codes: Nil The following Codes are applicable to the land but due to the provisions of clauses 1.17A(1)(c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes)2008 complying development may only be carried out on part of the land under these Codes: NIL

		The following Codes are applicable to the land but due to the provisions of clauses 1.17A(1)(c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes)2008 complying development may not be carried out on the whole of the land under these Codes: Rural Housing Code Housing Alterations Code General Development Code Subdivisions Code Demolition Code Fire Safety Code Inland Code
(2)	The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A(1)€ to €, (2), (3) and (4), 1.18 (1)(c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.	For the Codes listed above that may only be carried out on part of the land or may not be carried out on any part of the land the reasons why complying development may not be carried out are as follows: The land is wholly affected by specific land exemptions being land identified as environmentally sensitive land as it is subject to considerations associated with the Scenic protection area contained in the relevant Local Environmental Plan. If complying development is permitted on only part of the land due to the above restrictions, the extent to which these restrictions apply to the land can be found on the NSW Planning Portal website maps at www.planningportal.nsw.gov.au. These map(s) are based on the legislated maps/s for Cooma-Monaro Local Environmental Plan 2013, Snowy Rover Local Environment Plan 2013 and Bombala Local Environment Plan 2012 and represent the best information Council has on the extent to which the above restrictions affect this land.
(3)	If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.	Not Applicable
		See Note 3 at the end of this Certificate for further information.
4	Repealed	

4A	Repealed	
4B	Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works	
In relation to a coastal council–whether the owner (or any previous owner) of the land has 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). Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.		N/A
5	Mine subsidence	
Whether or not the land is proclaimed to be a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017.		No
6	Road widening and road realignment	
Whether or not the land is affected by any road widening or road realignment under:		
(a)	Division 2 of Part 3 of the Roads Act 1993, or	No
(b)	any environmental planning instrument, or	No
(c)	any resolution of the council.	No
7	Council and other public authority policies on hazard risk restrictions	
Whether or not the land is affected by a policy:		
(a)	adopted by the council, or	No (see Note below)
(b)	adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council,	Council has been advised by the NSW Department of Planning that in accordance with section 4.14 of the Environmental Planning and Assessment Act 1979 Council is required to be satisfied that a development complies with 'Planning for Bushfire Protection 2019' where that development is within land identified as bushfire prone.
that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding),		
Note: Council has recently been provided with mapping information from the Department of Industry – Resources and Energy in conjunction with the NSW Governments Heads of Asbestos Coordination Authorities (HACA) in relation to the presence of 'Naturally Occurring Asbestos' (NOA) within the Shire. The HACA has also published information on what can be done to avoid contact with NOA. This information can be viewed at http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/safety-and-health/topics/NOA where there is a link to mapping and other information. The HACA has also published information on what can be done to avoid contact with NOA. Council has adopted an Asbestos Policy which includes provisions applicable to NOA. Council was not aware of the presence of NOA in the Shire when this Policy was adopted, and has no knowledge of any confirmed NOA sites. However following receipt of the mapping information Council is currently in the process of developing risk controls, guidance materials and an asbestos management plan in accordance with the adopted Asbestos Policy. The confirmed presence of naturally occurring asbestos on a site may result in restrictions being imposed upon future development of the site in accordance with the provisions of the Asbestos Policy.		
7A	Flood related development controls information	
(1)	Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing	Unknown - the land is not part of a flood planning study

or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.	
(2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.	Unknown - the land is not part of a flood planning study
(3) Words and expressions in this clause have the same meanings as in the standard instrument set out in the Standard Instrument (Local Environmental Plans) Order 2006.	
8 Land reserved for acquisition	
Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.	Council has not been advised that any environmental planning instrument or proposed 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 Contributions plans	
The name of each contributions plan applying to the land.	Snowy River Shire Council Section 7.11 Contributions Plan 2008 Snowy River Shire Council Section 7.11 Contributions Plan 2010 - Shared Trails
9A Biodiversity certified land	
If the land is biodiversity certified land under Part 8 of the Biodiversity Conservation Act 2016, a statement to that effect.	No
Note: Biodiversity certified land includes land certified under Par 7AA of the Threatened Species Conservation Act 1995 that is taken to be certified under Part 8 of the Biodiversity Conservation Act 2016.	
10 Biodiversity stewardship sites	
If the land is a biodiversity stewardship site under a biodiversity stewardship agreement under Part 5 of the Biodiversity Conservation Act 2016, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Chief Executive of the Office of Environment and Heritage).	No
Note: Biodiversity stewardship agreements include biobanking agreements under Part 7A of the Threatened Species Conservation Act 1995 that are taken to be biodiversity stewardship agreements under Part 5 of the Biodiversity Conservation Act 2016.	
10A Native vegetation clearing set asides	
If the land contains a set aside area under section 60ZC of the Local Land Services Act 2013, a statement to that effect (but only if the council has been notified of the existence of the set aside area by Local Land Services or it is registered in the public register under that section).	No
11 Bush fire prone land	
If any of the land is bush fire prone land (as defined in the Act), a statement that all or, as the case may be, some of the land is bush fire prone land. If none of the land is bush fire prone land, a statement to that effect.	All of the land is bushfire prone. Information relied on to answer the above question has been provided to Council by the NSW Rural Fire Service, for more information regarding the above information please contact the NSW Rural Fire Service. (www.rfs.nsw.gov.au)

12 Property vegetation plans	
If the land is land to which a property vegetation plan under Part 4 of the Native Vegetation Act 2003 (and that continues in force) applies, a statement to that effect (but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act).	No PVP applicable
13 Orders under Trees (Disputes Between Neighbours) Act 2006	
Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land (but only if the council has been notified of the order).	No
14 Directions under Part 3A	
If there is a direction by the Minister in force 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 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.	No
15 Site compatibility certificates and conditions for seniors housing	
If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies:	
(a) a statement of whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:	No
(i) the period for which the certificate is current, and	N/A
(ii) that a copy may be obtained from the head office of the Department, and	N/A
(b) a statement setting out any terms of a kind referred to in clause 18(2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.	N/A
16 Site compatibility certificates for infrastructure, schools or TAFE establishments	
A statement of whether there is a valid site compatibility certificate (infrastructure), or site compatibility certificate (schools or TAFE establishments) of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:	No
(a) the period for which the certificate is valid, and	N/A
(b) that a copy may be obtained from the head office of the Department.	N/A
17 Site compatibility certificates and conditions for affordable rental housing	
(1) A statement of whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land	No

and, if there is a certificate, the statement is to include:	
(a) the period for which the certificate is current, and	N/A
(b) that a copy may be obtained from the head office of the Department.	N/A
(2) A statement setting out any terms of a kind referred to in clause 17(1) or 38(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land.	N/A
18 Paper subdivision information	
(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.	No
(2) The date of any subdivision order that applies to the land.	No
(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.	No
19 Site verification certificates	
A statement of whether there is a current site verification certificate, of which the council is aware, in respect of the land and, if there is a certificate, the statement is to include:	No
(a) the matter certified by the certificate, and Note. A site verification certificate sets out the Secretary's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land- see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007	N/A
(b) the date on which the certificate ceases to be current (if any), and	N/A
(c) that a copy may be obtained from the head office of the Department.	N/A
20 Loose-fill asbestos insulation	
If the land includes any residential premises (within the meaning of Division 1A of Part 8 of the Home Building Act 1989) that are listed on the register that is required to be maintained under that Division, a statement to that effect.	Council is not aware of any residential dwelling erected on this land which has been identified in the Loose-Fill Asbestos Insulation Register as containing loose fill asbestos ceiling insulation. Contact NSW Fair Trading if further information is required.
21 Affected building notices and building product rectification orders	
(1) A statement of whether there is any affected building notice of which the council is aware that is in force in respect of the land.	No affected building notice.
(2) A statement of: (a) whether there is any building product rectification order of which the council is aware that is in force in respect of the land and has not	No building product rectification order.

been fully complied with, and (b) whether any notice of intention to make a building product rectification order of which the council is aware has been given in respect of the land and is outstanding.	No notice of intention to make a building rectification order.

(3) In this clause:

affected building notice has the same meaning as in Part 4 of the Building Products (Safety) Act 2017.

building product rectification order has the same meaning as in the Building Products (Safety) Act 2017.

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:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act–if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act–if it is subject to such an order at the date when the certificate is issued,

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act–if it is the subject of such an approved proposal at the date when the certificate is issued,

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act–if it is subject to such an order at the date when the certificate is issued,

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act–if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

Contaminated Land

As of the date of this certificate, Council has no records to indicate that the site is potentially contaminated.

It is recommended that you ensure that the land has not in the past been used for certain purposes which could have involved the use of contaminates. A list of potentially contaminating uses is outlined in Attachment "A" to the end of this planning certificate.

Refer to Cooma Monaro Development Control Plan 2014 / Snowy River Development Control Plan 2013 / Bombala Development Control Plan 2012 – Planning Guidelines prepared by the Environment Protection Authority and the Department of Urban Affairs and Planning (1998). The guidelines are underpinned by State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55), and the Contaminated Lands Management Act 1987.

In addition, Council has not been made aware of the land being subject to the following:

- land declared to be significantly contaminated land;
- land subject to a management order;
- land subject of an approved voluntary management proposal;
- land subject to an ongoing maintenance order; or
- subject of a site audit statement

IMPORTANT NOTES – SECTION 10.7(2) CERTIFICATE

Note 1 Terms of Reference

This Certificate does not make reference to the physical conditions of the property. Consequently no inspections have been made in respect of:

(a) The presence or otherwise of noxious weeds on the property,
(b) The condition of any structure/s on the land and associated infrastructure.

No advice is included in this Certificate in respect of outstanding or unauthorised works.

Should applicants require such details, that may be in addition to information provided in a S10.7(2) & (5) Certificate, application should be made, accompanied by the appropriate fee for such inspections.

Note 2 Biosecurity (Weeds)

Weeds are a major environmental threat to the Snowy Monaro Region's agricultural and environmental assets. People considering purchasing land, particularly rural land, in the Council area are urged to contact Council's Biosecurity (Weeds) team for advice regarding landowners' responsibilities for the control of weeds.

Note 3 Complying Development

- Under the Housing Code complying development may not be carried out on land which has an area less than 200 square metres and has a width, measured at the building line fronting a primary road, of at least 6m.
- Under the Rural Housing Code complying development for the erection of a new single-storey or two-storey dwelling house may only be carried out on land that (a) has an area of at least 80 hectares, or (b) is subject to a restriction created under section 88B of the Conveyancing Act 1919 that specifies a building envelope for the lot and was required by the council.
- As per clause 1.18 of the Codes SEPP Complying Development is only possible on land where the development would otherwise be permissible with or without consent under the Council's Local Environmental Plan applicable to the land.
- Complying development may not be carried out on land outside the zonings identified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, or on a lot which is not entirely within the zoning in the Codes SEPP specified for that particular Complying Development code. Refer to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 for other permissibility criteria.

Note 4 Important Notice for any maps that relate to this certificate

These maps are not a precise survey document. Accurate locations can only be determined by a survey on the ground.

While every care is taken to ensure the accuracy of this data, neither the Snowy Monaro Regional Council nor the Land and Property Management Authority makes any representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason.

Note 5 Coinciding Legal and Practical Access

Purchasers of rural and non-urban land are advised to ensure that coinciding legal and practical access can be gained to the property from a public road.

Note 6 State Environmental Planning Policies

Below is a list of all State Environmental Planning Policies (including publicised draft policies) that apply to Snowy Monaro Regional Council. Depending on circumstances set down in each policy, the policy may be specifically applicable to the land that is the subject of this certificate. You are advised to check the policy for the necessary details.

State Environmental Planning Policy No 19—Bushland in Urban Areas
State Environmental Planning Policy No 21—Caravan Parks
State Environmental Planning Policy No 33—Hazardous and Offensive Development
State Environmental Planning Policy No 36—Manufactured Home Estates
State Environmental Planning Policy No 55—Remediation of Land
State Environmental Planning Policy No 64—Advertising and Signage
State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development
State Environmental Planning Policy No 70—Affordable Housing (Revised Schemes)
State Environmental Planning Policy (Aboriginal Land) 2019
State Environmental Planning Policy (Activation Precincts) 2020
State Environmental Planning Policy (Affordable Rental Housing) 2009
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
State Environmental Planning Policy (Concurrences and Consents) 2018
State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
State Environmental Planning Policy (Infrastructure) 2007
State Environmental Planning Policy (Koala Habitat Protection) 2020
State Environmental Planning Policy (Koala Habitat Protection) 2021
State Environmental Planning Policy (Kosciuszko National Park—Alpine Resorts) 2007
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
State Environmental Planning Policy (Primary Production and Rural Development) 2019
State Environmental Planning Policy (State and Regional Development) 2011
State Environmental Planning Policy (State Significant Precincts) 2005
State Environmental Planning Policy (Urban Renewal) 2010
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

Any enquiries regarding these State policies should be directed to the Department of Planning.

Zone RU1 Primary Production

Without Consent

Environmental protection works; Extensive agriculture; Home occupations

With Consent

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Bed and breakfast accommodation; Boat launching ramps; Boat sheds; Building identification signs; Business identification signs; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Charter and tourism boating facilities; Centre-based child care facilities; Community facilities; Crematoria; Depots; Dual occupancies; Dwelling houses; Eco-tourist facilities; Educational establishments; Environmental facilities; Extractive industries; Farm buildings; Farm stay accommodation; Flood mitigation works; Forestry; Funeral homes; Garden centres; Helipads; Home-based child care; Home businesses; Home industries; Industrial training facilities; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Jetties; Landscaping material supplies; Mooring pens; Moorings; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (outdoor); Respite day care centres; Roads; Roadside stalls; Rural industries; Rural supplies; Rural workers' dwellings; Secondary dwellings; Timber yards; Transport depots; Truck depots; Veterinary hospitals; Water recreation structures; Wharf or boating facilities

Prohibited

Any development not specified in item 2 or 3

ATTACHMENT A' – S10.7(2)

Activities which are likely to have contaminated sites because of their past or present use:

- asbestos works;
- chemical and petrochemical works;
- docks and railway land, especially large sidings and depots;
- gasworks, other local carbonisation plants and ancillary by products works;
- industries making or using wood preservatives;
- installations involving the processing or use of radioactive materials;
- landfills and other waste disposal and storage sites, and transfer sites;
- land heavily treated with chemicals for agricultural or other purposes, eg aerial spraying;
- metal mines, smelters, foundries, iron and steel works, metal finishing works;
- mine tailings dumps (including mineral sands tailings);
- munitions production and testing sites;
- oil refineries, petroleum storage and distributions sites;
- paper and printing works;
- pesticide storage areas, areas where vehicles used for the transport and storage of pesticides are washed, and areas where tanks are used to store pesticides;
- plants and heavy engineering installations, eg shipbuilding and shipbreaking;
- power stations and switching yards etc;
- scrap yards;
- stock dipping, eg sheep, cattle etc;
- tanneries

Appendix G

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 19 Nov 2021 13:58:32

Reference: LS026654 EP

Address: 56 Hilldowns Road, Kalkite, NSW 2627

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 Finance, Services & Innovation	30/06/2021	30/06/2021	Quarterly	-	-	-	-
Topographic Data	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	13/10/2021	11/10/2021	Monthly	1000m	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	08/10/2021	08/10/2021	Monthly	1000m	0	0	0
Former Gasworks	Environment Protection Authority	11/08/2021	11/10/2017	Quarterly	1000m	0	0	0
National Waste Management Facilities Database	Geoscience Australia	12/05/2021	07/03/2017	Annually	1000m	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	15/02/2021	13/07/2012	Annually	1000m	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	28/10/2021	14/07/2021	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	29/10/2021	29/10/2021	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	29/10/2021	29/10/2021	Monthly	2000m	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	08/10/2021	08/10/2021	Monthly	2000m	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	19/08/2021	19/08/2021	Quarterly	2000m	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	02/02/2021	13/12/2018	Annually	1000m	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	10/11/2021	10/11/2021	Monthly	1000m	1	1	1
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	10/11/2021	10/11/2021	Monthly	1000m	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	10/11/2021	10/11/2021	Monthly	1000m	3	3	3
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150m	0	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150m	-	0	0
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 Finance, Services & Innovation	19/08/2021	19/08/2021	Quarterly	1000m	1	1	15
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	19/08/2021	19/08/2021	Quarterly	1000m	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	19/08/2021	19/08/2021	Quarterly	1000m	1	1	4
Major Easements	NSW Department of Finance, Services & Innovation	19/08/2021	19/08/2021	Quarterly	1000m	0	0	0
State Forest	Forestry Corporation of NSW	25/02/2021	14/02/2021	Annually	1000m	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	22/01/2021	11/12/2020	Annually	1000m	0	0	1
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000m	1	1	1
Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018	NSW Department of Planning, Industry and Environment	26/10/2020	21/02/2018	Annually	1000m	0	0	0
Groundwater Boreholes	NSW Dept. of Primary Industries - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000m	0	0	12

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Geological Units 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000m	2	3	3
Geological Structures 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000m	2	2	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	1
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	15/11/2021	05/11/2021	Monthly	500m	0	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000m	1	2	2
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000m	0	0	0
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	19/08/2021	05/08/2021	Quarterly	1000m	0	0	0
Current Mining Titles	NSW Department of Industry	02/11/2021	02/11/2021	Monthly	1000m	0	0	0
Mining Title Applications	NSW Department of Industry	02/11/2021	02/11/2021	Monthly	1000m	0	0	0
Historic Mining Titles	NSW Department of Industry	02/11/2021	02/11/2021	Monthly	1000m	4	4	4
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	2	2	7
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	18/05/2021	20/11/2019	Annually	1000m	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	18/05/2021	20/11/2019	Annually	1000m	1	1	3
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	19/08/2021	25/06/2021	Quarterly	1000m	0	0	0
Environmental Planning Instrument Local Heritage	NSW Department of Planning, Industry and Environment	15/11/2021	05/11/2021	Monthly	1000m	0	1	1
Bush Fire Prone Land	NSW Rural Fire Service	12/11/2021	09/11/2021	Weekly	1000m	2	3	3
Vegetation of Southern Forests	NSW Office of Environment & Heritage	09/12/2014	10/10/2011	Unknown	1000m	2	2	2
Ramsar Wetlands of Australia	Australian Government Department of Agriculture, Water and the Environment	24/02/2021	19/03/2020	Annually	1000m	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Annually	1000m	2	2	6
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000m	2	2	9
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	18/10/2021	18/10/2021	Weekly	10000m	-	-	-

Site Diagram

56 Hilldowns Road, Kalkite, NSW 2627

Legend

- Site Boundary
- Internal Parcel Boundaries

Total Area: 798624m²

Total Perimeter: 5.33km

Scale: 0 50 100 200 300 400 500 Meters

Data Source Aerial Imagery:
© Aerometrex Pty Ltd

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.

Coordinate System:
GDA 1994 MGA Zone 56

Date: 19 November 2021

Contaminated Land

56 Hilldowns Road, Kalkite, NSW 2627

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

56 Hilldowns Road, Kalkite, NSW 2627

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

56 Hilldowns Road, Kalkite, NSW 2627

National Waste Management Site Database

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

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

Waste Management Facilities Data Source: Geoscience Australia

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										

National Liquid Fuel Facilities Data Source: Geoscience Australia

PFAS Investigation & Management Programs

56 Hilldowns Road, Kalkite, NSW 2627

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

56 Hilldowns Road, Kalkite, NSW 2627

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

56 Hilldowns Road, Kalkite, NSW 2627

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

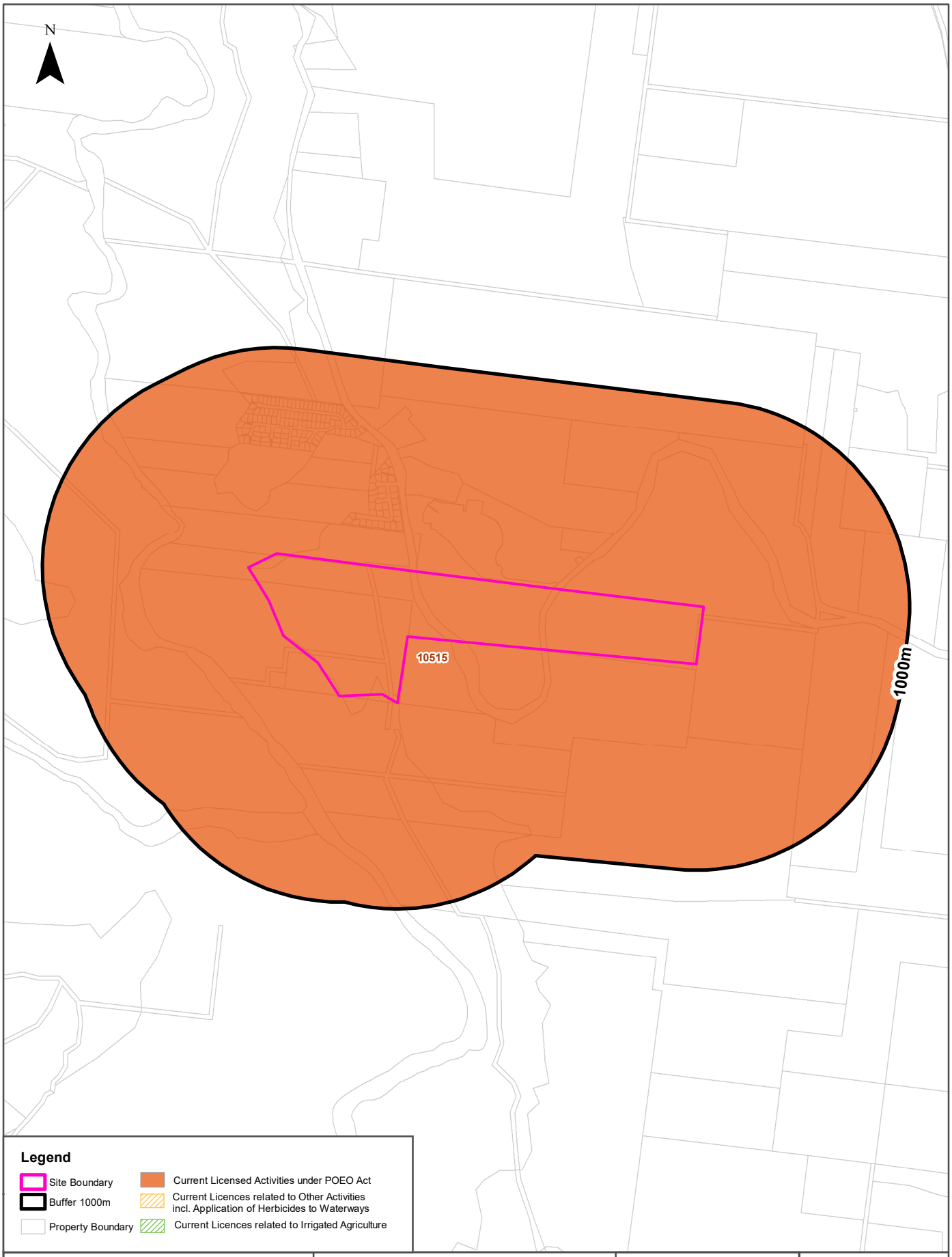
Sites within the dataset buffer:

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

56 Hilldowns Road, Kalkite, NSW 2627



EPA Activities

56 Hilldowns Road, Kalkite, NSW 2627

Licensed Activities under the POEO Act 1997

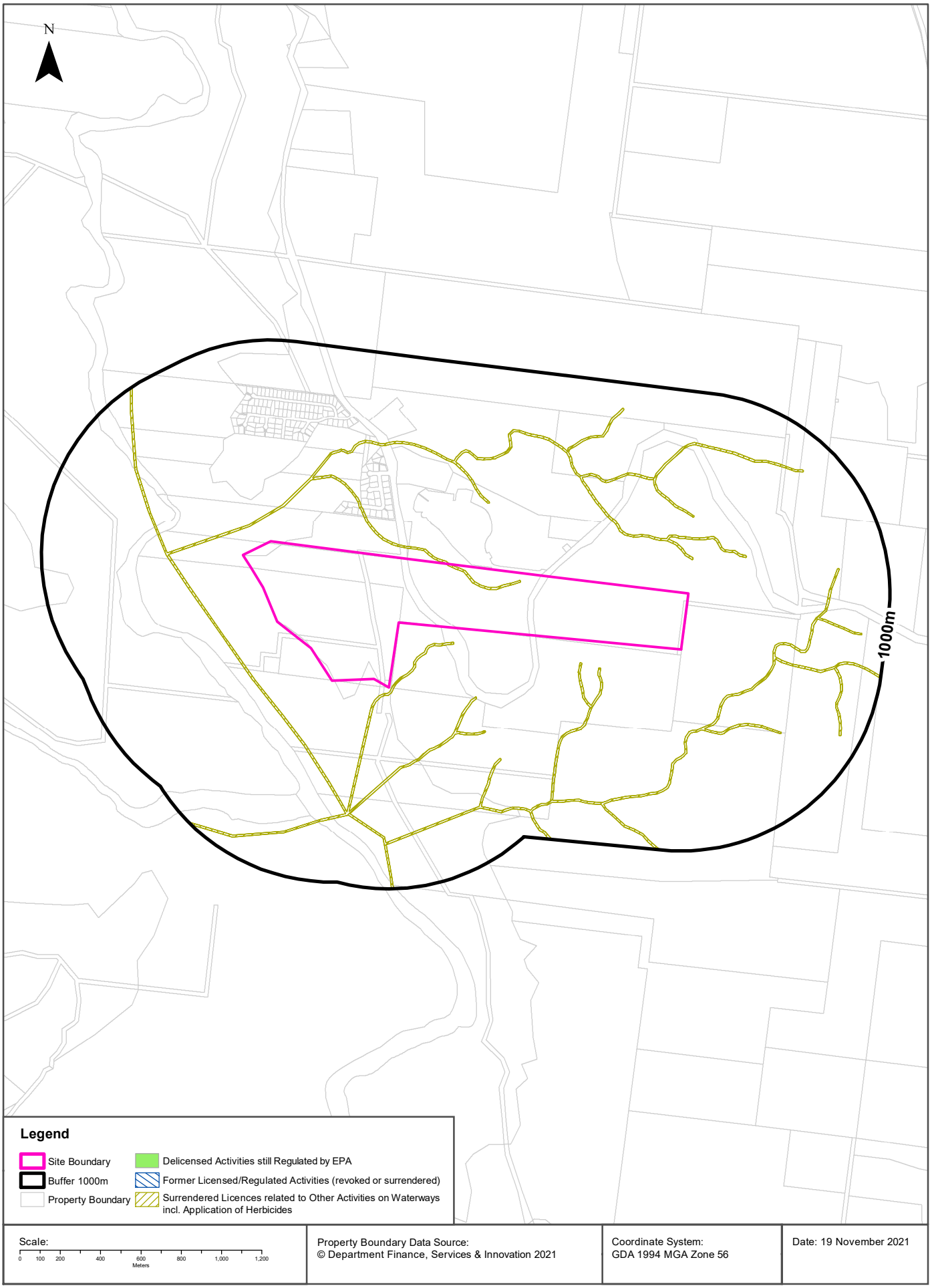
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
10515	SNOWY HYDRO LIMITED	SNOWY MOUNTAINS HYDRO-ELECTRIC SCHEME	KOSCIUSZKO NATIONAL PARK AND VICINITY	COOMA	Generation of electrical power otherwise than from coal, diesel or gas	Area Match	0m	On-site

POEO Licence Data Source: Environment Protection Authority

Delicensed & Former Licensed EPA Activities

56 Hilldowns Road, Kalkite, NSW 2627



EPA Activities

56 Hilldowns Road, Kalkite, NSW 2627

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	0m	On-site
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered	07/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered	09/11/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site

Former Licensed Activities Data Source: Environment Protection Authority

Historical Business Directories

56 Hilldowns Road, Kalkite, NSW 2627

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
N/A	No records in buffer						

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
N/A	No records in buffer					

Historical Business Directories

56 Hilldowns Road, Kalkite, NSW 2627

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 2020

56 Hilldowns Road, Kalkite, NSW 2627

Aerial Imagery 2018

56 Hilldowns Road, Kalkite, NSW 2627

Scale:
0 180 360 540 720
Meters

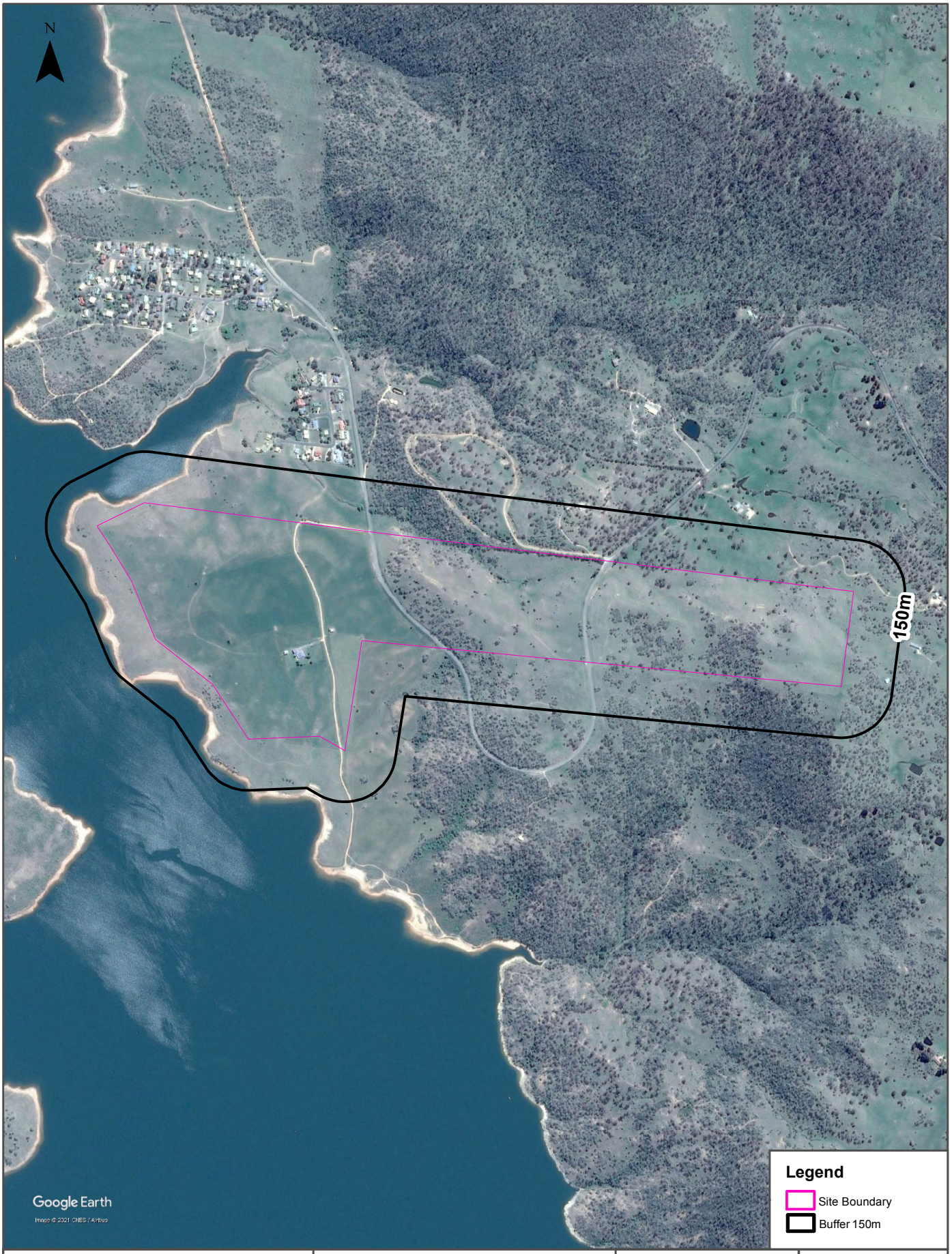
Data Source Aerial Imagery: © 2021 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System:
GDA 1994 MGA Zone 56

Date: 17 November 2021

Aerial Imagery 2015

56 Hilldowns Road, Kalkite, NSW 2627



Scale:
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Meters

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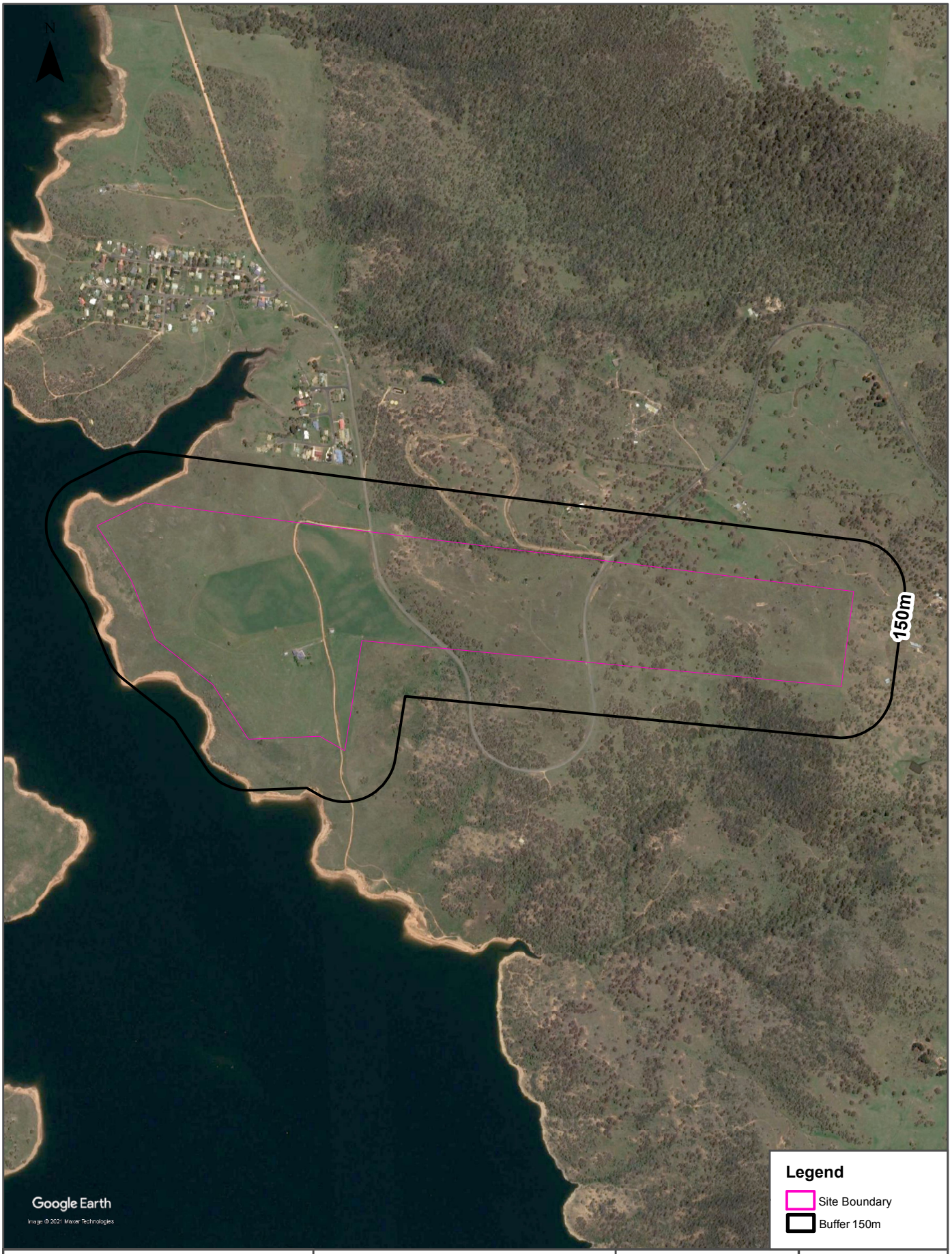
Coordinate System:
GDA 1994 MGA Zone 56

Date: 17 November 2021

Aerial Imagery 2011

56 Hilldowns Road, Kalkite, NSW 2627



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Meters

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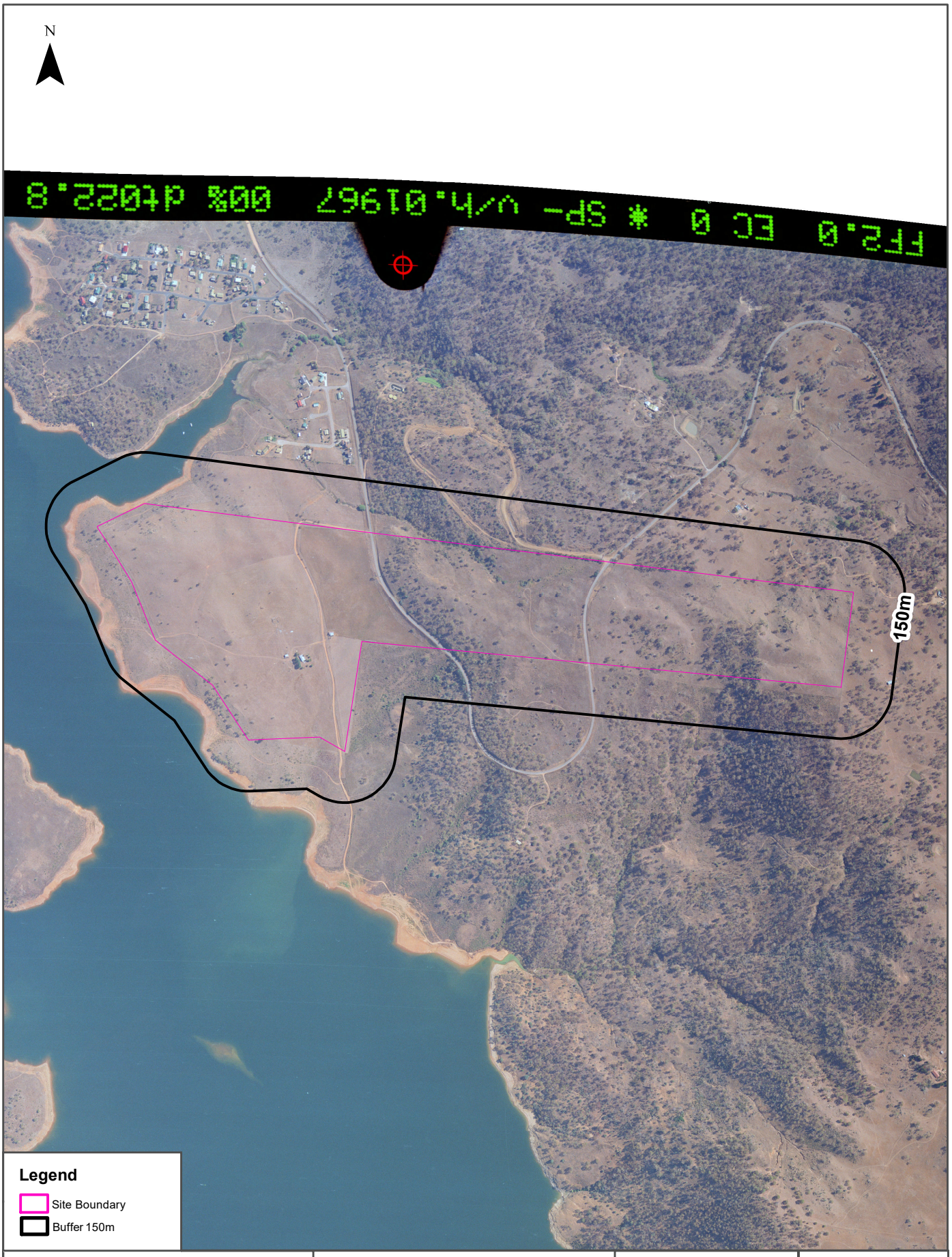
Coordinate System:
GDA 1994 MGA Zone 56

Date: 17 November 2021

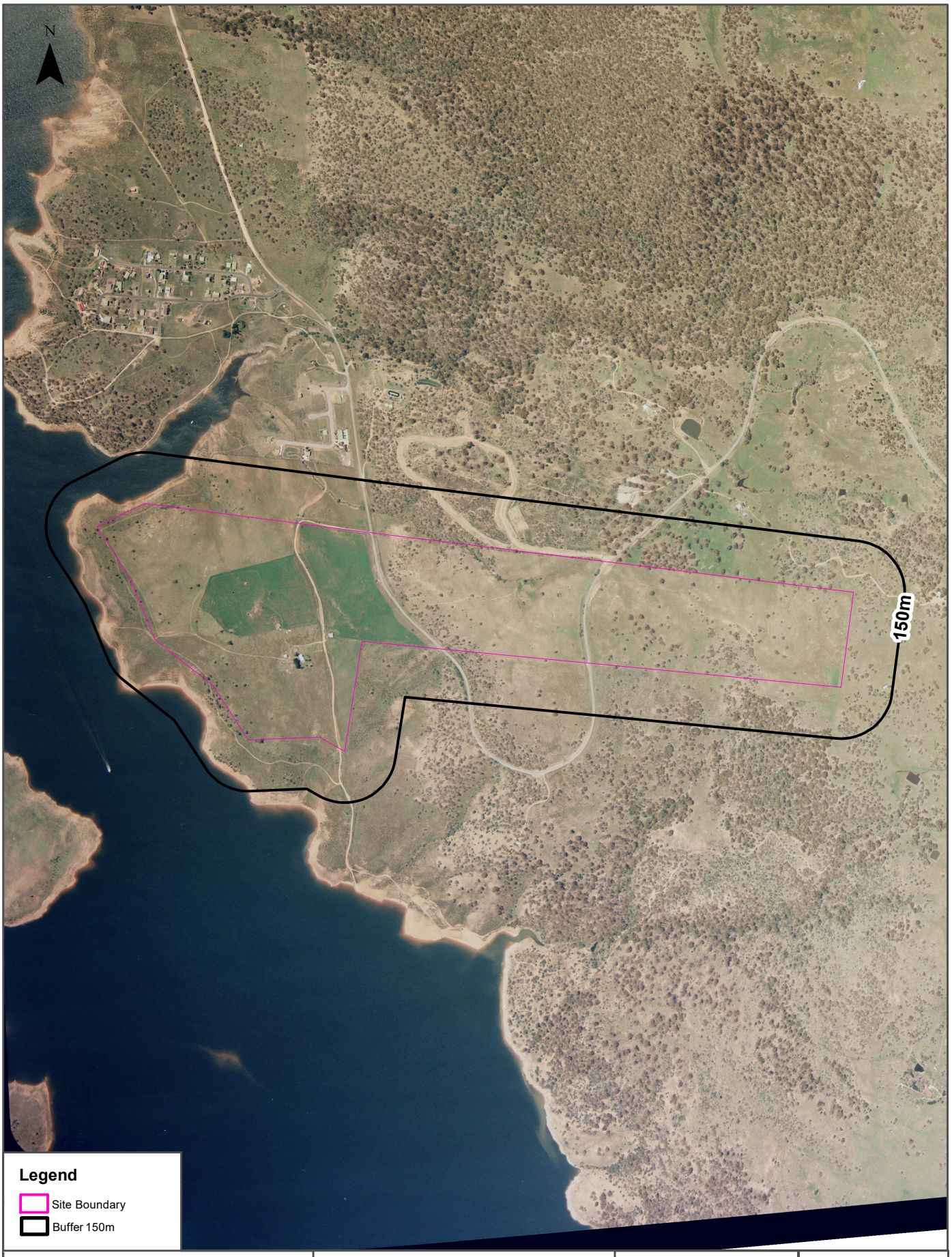
Aerial Imagery 1998

56 Hilldowns Road, Kalkite, NSW 2627



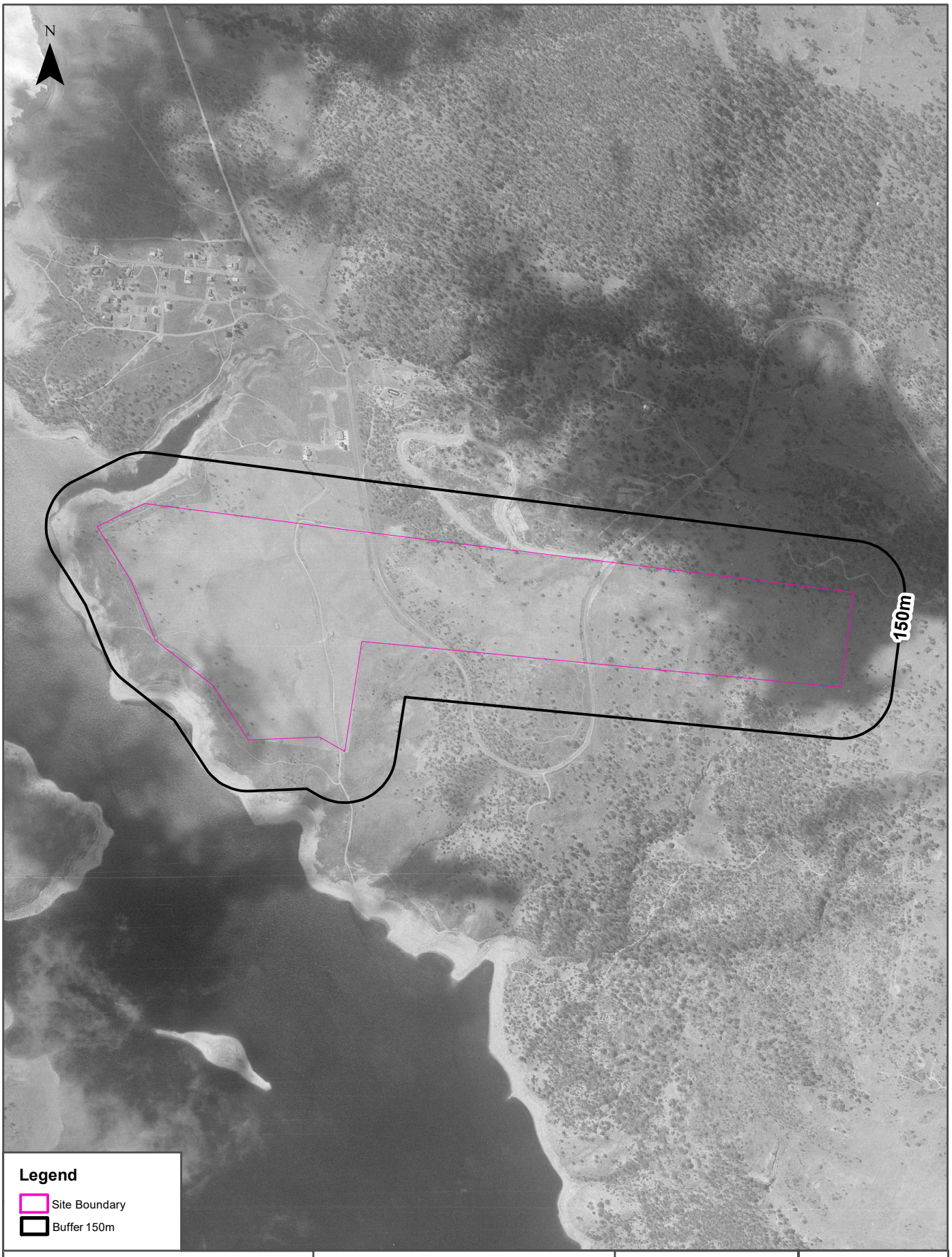
Aerial Imagery 1992

56 Hilldowns Road, Kalkite, NSW 2627



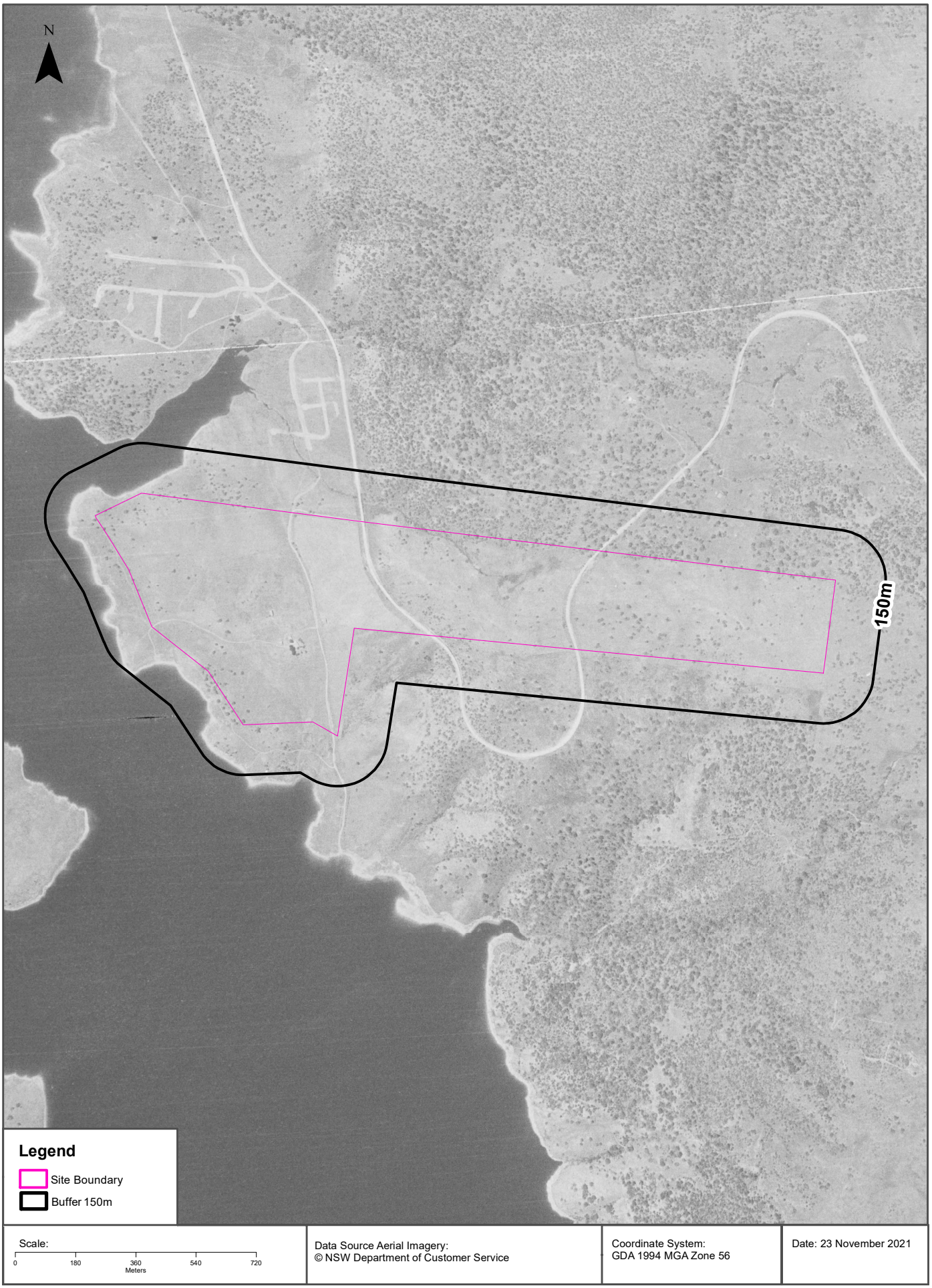
Aerial Imagery 1988

56 Hilldowns Road, Kalkite, NSW 2627



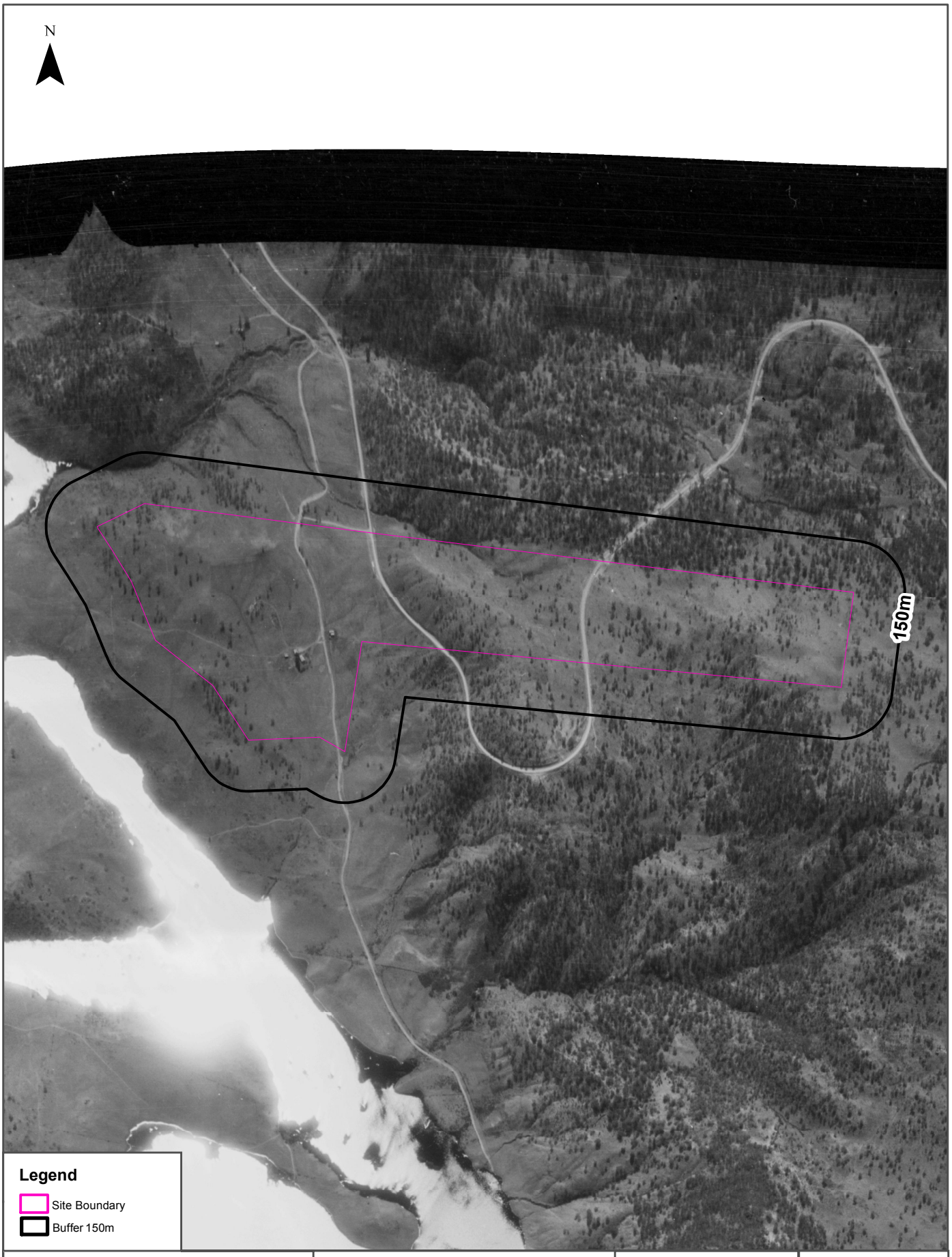
Aerial Imagery 1979

56 Hilldowns Road, Kalkite, NSW 2627



Aerial Imagery 1968

56 Hilldowns Road, Kalkite, NSW 2627



Topographic Map 2015

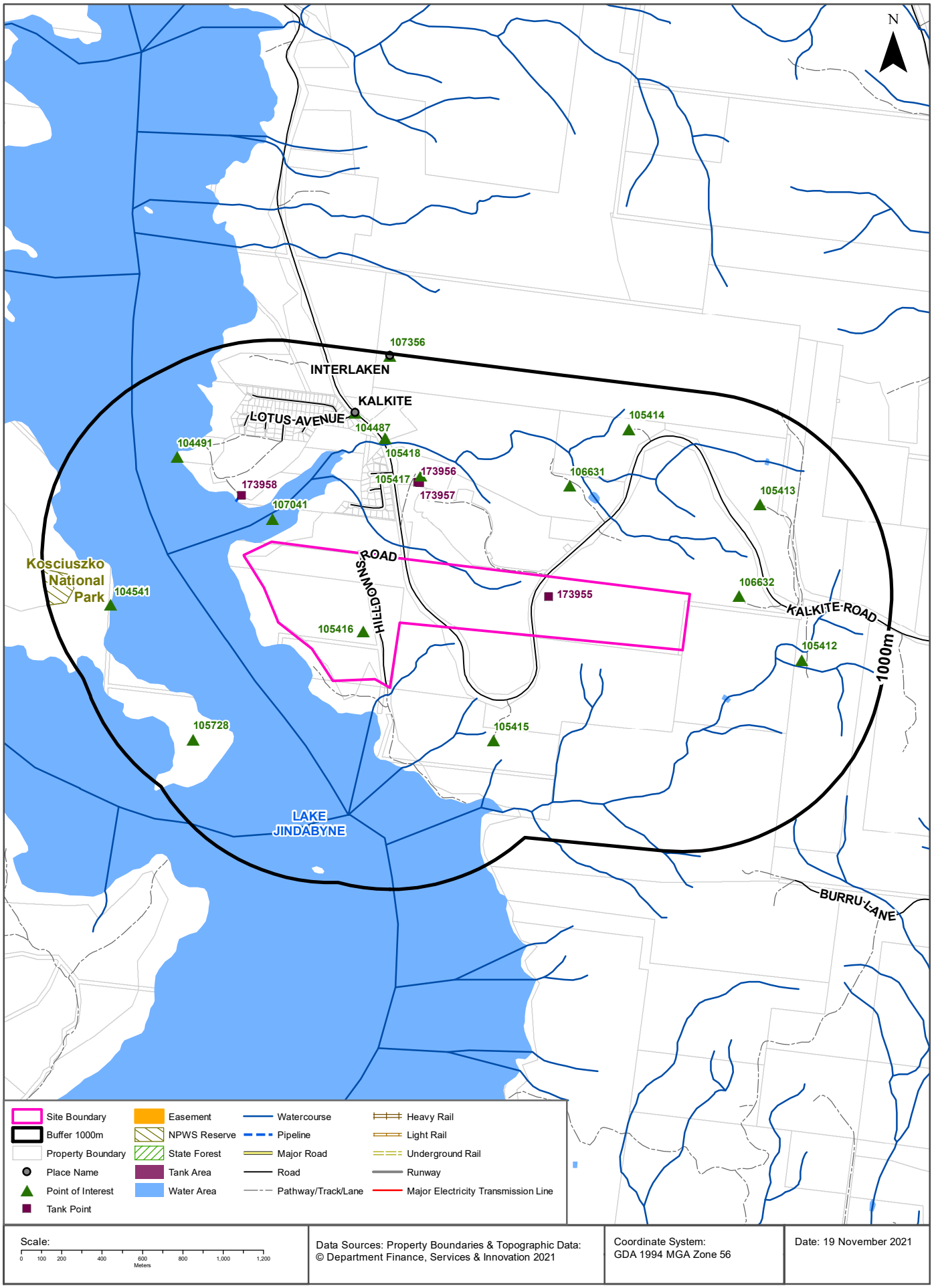
56 Hilldowns Road, Kalkite, NSW 2627

Historical Map 1983

56 Hilldowns Road, Kalkite, NSW 2627

Topographic Features

56 Hilldowns Road, Kalkite, NSW 2627



Topographic Features

56 Hilldowns Road, Kalkite, NSW 2627

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
105416	Homestead	HILLDOWNS	0m	On-site
107041	Bay / Inlet / Basin	TAYLORS INLET	115m	North West
106632	Homestead	EBENALP	245m	East
105417	Sewage Works	Sewage Works	421m	North
106631	Homestead	ALPAT	461m	North East
105415	Homestead	POSSUM LODGE	536m	South
105413	Homestead	TWELVE OAKS	563m	East
105418	Firestation - Bush	BERRIDALE-KALKITE RFB	581m	North
104491	Headland	GLEBE POINT	589m	North West
105412	Homestead	SNOW VIEW	593m	East
104487	Locality	KALKITE	687m	North West
104541	Headland	KALKITE POINT	704m	West
105728	Island	RYRIE ISLAND	718m	South West
105414	Homestead	WOORARRA	773m	North East
107356	Rural Place	INTERLAKEN	990m	North

Topographic Features

56 Hilldowns Road, Kalkite, NSW 2627

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

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

Tanks (Points)

What are the Tank Points located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
173955	Water	Operational		10/09/2001	0m	On-site
173958	Water	Operational		10/09/2001	270m	North West
173957	Water	Operational		10/09/2001	384m	North
173956	Water	Operational		10/09/2001	386m	North

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
N/A	No records in buffer				

Topographic Features

56 Hilldowns Road, Kalkite, NSW 2627

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
N0018	NATIONAL PARK	Kosciuszko National Park	01/10/1967	858m	West

Elevation Contours (m AHD)

56 Hilldowns Road, Kalkite, NSW 2627

Hydrogeology & Groundwater

56 Hilldowns Road, Kalkite, NSW 2627

Hydrogeology

Description of aquifers within the dataset buffer:

Description	Distance	Direction
Fractured or fissured, extensive aquifers of low to moderate productivity	0m	On-site

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018

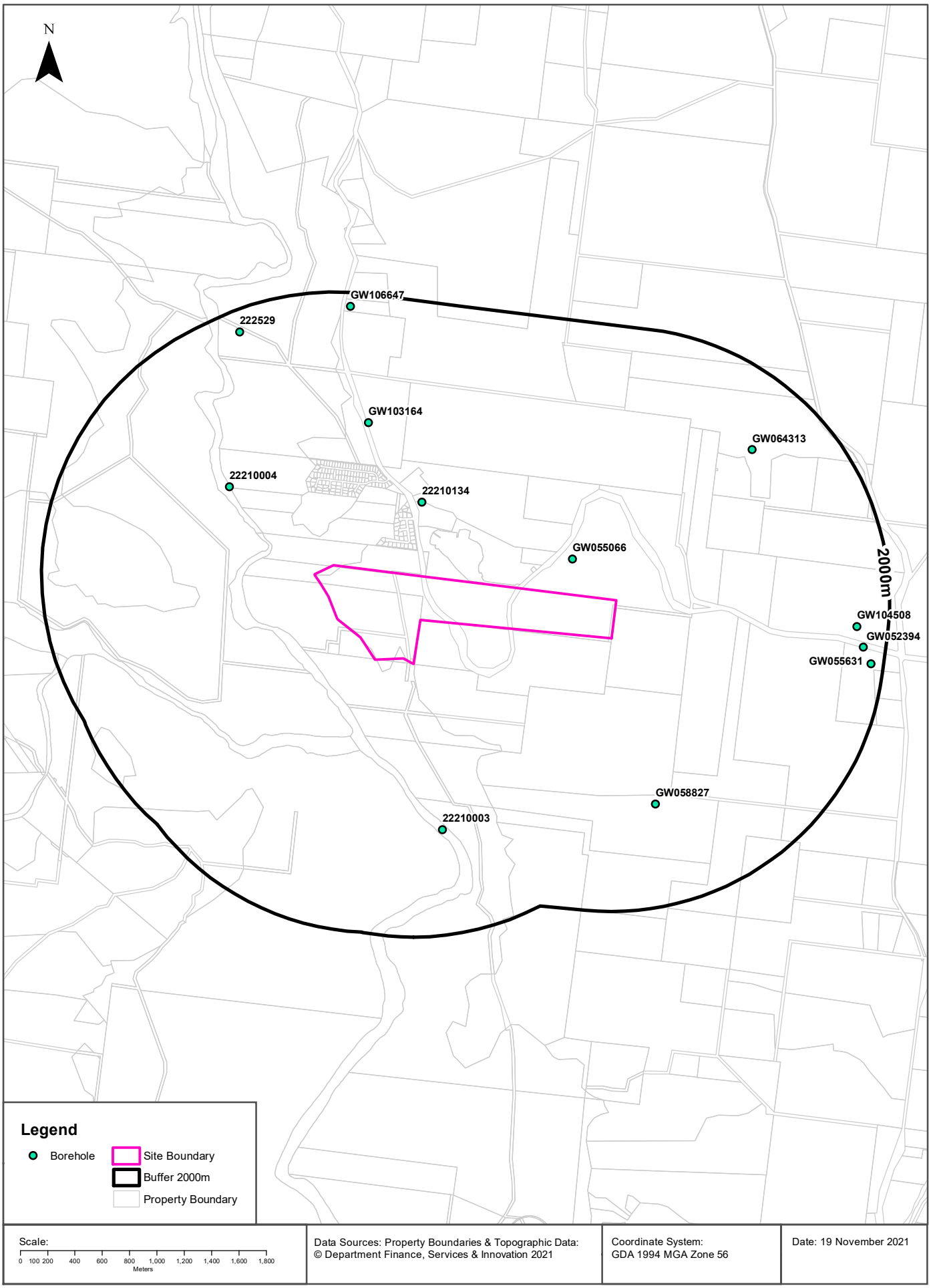
Temporary water restrictions relating to the Botany Sands aquifer within the dataset buffer:

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

56 Hilldowns Road, Kalkite, NSW 2627



Hydrogeology & Groundwater

56 Hilldowns Road, Kalkite, NSW 2627

Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m bgl)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW055066	10BL117035	Bore	Private	Stock	Stock		01/07/1979	15.20	15.20	Good				261m	East
22210134					UNK								930.08	540m	North
22210004					UNK								902.00	894m	North West
GW103164	10BL159692	Bore		Domestic, Stock	Domestic, Stock		26/04/2000	45.00	45.00					1068m	North West
22210003					UNK								902.00	1232m	South
GW058827	10BL128791	Bore open thru rock	Private	Domestic, Stock	Domestic, Stock			91.40	91.40	Good				1257m	South East
GW064313	10BL136567	Bore	Private	Domestic, Stock	Domestic, Stock		01/07/1987	33.50						1485m	North East
GW104508	10BL160652	Bore	Private	Domestic, Stock	Domestic, Stock		28/03/2002	23.00	23.00	Good	3.00	0.550		1773m	East
222529					UNK								902.00	1839m	North West
GW052394	10BL117340	Well	Private	Domestic, Stock	Not Known		01/10/1980	3.00						1839m	East
GW106647	10BL160357	Bore		Domestic, Stock	Domestic, Stock		20/05/2002	43.00	43.00	Good	18.00	0.075		1899m	North
GW055631	10BL120808	Bore open thru rock	Private	Domestic, Stock	Domestic, Stock		01/07/1981	76.20	76.20	Good				1909m	East

Hydrogeology & Groundwater

56 Hilldowns Road, Kalkite, NSW 2627

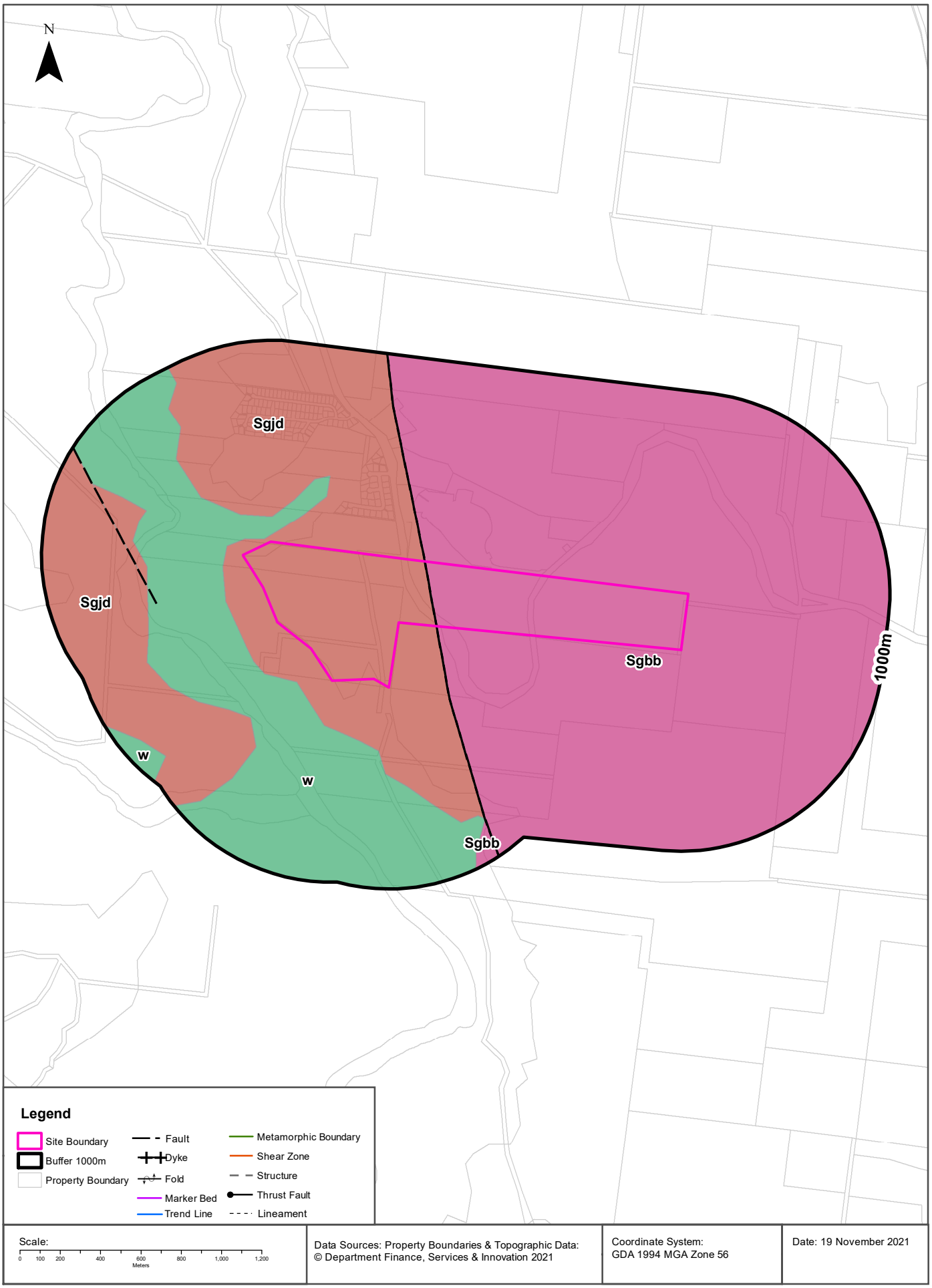
Driller's Logs

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

Groundwater No	Drillers Log	Distance	Direction
GW055066	0.00m-0.30m Topsoil 0.30m-9.80m Granite Decomposed Water Supply 9.80m-15.20m Granite	261m	East
GW103164	0.00m-0.50m TOPSOIL 0.50m-6.00m LIGHT DECOMPOSED GRANITE 6.00m-13.00m DECOMPOSED GRANITE AND COARSE 13.00m-14.00m BROKEN GRANITE AND QUARTZ 14.00m-42.00m GREY HARD GRANITE AND QUARTZ 42.00m-45.00m HARD BLUE GRANITE	1068m	North West
GW058827	0.00m-0.30m Topsoil 0.30m-0.91m Clay 0.91m-2.13m Granite Decomposed 2.13m-2.74m Clay 2.74m-3.35m Granite Decomposed 3.35m-9.75m Granite Hard Bands Soft Bands 9.75m-91.44m Granite	1257m	South East
GW104508	0.00m-0.50m TOPSOIL 0.50m-5.50m DECOMPOSED GRANITE/SOIL 5.50m-10.00m COARSE GRANITE 10.00m-23.00m HARD BLUE GRANITE ROCK	1773m	East
GW106647	0.00m-0.30m TOPSOIL 0.30m-5.00m WEATHERED GRANITE 5.00m-33.00m RED BLACK GRANITE 33.00m-43.00m HARD,BLACK,WHITE GRANITE	1899m	North
GW055631	0.00m-0.30m Topsoil 0.30m-2.40m Granite Decomposed 2.40m-76.20m Granite Water Supply	1909m	East

Geology

56 Hilldowns Road, Kalkite, NSW 2627



Geology

56 Hilldowns Road, Kalkite, NSW 2627

Geological Units 1:250,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dist	Dir
Sgjd	Hornblende and biotite tonalite	Gaden Tonalite	Jindabyne Suite		Palaeozoic	0m	On-site
Sgbb	Biotite-rich granite	Bullenbalong Granodiorite	Bullenbalong Suite		Palaeozoic	0m	On-site
w	Water	water	water		Cainozoic	27m	South West

Geological Structures 1:250,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Distance	Direction
Fault		Thrust, Accurate	Bega_Mallacoota	0m	On-site
Fault		Thrust, Accurate	SCRA	0m	On-site
Fault		Fault, Accurate	Bega_Mallacoota	491m	West

Geological Data Source : NSW Department of Industry, Resources & Energy

Naturally Occurring Asbestos Potential

56 Hilldowns Road, Kalkite, NSW 2627

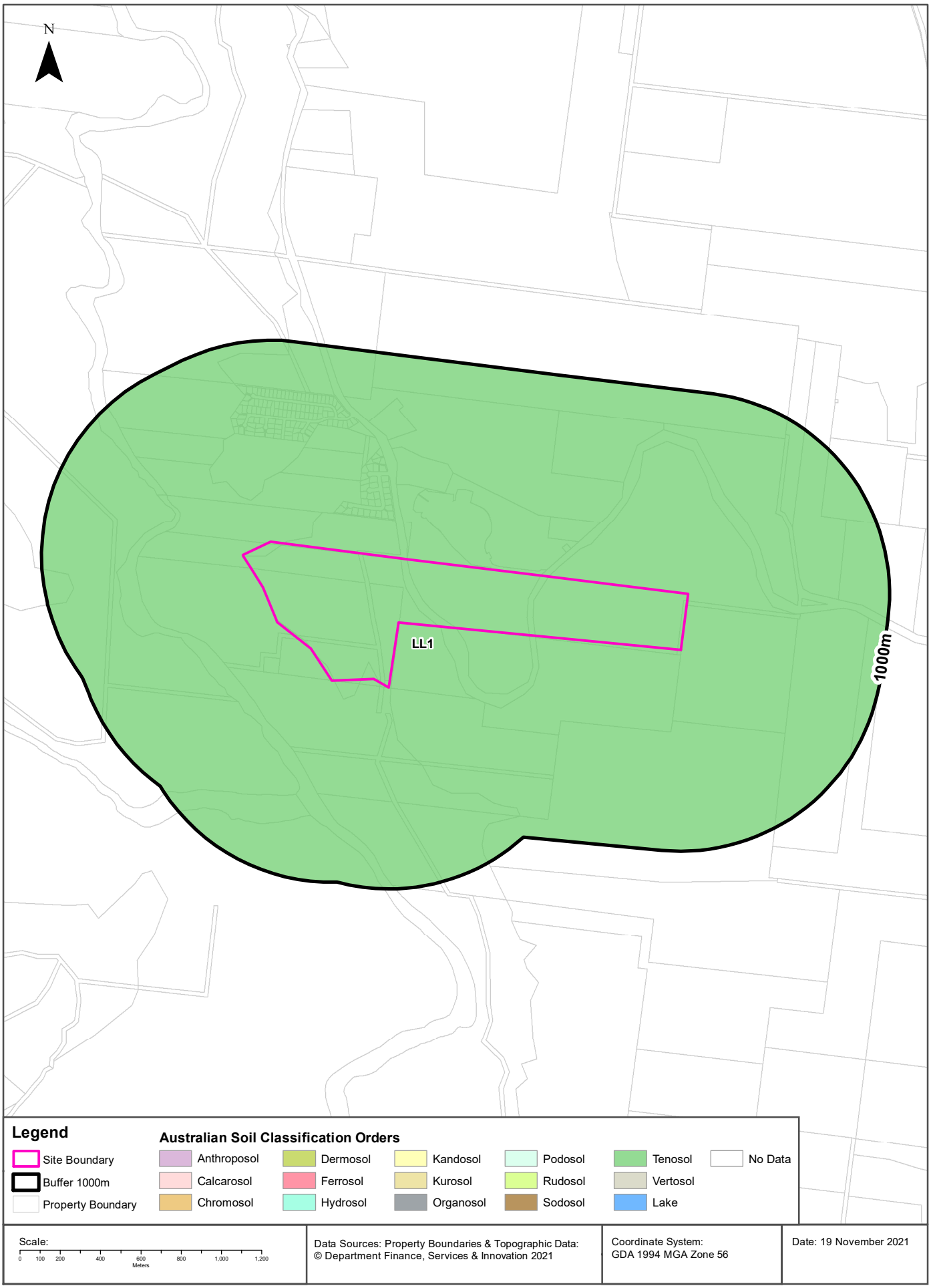
Naturally Occurring Asbestos Potential

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

56 Hilldowns Road, Kalkite, NSW 2627



Soils

56 Hilldowns Road, Kalkite, NSW 2627

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
LL1	Tenosol	Hills and plains--multicyclic erosional landscape of hills and hillocky areas with intervening plain-like areas, the whole traversed and dissected by variously incised stream valleys--some layering of soil materials: (i) relatively higher hills and ranges of loamy soils having an A2 horizon (Um4.2) and yellow-brown earths (Gn2.44) with (Um5.41 and Um5.S1), many stones, and rock outcrops; gullies of (Dr2) and (Dy3.32 and Dy3.42) soils; (ii) relatively lower hills and hillocky areas of hard acidic red soils (Dr2.21) and (Uc6.11), (Um) soils and rock outcrops with (Dy3.4) soils on lower slopes and (Dy3.43) in depressions; (iii) undulating plain-like areas with slopes and benches of red and yellow earths including (Gn2.14, Gn2.15, and Gn2.24); (iv) stream valleys of (Um6.11), some with clay D horizons and other (Uc) and (Um) soils; (v) also remains of various soil materials such as ironstone boulders in various situations. Soil dominance is difficult to assess: the most common soils are likely to be the (D) soils as a group but their variety is such that no single (D) soil can, on present data, be regarded as dominant.	0m	On-site

Acid Sulfate Soils

56 Hilldowns Road, Kalkite, NSW 2627

Environmental Planning Instrument - Acid Sulfate Soils

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

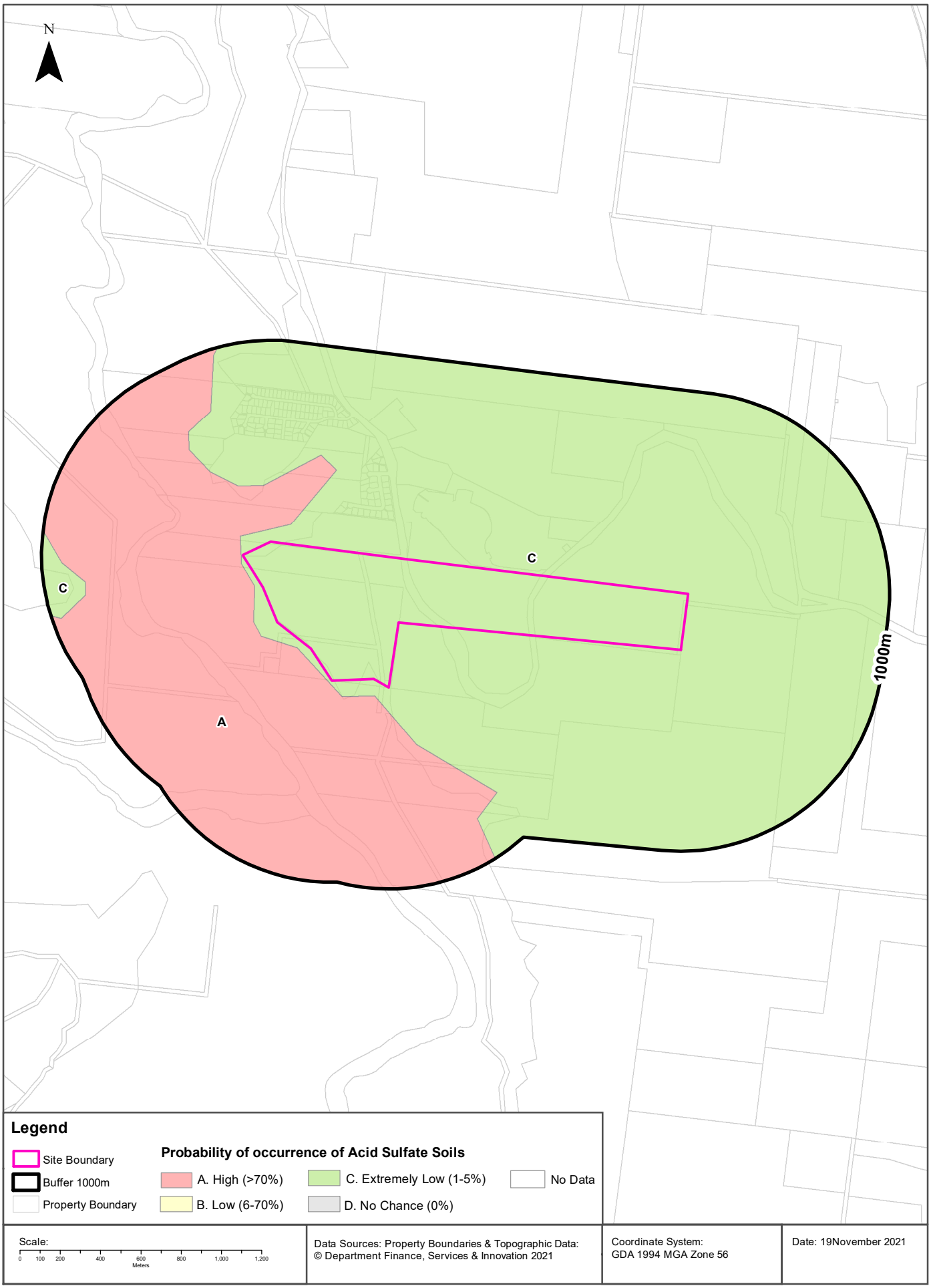
Soil Class	Description	EPI Name
N/A		

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

Soil Class	Description	EPI Name	Distance	Direction
N/A				

Atlas of Australian Acid Sulfate Soils

56 Hilldowns Road, Kalkite, NSW 2627



Acid Sulfate Soils

56 Hilldowns Road, Kalkite, NSW 2627

Atlas of Australian Acid Sulfate Soils

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

Class	Description	Distance	Direction
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m	On-site
A	High Probability of occurrence. >70% chance of occurrence.	11m	West

Dryland Salinity

56 Hilldowns Road, Kalkite, NSW 2627

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

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

No

What Dryland Salinity assessments are given?

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

Dryland Salinity Data Source : National Land and Water Resources Audit
The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.
In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Mining

56 Hilldowns Road, Kalkite, NSW 2627

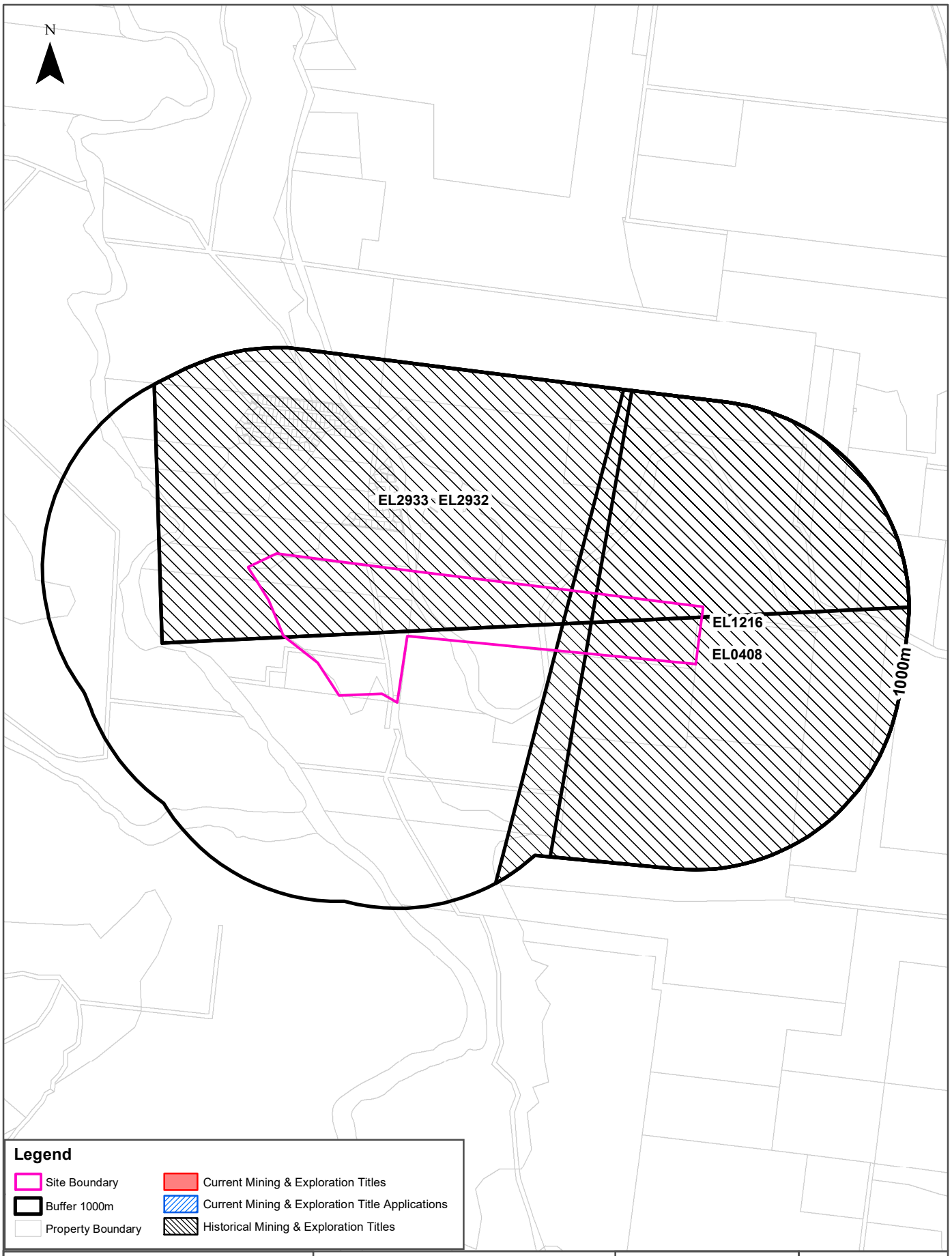
Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

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

Mining & Exploration Titles

56 Hilldowns Road, Kalkite, NSW 2627



Mining

56 Hilldowns Road, Kalkite, NSW 2627

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

56 Hilldowns Road, Kalkite, NSW 2627

Historical Mining & Exploration Titles

Historical Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Start Date	End Date	Resource	Minerals	Dist	Dir
EL1216	CRA EXPLORATION PTY LIMITED	01 Jan 1979	01 Sep 1981	MINERALS	Diamond	0m	On-site
EL0408	TAMBANIS HOLDINGS PTY LIMITED	01 Jan 1970	01 Jan 1972	MINERALS	Cu Pb Zn Ag Au	0m	On-site
EL2932	RYE, Phillip Michael	01 Oct 1987	01 Dec 1990	MINERALS	Aggregate	0m	On-site
EL2933	RYE, Phillip Michael	01 Oct 1987	01 Dec 1990	MINERALS	Aggregate	0m	On-site

State Environmental Planning Policy

56 Hilldowns Road, Kalkite, NSW 2627

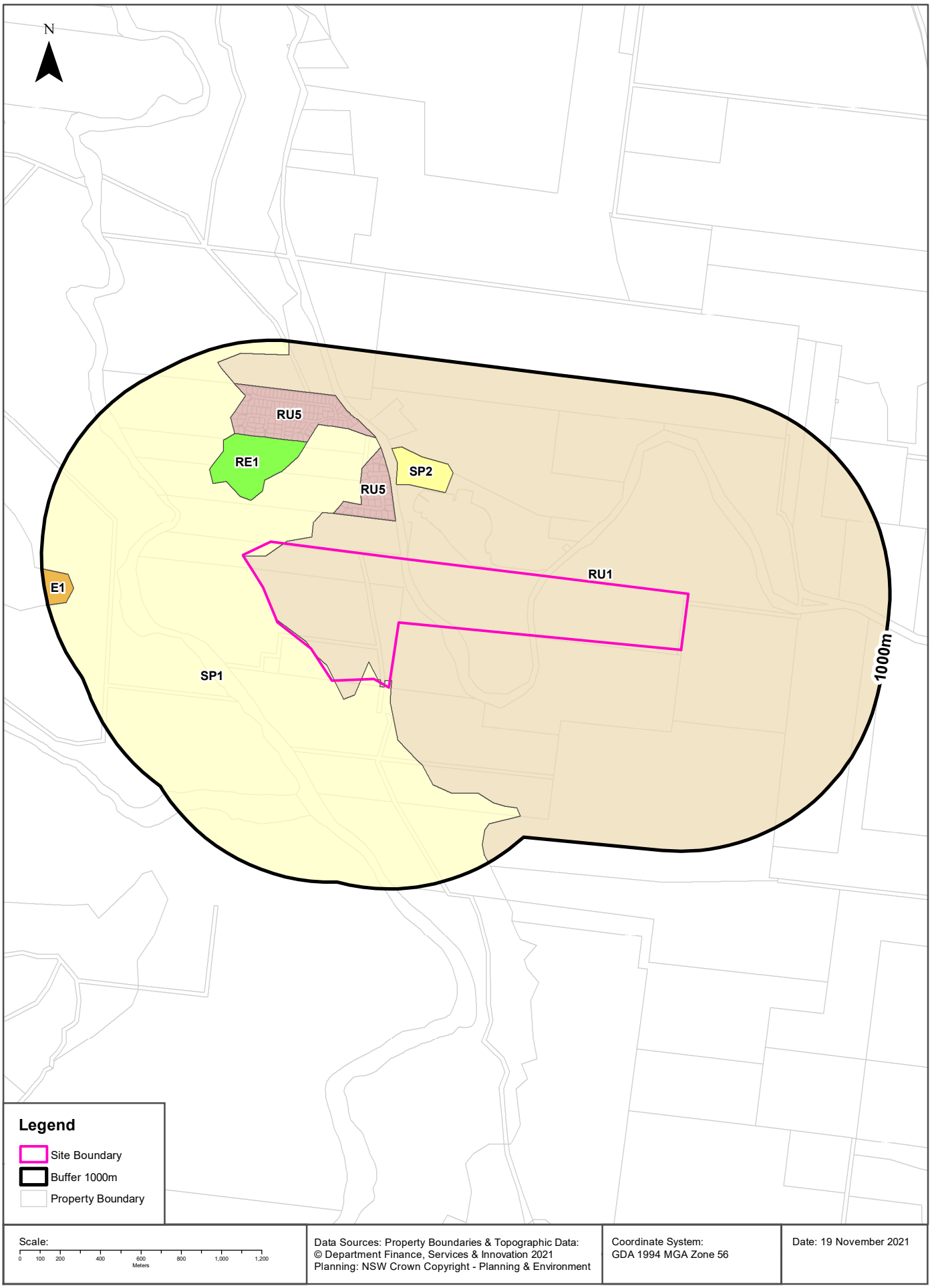
State Significant Precincts

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

56 Hilldowns Road, Kalkite, NSW 2627



Environmental Planning Instrument

56 Hilldowns Road, Kalkite, NSW 2627

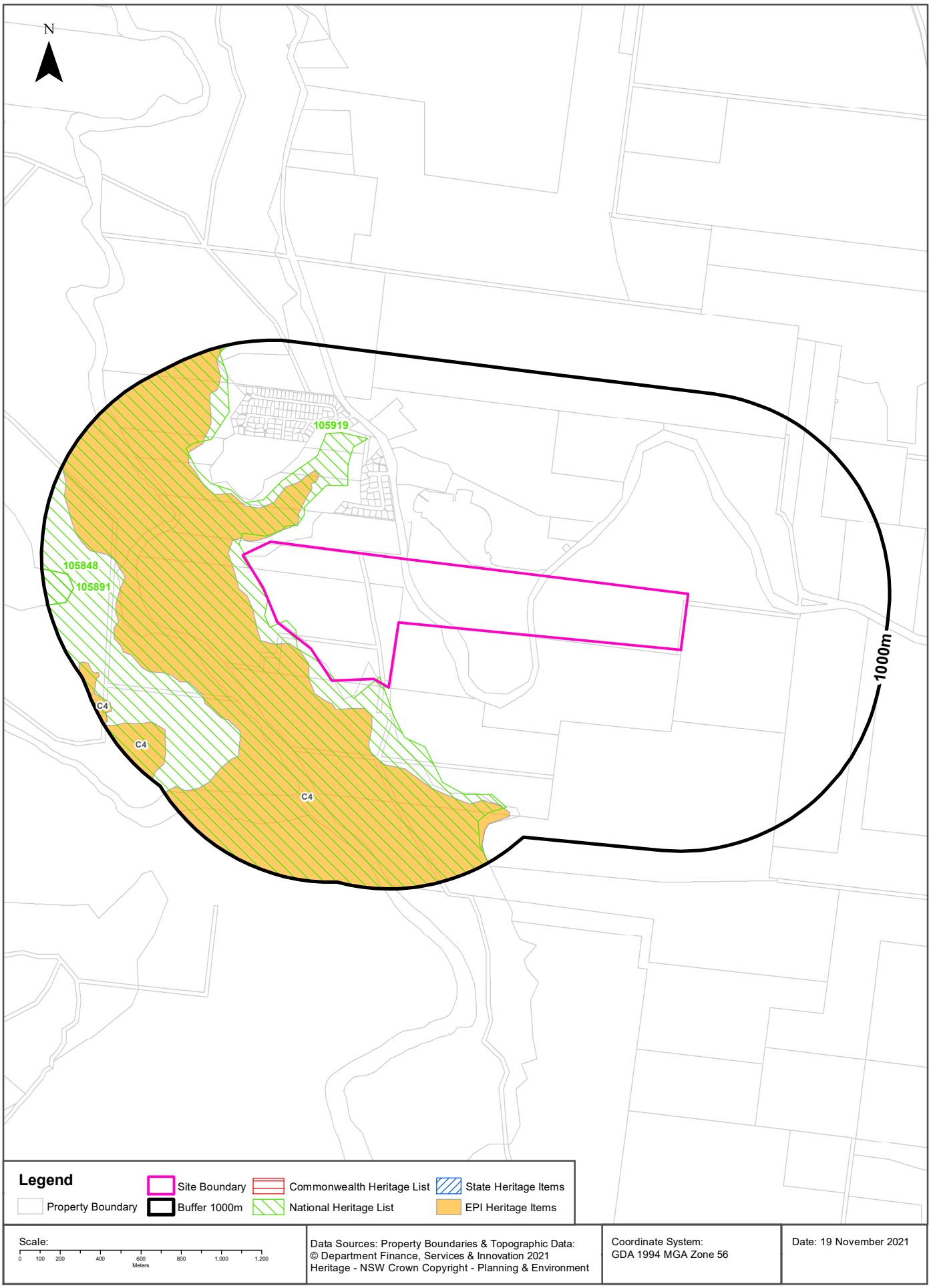
Land Zoning

What EPI Land Zones exist within the dataset buffer?

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
SP1	Special Activities	Water Supply System	Snowy River Local Environmental Plan 2013	13/12/2013	13/12/2013	20/07/2018		0m	On-site
RU1	Primary Production		Snowy River Local Environmental Plan 2013	13/12/2013	13/12/2013	20/07/2018		0m	On-site
RU5	Village		Snowy River Local Environmental Plan 2013	13/12/2013	13/12/2013	20/07/2018		181m	North West
RE1	Public Recreation		Snowy River Local Environmental Plan 2013	13/12/2013	13/12/2013	20/07/2018		230m	North West
SP2	Infrastructure	Sewage System	Snowy River Local Environmental Plan 2013	13/12/2013	13/12/2013	20/07/2018		354m	North
RU5	Village		Snowy River Local Environmental Plan 2013	13/12/2013	13/12/2013	20/07/2018		512m	North West
E1	National Parks and Nature Reserves		Snowy River Local Environmental Plan 2013	13/12/2013	13/12/2013	20/07/2018		858m	West

Heritage Items

56 Hilldowns Road, Kalkite, NSW 2627



Heritage

56 Hilldowns Road, Kalkite, NSW 2627

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							

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
105919	Snowy Mountains Scheme	Snowy Mountains Hwy, Cabramurra NSW	1/08/284/0006	Historic	Nominated place		0m	On-site
105848	Kosciuszko National Park	Snowy Mountains Hwy, Tumut NSW	1/05/345/0001	Natural	Nomination now ineligible for PPAL		858m	West
105891	Australian Alps National Parks and Reserves	The Alpine Way, Thredbo Village NSW	1/08/284/0028	Natural	Listed place	07/11/2008	858m	West

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							

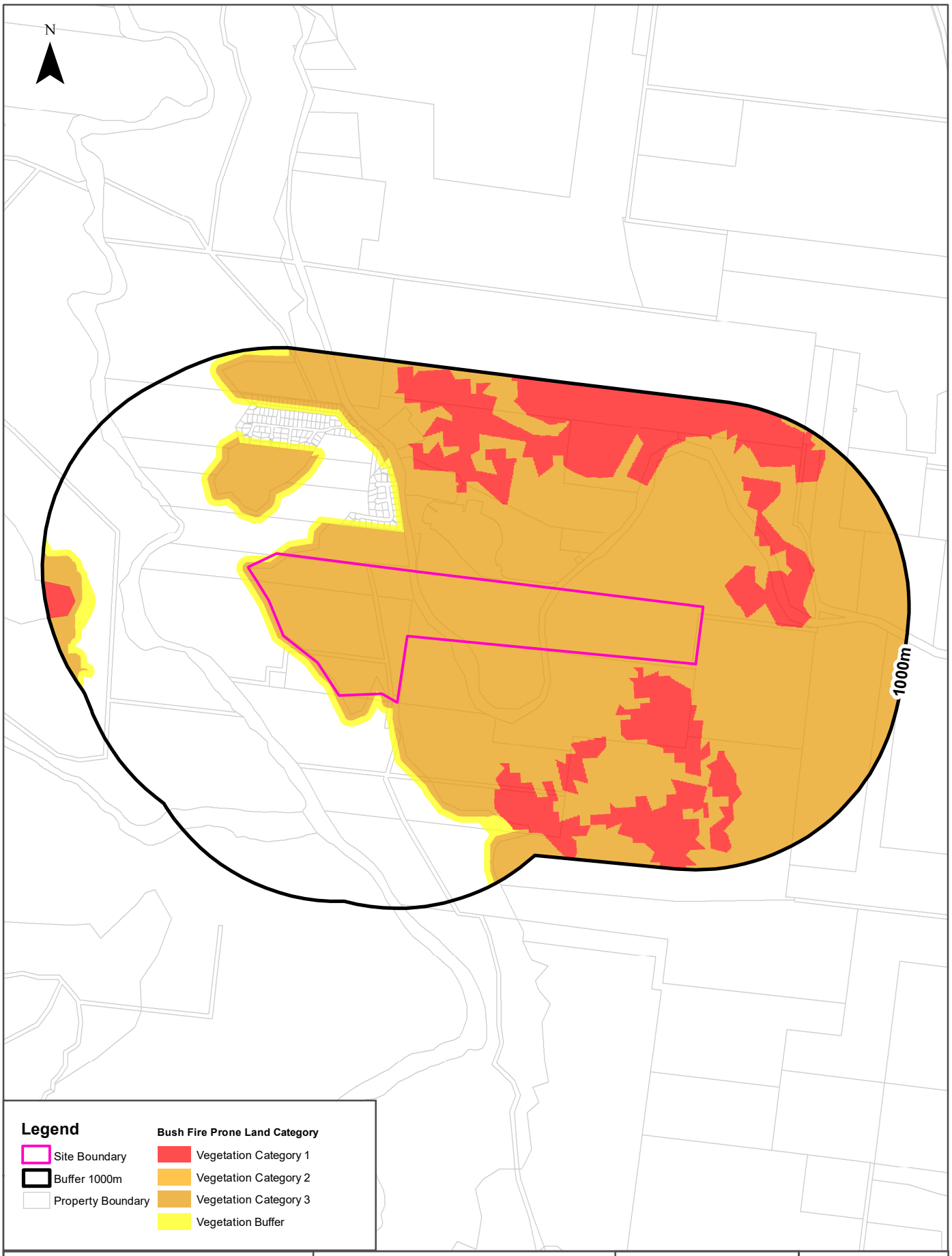
Environmental Planning Instrument - Heritage

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
C4	Lake Jindabyne	Conservation Area - General	Local	Snowy River Local Environmental Plan 2013	13/12/2013	13/12/2013	22/07/2016	25m	West

Natural Hazards - Bush Fire Prone Land

56 Hilldowns Road, Kalkite, NSW 2627



Data Sources: Bush Fire Prone Land: © NSW Rural Fire Service 2021. Property Boundaries: © Department Finance, Services & Innovation 2021

Coordinate System: GDA 1994 MGA Zone 56

Date: 19 November 2021

Natural Hazards

56 Hilldowns Road, Kalkite, NSW 2627

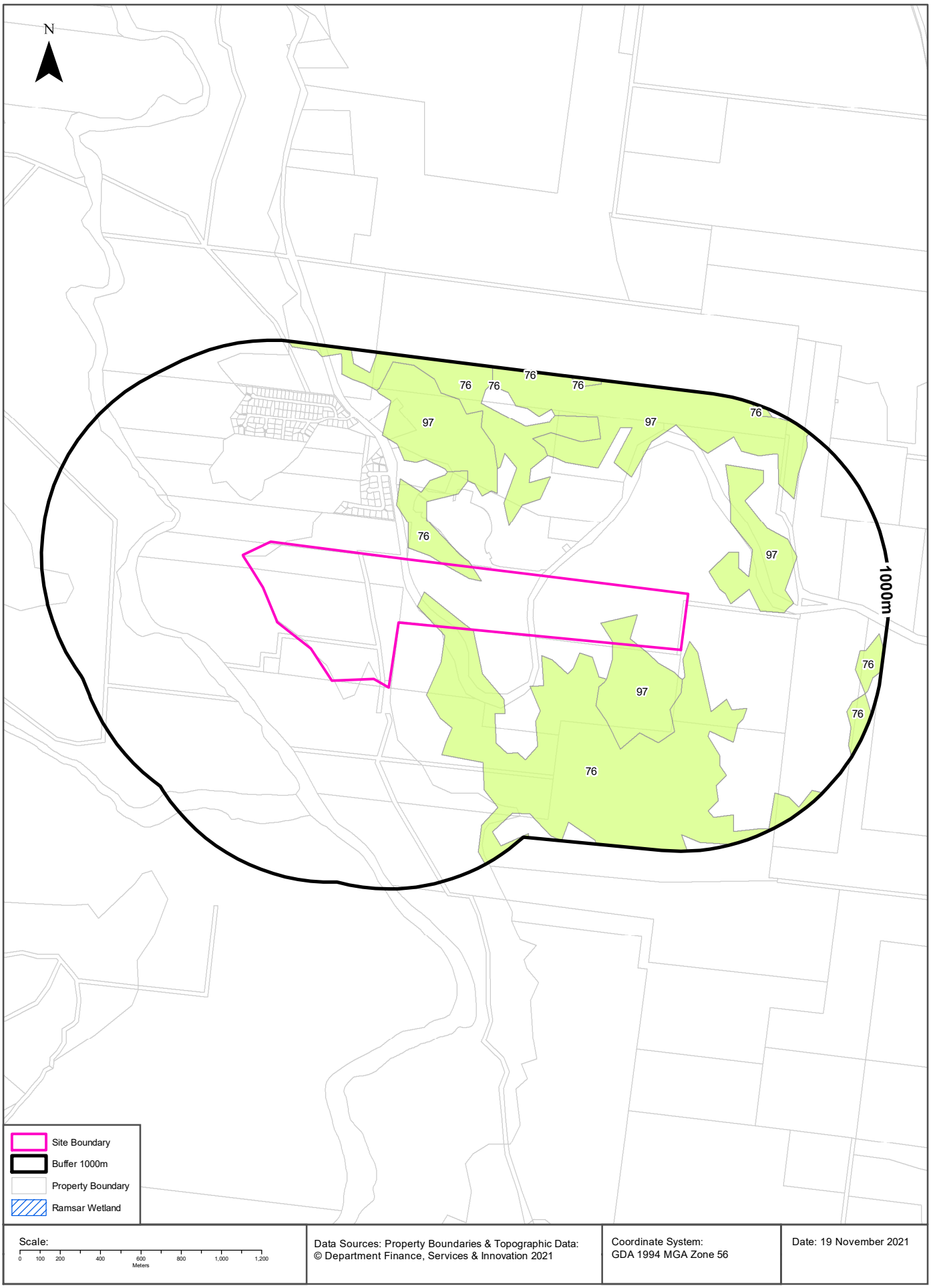
Bush Fire Prone Land

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

Bush Fire Prone Land Category	Distance	Direction
Vegetation Category 3	0m	On-site
Vegetation Buffer	0m	On-site
Vegetation Category 1	39m	South East

Ecological Constraints - Vegetation & Ramsar Wetlands

56 Hilldowns Road, Kalkite, NSW 2627



Ecological Constraints

56 Hilldowns Road, Kalkite, NSW 2627

Vegetation of the Southern Forests

What vegetation of the Southern Forests exists within the dataset buffer?

Veg Code	Formation	Class	Group	Distance	Direction
97	04 Montane Tableland Forests	04c ST Montane Mountain Gum-Snow Gum Forests	Montane Acacia-Dry Shrub-Herb-Grass Forest	0m	On-site
76	04 Montane Tableland Forests	04c ST Montane Mountain Gum-Snow Gum Forests	Central Tablelands Shrub-Grass Dry Forest	0m	On-site

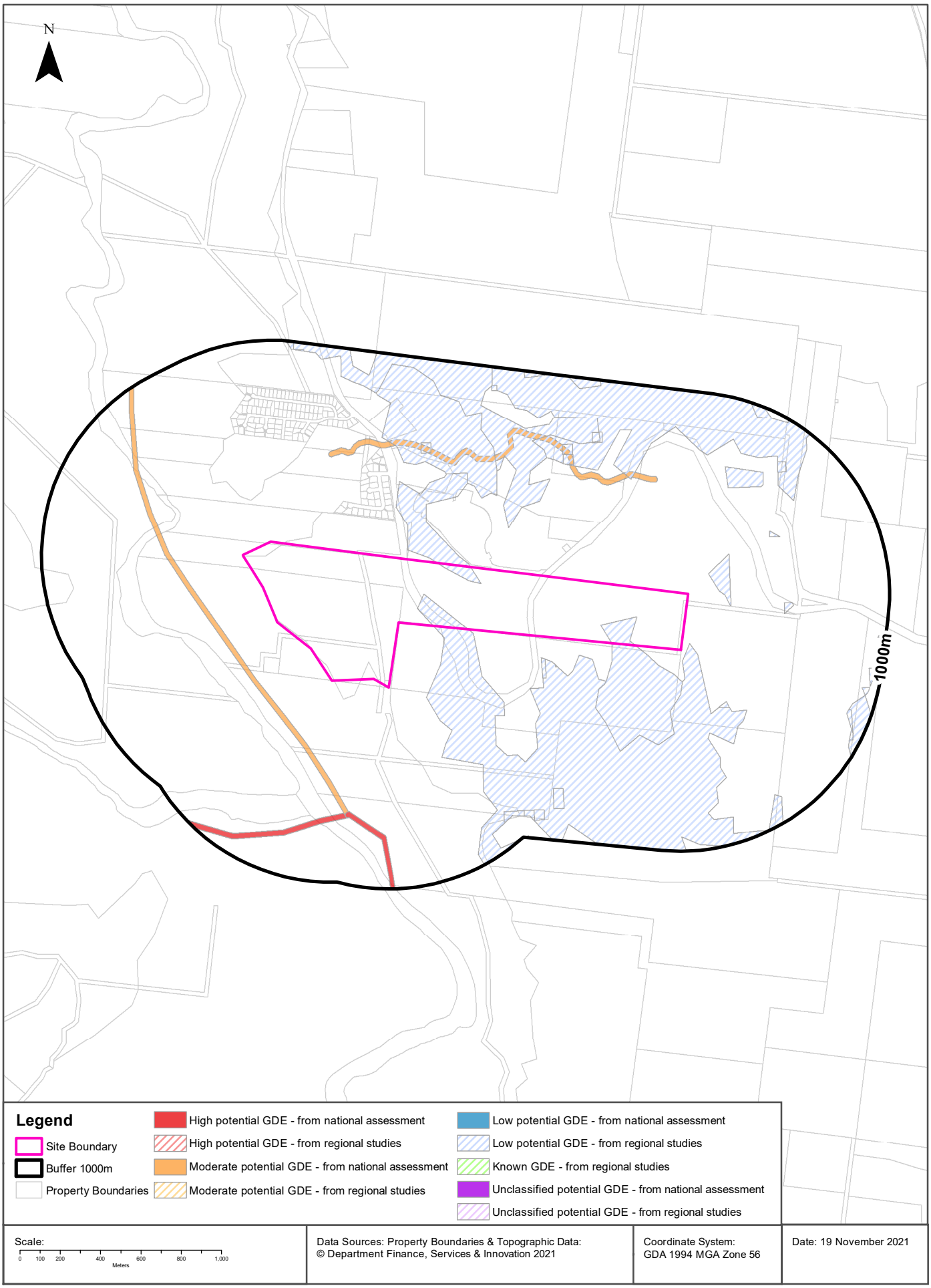
Ramsar Wetlands

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					

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

56 Hilldowns Road, Kalkite, NSW 2627



Ecological Constraints

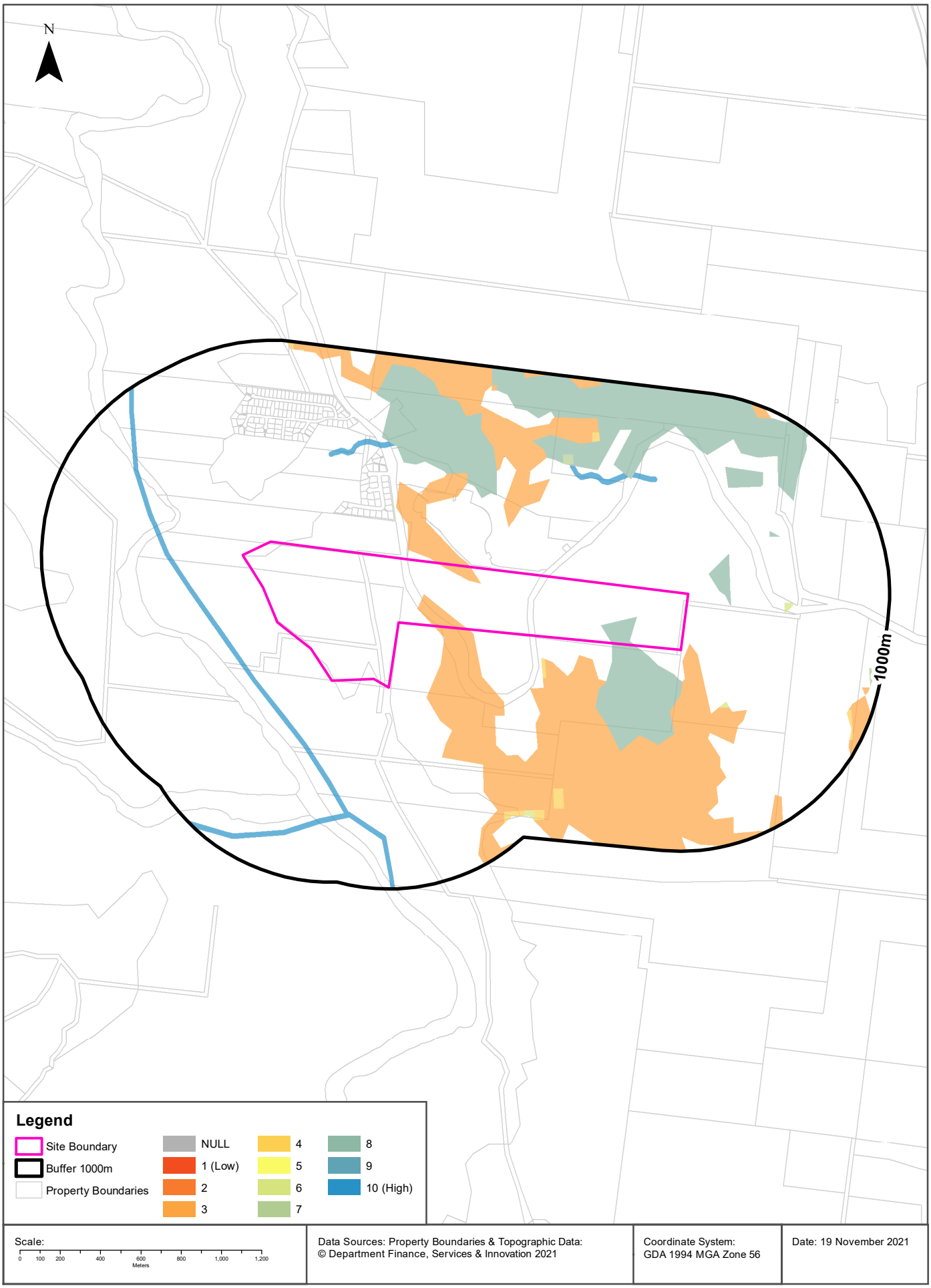
56 Hilldowns Road, Kalkite, NSW 2627

Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial	Low potential GDE - from regional studies	Undulating upland plains with some tablular basalt relief and granite tors.	Vegetation		0m	On-site
Terrestrial	Low potential GDE - from regional studies	Dissected high upland, glaciated locally with some periglacial features. Uplifted blocks surrounded by highly dissected high relief hill country.	Vegetation		0m	On-site
Aquatic	Moderate potential GDE - from national assessment	Dissected high upland, glaciated locally with some periglacial features. Uplifted blocks surrounded by highly dissected high relief hill country.	River		249m	West
Aquatic	Moderate potential GDE - from national assessment	Undulating upland plains with some tablular basalt relief and granite tors.	River		455m	North
Aquatic	High potential GDE - from national assessment	Undulating upland plains with some tablular basalt relief and granite tors.	River		646m	South
Aquatic	High potential GDE - from national assessment	Dissected high upland, glaciated locally with some periglacial features. Uplifted blocks surrounded by highly dissected high relief hill country.	River		656m	South West

Ecological Constraints - Inflow Dependent Ecosystems Likelihood

56 Hilldowns Road, Kalkite, NSW 2627



Ecological Constraints

56 Hilldowns Road, Kalkite, NSW 2627

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial	3	Undulating upland plains with some tablular basalt relief and granite tors.	Vegetation		0m	On-site
Terrestrial	8	Dissected high upland, glaciated locally with some periglacial features. Uplifted blocks surrounded by highly dissected high relief hill country.	Vegetation		0m	On-site
Terrestrial	4	Undulating upland plains with some tablular basalt relief and granite tors.	Vegetation		104m	South East
Aquatic	10	Dissected high upland, glaciated locally with some periglacial features. Uplifted blocks surrounded by highly dissected high relief hill country.	River		249m	West
Terrestrial	6	Undulating upland plains with some tablular basalt relief and granite tors.	Vegetation		339m	South East
Aquatic	10	Undulating upland plains with some tablular basalt relief and granite tors.	River		455m	North
Terrestrial	6	Dissected high upland, glaciated locally with some periglacial features. Uplifted blocks surrounded by highly dissected high relief hill country.	Vegetation		475m	East
Terrestrial	7	Dissected high upland, glaciated locally with some periglacial features. Uplifted blocks surrounded by highly dissected high relief hill country.	Vegetation		563m	North East
Terrestrial	5	Undulating upland plains with some tablular basalt relief and granite tors.	Vegetation		984m	East

Ecological Constraints

56 Hilldowns Road, Kalkite, NSW 2627

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 booroolongensis	Booroolong Frog	Endangered	Not Sensitive	Endangered	
Animalia	Amphibia	Litoria verreauxii alpina	Alpine Tree Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
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	Not Listed	
Animalia	Aves	Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Epthianura albifrons	White-fronted Chat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Pachycephala olivacea	Olive Whistler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Rhipidura fuliginosa	New Zealand Fantail (Lord Howe Is. subsp.)	Presumed Extinct	Not Sensitive	Extinct	
Animalia	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Cercartetus nanus	Eastern Pygmy-possum	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Mastacomys fuscus	Broad-toothed Rat	Vulnerable	Not Sensitive	Vulnerable	
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	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Calotis glandulosa	Mauve Burr-daisy	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Discaria nitida	Leafy Anchor Plant	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Euphrasia scabra	Rough Eyebright	Endangered	Category 3	Not Listed	
Plantae	Flora	Swainsona sericea	Silky Swainson-pea	Vulnerable	Not Sensitive	Not Listed	

Data does not include NSW category 1 sensitive species.

Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

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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Appendix H

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

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

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

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

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

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

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

Outputs		
Land use	Ni soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	30	10
Urban residential and open public spaces	40	45
Commercial and industrial	50	75

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

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

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

Outputs		
Land use	Zn soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	50	120
Urban residential and open public spaces	110	270
Commercial and industrial	150	380

Inputs
Select contaminant from list below
Cr_III
Below needed to calculate fresh and aged ACLs
Enter % clay (values from 0 to 100%)
10
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Cr III soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	130	140
Urban residential and open public spaces	230	410
Commercial and industrial	340	670

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

Outputs		
Land use	Cu soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	45	50
Urban residential and open public spaces	75	120
Commercial and industrial	100	170

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

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