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Engineering | Environmental | Testing

Report Type:

Stage 1 Preliminary Site Investigation (with Limited Sampling)

Project Address:

290-308 Aldington Road, Kemps Creek NSW
Lot 13 in DP253503

Client Name:

CIP Constructions (NSW) Pty Ltd

18 October 2019
Report No: 9687-ER-1-1

We give you the right information to make the right decisions

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DOCUMENT CONTROL

Revision	Date	Author	Reviewer
Final	18 October 2019	Jacob Walker	Aidan Rooney

Author Signature		**Reviewer Signature**	
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Title	Environmental Scientist	**Title**	Principal Environmental Scientist

EXECUTIVE SUMMARY

Alliance Geotechnical Pty Ltd (AG) was engaged by CIP Constructions (NSW) Pty Ltd, to undertake a Stage 1 Preliminary Site Investigation (with Limited Sampling) for 290-308 Aldington Road, Kemps Creek NSW (refer **Figure 1** with the 'site' boundaries outlined in **Figure 2**).

AG has the following project appreciation:

- The site may be proposed for redevelopment, which could result in a potential commercial / industrial land use scenario; and
- A contamination assessment of the site is required as pre-purchase due diligence to inform the potential landowners of contamination risk (if any).
-

The objectives of this investigation were to:

- Assess the potential for contamination to be present on the site as a result of past and current land use activities;
- Provide advice on whether the site would be suitable (in the context of land contamination) for the proposed land use setting;
- Provide advice on salinity hazards and risks for the site; and
- Provide recommendations for further investigation, management and/or remediation (if warranted).

The scope of works undertaken to address the investigation objectives, included:

- A desktop review of relevant information pertaining to the site;
- A site walkover to understand current site conditions;
- The preparation of a Sampling and Analysis Quality Plan (SAQP);
- Conduct a targeted intrusive site investigation to establish ground conditions and to facilitate the collection of representative soil samples;
- Laboratory analysis of selected samples collected during the field investigation; and
- An assessment of the contamination status of the site and the recommendation of any further remedial requirements associated with the redevelopment of the site (if necessary).

<u>Conclusions</u>

Based on AG's assessment of the desktop review information, fieldwork data and laboratory analytical data, in the context of the proposed redevelopment scenario, AG makes the following conclusions:

- The detected concentrations of identified contaminants of potential concern in the soils assessed are considered unlikely to present:
    - An unacceptable inhalation / vapour intrusion human health exposure risk; or
    - An unacceptable petroleum management limit risk.
- The detected concentrations of contaminants in the soils assessed are considered unlikely to present a direct contact human health risk;
- The detected concentrations of contaminants in the soils assessed are considered unlikely to present an unacceptable ecological health risk;
- Asbestos was not observed or detected within any of the soil samples collected;
- The detected concentrations of nutrients in the soils assessed are considered to be similarly low across the site;
- Soils assessed onsite (up to a depth of 1.0m below ground surface) are considered to be:

  - non-saline to very saline;
  - non-aggressive to concrete piles;
  - non-aggressive to steel piles; and
  - non-sodic to sodic.
- The soil materials are considered suitable for the proposed land use setting; and
- The site is deemed unlikely to pose a significant contamination risk to for future development.

Recommendations

Based on the above conclusions, AG makes the following recommendations:

- As the soil materials are considered suitable for the proposed land use (in the context of contamination), no further investigation, management and/or remediation is deemed warranted.

This report, including its conclusions and recommendations, must be read in conjunction with the limitations presented in **Section 18.**

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LIST OF ABBREVIATIONS

AG	Alliance Geotechnical Pty Ltd
AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment and Conservation Council
AST	Aboveground storage tank
Bgs	Below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
Btoc	Below top of casing
CoC	Chain of Custody
CoT	Certificate of Title
CSM	Conceptual Site Model
DPI-W	Department of Primary Industry – Water
DSI	Detailed Site Investigation
EC	Electrical conductivity
EIL	Ecological Investigation Level
EPA	Environment Protection Authority
GS	Geological Survey of NSW
HIL	Health Investigation Levels
HSL	Health Screening Levels
IL	Investigation Levels
LOR	[Laboratory] Limit of reporting
MS	Matrix spike
NATA	National Association of Testing Laboratories
N/A	Not applicable
ND	Not detected
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NSW EPA	NSW Environment Protection Authority
OCP	Organochlorine Pesticide
OPP	Organophosphorus Pesticide
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PID	Photo-ionisation detector
PSH	Phase separated hydrocarbon
PSI	Preliminary Site Investigation
QA/QC	Quality assurance/Quality control
RPD	Relative percentage difference
SAQP	Sampling Analysis and Quality Plan
SVOC	Semi-volatile organic compound
TDS	Total dissolved solids
TPH	Total petroleum hydrocarbon

PVC	Polyvinyl Chloride
USCS	Unified Soil Classification System
UST	Underground storage tank
VOC	Volatile organic carbon

1. INTRODUCTION

1.1. Background

Alliance Geotechnical Pty Ltd (AG) was engaged by CIP Constructions (NSW) Pty Ltd, to undertake a Stage 1 Preliminary Site Investigation (with Limited Sampling) for 290-308 Aldington Road, Kemps Creek NSW (refer **Figure 1** with the 'site' boundaries outlined in **Figure 2**)**.**

AG has the following project appreciation:

- The site may be proposed for redevelopment, which could result in a potential commercial / industrial land use scenario; and
- A contamination assessment of the site is required as pre-purchase due diligence to inform the potential landowners of contamination risk (if any).

1.2. Objectives

The objectives of this project were to:

- Assess the potential for contamination to be present on the site as a result of past and current land use activities;
- Provide advice on whether the site would be suitable (in the context of land contamination) for the proposed land use setting;
- Provide advice on salinity hazards and risks for the site; and
- Provide recommendations for further investigation, management and/or remediation (if warranted).

1.3. Scope of Work

AG undertook the following scope of works to address the project objective:

- A desktop review of relevant information pertaining to the site;
- A site walkover to understand current site conditions;
- The preparation of a Sampling and Analysis Quality Plan (SAQP);
- Conduct a targeted intrusive site investigation to establish ground conditions and to facilitate the collection of representative soil samples;
- Laboratory analysis of selected samples collected during the field investigation; and
- An assessment of the contamination status of the site and the recommendation of any further remedial requirements associated with the redevelopment of the site (if necessary).

2. SITE IDENTIFICATION

The site is identified as Lot 13 in DP253503.

The approximate geographic coordinates of the middle of the site, inferred from Google Earth were 33°51'22.6"S 150°47'58.5"E.

The locality of the site is set out in **Figure 1** and lies in the jurisdiction of Penrith City Council.

The site is zoned RU2 Rural Landscape under the *Penrith City Council Local Environment Plan (LEP) 2012.* The general layout and boundary of the site is set out in **Figure 2**.

The site covers an area of 9.9 hectares.

A copy of a detail and level survey is presented in **Appendix A**.

3. GEOLOGY, ACID SULFATE SOILS, TOPOGRAPHY AND HYDROGEOLOGY

3.1. Geology

A review of the Penrith 1:100,000 Geological Series Sheet (1st Edition, 1983), indicated that the site is likely to be underlain by Middle Triassic Bringelly Shale (Rwb), comprising shale, carbonaceous claystone, claystone, laminite, fine to medium grained lithic sandstone, rare coal and tuff.

3.2. Acid Sulfate Soils

A review of the ASRIS Acid Sulfate Soil Risk Map for the site indicates that the site lies in an area mapped as '*No Known Occurrence'* with respect to acid sulfate soils. Land management activities are not likely to be affected by acid sulfate soil materials.

Further assessment of acid sulfate soils in the context of this investigation is considered by AG as not warranted.

3.3. Topography

The site is located at an elevation of approximately 50m – 88m Australian Height Datum (AHD). Topography of the site slopes towards the south west.

3.4. Hydrogeology

Surface water courses proximal to the site included Kemps Creek, located approximately 800 m to the south west of the site.

Based on distances to the nearest surface water course and the site topography, groundwater flow in the vicinity of the site is considered likely to be towards the west.

A review of the NSW Office of Water groundwater database (www.realtimedata.waternsw.com.au/water.stm) undertaken on 3 October 2019 indicated there were no registered groundwater features located within a 500m radius of the site.

A copy of the NSW Office of Water search record is presented in **Appendix B**.

3.5. Salinity Hazard Map

The site is located within the area of Western Sydney included in the Salinity Potential Map 2002. Based upon interpretation from the geological formations and soil groups presented on the map, the site is located in a region of moderate salinity potential.

The moderate classification is attributed to scattered areas of scalding and indicator vegetation, in areas where concentrations have not been mapped. Saline areas may occur in this zone, which have not been identified or may occur if risk factors change adversely.

4. SITE HISTORY AND LAND USE

4.1. Land Titles

A search of historical land title ownership was undertaken. The search results indicate that registered proprietors of the site since 1913, have been private individuals (including a builder and a dairy farmer) and several companies including Fletcher & Pickett Proprietary Limited, Littleham Proprietary Limited, Stockwell Holdings Proprietary Limited, LC O'Neil Enterprises Pty Limited, Unit Constructions Limited, and Number One Fleurs Pty Limited.

There were no easements or leases reported for the site.

The results of the land title ownership search indicate a potential for land contaminating activities to have been undertaken on the site, specifically dairy farming. Further assessment of these potential land contaminating activities, in the context of other historical information identified during this investigation and site walkover observations, is considered warranted.

A copy of the land title search record is presented in **Appendix C**.

4.2. Aerial Imagery

A review of selected historical aerial imagery of the site was undertaken. Observations made of the imagery considered relevant to this investigation, are presented in **Table 4.2.**

Table 4.2. Aerial Imagery Observations

Image Date	Site Features	Surrounding Land Use Settings
1947	Site appears to be undeveloped open paddock.	Mostly open paddock, with some rural residential immediately to the north.
1955	No significant change from previous image.	No significant change from previous image.
1965	Some significant earthworks along the western boundary of the site.	No significant change from previous image.
1970	No significant change from previous image.	No significant change from previous image.
1982	Two potential dwellings have appeared on site, one in the eastern portion and the other in the north western corner of the site. A damn basin has appeared in the central western portion of the site.	Some dwellings have appeared to the north and south of the site.
1991	Three potential poultry sheds have appeared in the western portion of the site, as well as a driveway connecting the eastern dwelling to the main street to the west.	Further build-up of rural residential properties to the north.

Image Date	Site Features	Surrounding Land Use Settings
2005	A fourth shed has appeared immediately to the east of the initial three. A small sediment basin has also appeared in the south west corner of the site.	Further build-up of rural residential properties to the south.
2015	Some filling has occurred to potentially level the pad to the north of the eastern dwelling.	No significant change from previous image.
2019 (Nearmap)	No significant change from previous image.	No significant change from previous image.

The aerial imagery review indicated a potential for land contaminating activities to have been undertaken, specifically poultry farming (between 1982 and 2019) and localised uncontrolled filling (between 2005 and 2019).

Further assessment of potential poultry farming and uncontrolled filling activities, in the context of other historical information identified during this investigation and site walkover observations, is considered warranted.

A copy of the LotSearch Enviro Pro Report is presented in **Appendix D**.

4.3. Anecdotal Information

There was no anecdotal information provided to AG as part of this project.

4.4. Incident Reports

There was no anecdotal information provided to AG as part of this project.

4.5. Complaints History

There was no complaints history provided to AG during the investigation.

4.6. Previous Contamination Assessments

There were no previous contamination assessment reports made available to AG during this investigation.

5. REGULATORY RECORDS

5.1. NSW EPA CLM Act Record of Notices

A search of the publicly available online NSW EPA CLM Act Record of Notices was completed. The results indicated that the site was not the subject of any notifications under Section 58 of the *Contaminated Land Management Act 1997*.

A copy of the CLM Act Record of Notices search record is presented within the LotSearch Enviro Pro Report, presented in **Appendix D**.

5.2. NSW EPA POEO Act Register of Licences, Applications and Notices

A search of the publicly available online NSW EPA Record of Notices was completed. The results indicated that the site was not the subject of any licences, applications, notices, audits or pollution studies or reduction programs under Section 308 of the *Protection of the Environment Operations Act 1997*.

A copy of the POEO Act Register of Licences, Applications and Notices search record is presented within the LotSearch Enviro Pro Report, presented in **Appendix D**.

5.3. NSW EPA CLM Act Register of Notified Sites

A search of the publicly available online register of sites notified to the NSW EPA under Section 60 of the *Contaminated Land Management Act 1997*, was undertaken on 3 October 2019. The results indicated that no sites within the suburb of South Hurstville were contained on the register.

A copy of the NSW EPA CLM ACT Register of Notified Sites is presented within the LotSearch Enviro Pro Report, presented in **Appendix D**.

5.4. Section 10.7 Planning Certificate

A copy of the planning certificate issued for the site under Section 10.7 of the Environmental Planning and Assessment Act was reviewed. The certificate indicated that, within the meaning of the Contaminated Land Management Act, the site was not:

- Significantly contaminated land;
- Subject to a management order;
- The subject of an approved voluntary management proposal;
- Subject to an ongoing maintenance order; or
- The subject of a site audit statement.

A copy of the planning certificate is presented in **Appendix E**.

5.5. SafeWork NSW Stored Chemical Information Database (SCID)

A search of Safe Work NSW stored chemical information database (SCID) was not undertaken for the site. A review of historical aerial imagery and historical land title ownership records for the site did not indicate a potential for licensable quantities of dangerous goods to have been historically stored on the site. AG considers that further assessment of storage of licensable quantities of dangerous goods on the site is not warranted.

6. SALINITY ASSESSMENT

6.1. Salinity Potential

The Department of Infrastructure, Planning and Natural Resources (DIPNR) Salinity Potential in Western Sydney, 2002, map was reviewed to provide an initial indication of the potential for salinity to be encountered on the site. The review indicated that the site was on the border of areas categorised as Moderate Salinity Potential.

The Moderate Salinity Potential category is defined as:

> *Areas on Wianamatta Group Shales and Tertiary Alluvial Terraces. Scattered areas of scalding and indicator vegetation have been noted but no concentrations have been mapped. Saline areas may occur in this zone, which have not yet been identified or may occur if risk factors change adversely. The soils are moderate to well-drained due to their elevated position in the landscape.*

6.2. Salinity Processes in Western Sydney

The *Western Sydney Salinity Code of Practice* (WSROC, 2004) identifies four main salinity models in Western Sydney. Each process is required to be managed on its own merits.

6.2.1. Localized Concentrations of Salinity

Salt concentrations become locally concentrated in low lying, poorly draining areas or locations where surface or sub-surface flow is blocked by an impervious barrier (such as a foundation). High water evaporation rates result in concentrated salt accumulation.

6.2.2. Shale Soil Landscapes

Where duplex (texture contrast) soils exist (as is often the case on shale soil landscapes) water moves more easily through the topsoil than the sub-soil. This generally results in lateral movement of moisture across the top of the less permeable B-Horizon (generally clay). The surface expression of salinity occurs in areas where this water accumulates and seeps to the surface and where evaporation of this moisture causes salts to concentrate. This is common on lower slopes or breaks in slope (such as natural or artificial flats in a mid-slope).

6.2.3. Deep Groundwater Salinity

More typical of the traditional rural model of salinity, this occurs where saline groundwater rises to a level where capillary action allows water and dissolved salts to reach the surface where they concentrate over time. Groundwater rises generally result from above average rainfall, over irrigation, construction of seepage / storm water infiltration pits and of course a reduction in deep rooting trees.

6.2.4. Deeply Weathered Soil Landscape

Salinity in these locations is related to deeply weathered soil landscapes made up of fluvial gravel, sand and clay, typically with high sulfate levels. Salinity problems in these locations are often mid-slope due to perched saline water tables.

6.3. Salinity Assessment Criteria

6.3.1. Soil Salinity

The criterion used to classify saline soil is presented in **Table 6.3.1.1**. Salinity ratings (ECe) are calculated by multiplying the electrical conductivity of a 1:5 soil: water extract by a factor dependant of soil texture ranging from 6 to 17 depending on soil type. Hazelton and Murphy (DLWC 1992) classify soil salinity on the basis of ECe, and describe the implications of the salinity classes on agriculture as follows:

Table 6.3.1.1 Soil Salinity Classification

Class	ECe (dS/m)	Implication
Non-Saline	<2	Salinity effects mostly negligible
Slightly Saline	2 – 4	Yields of sensitive crops affected
Moderately Saline	4 – 8	Yields of many crops affected
Very Saline	8 – 16	Only tolerant crops yield satisfactorily
Highly Saline	>16	Only a few very tolerant crops yield satisfactorily

6.3.2. Aggressivity

The exposure classification or soil aggressivity levels for concrete and steel piles, developed from AS 2159 – 2009 Piling Design and Installation, are shown in **Tables 6.3.2.1 and 6.3.2.2.**

Table 6.3.2.1 Exposure Classification for Concrete Piles

Exposure Conditions			Exposure Classification (Aggressivity)
Sulphates (as SO_3) in soil (ppm)	**pH**	**Chlorides in water (ppm)**	**Soil Conditions – B (low permeability soils (such as silts and clays) or all soils above groundwater**
<5 000	>5.5	<6 000	Non-aggressive
5 000 – 10 000	4.5 – 5.5	6 000 – 12 000	Mild
10 000 – 20 000	4 – 4.5	12 000 – 30 000	Moderate
>20 000	<4	>30 000	Severe

Table 6.3.2.2 Exposure Classification for Steel Piles

Exposure Conditions			Exposure Classification (Aggressivity)
pH	**Chlorides (as Cl^-) in soil (ppm)**	**Resistivity (Ohm.cm)**	**Soil Conditions – B (low permeability soils (such as silts and clays) or all soils above groundwater**
>5	<5 000	>5 000	Non-aggressive
4 – 5	5 000 – 20 000	2 000 – 5 000	Non-aggressive
3 – 4	20 000 – 50 000	1 000 – 2 000	Mild
<3	>50 000	< 1 000	Moderate

6.3.3. Sodicity

Sodic soils may be affected by very severe surface crusting, very low infiltration and hydraulic conductivity, very hard and dense subsoils, high susceptibility to gully erosion and tunnel erosion. Sodicity also affects the shrink – swell properties of a soil. The ratings of sodicity as shown in DLWC (2002) are in **Table 6.3.3.1.**

Table 6.3.3.1 Sodicity Ratings

ESP %	Rating
< 5	Non-sodic
5 – 15	Sodic
> 15	Highly sodic

6.4. Salinity Assessment Sampling and Analysis

Table 1 in DLWC (2002) provides guidance on sampling point densities for preliminary salinity assessment, based on the size of the site and the proposed land use for the site.

For the purpose of this investigation, a sampling point density of approximately 0.5-1 per hectare has been adopted, and that samples should be collected generally from each soil horizon. However, as this is an indicative preliminary salinity assessment, two sampling points have been chosen for salinity analysis.

AG understands that soil samples collected for preliminary salinity assessment should be analysed for conductivity, sulfates, chlorides, pH, resistivity and exchangeable sodium percentage.

7. SITE WALKOVER

A site walkover was undertaken on 26 September 2019 by a suitably experienced AG environmental consultant. The purpose of the site walkover was to make observations of land use activities on the site, and on properties immediately adjacent to the site.

7.1. Current Land Use Activity

The land use setting on the site appeared to be a mixture of rural residential & commercial.

7.2. Buildings and General Infrastructure

The following buildings and infrastructure were observed within the proposed site boundaries:

- Single storey brick dwelling with associated pool, attached garage, shed and septic;
- Four disused, fibro clad poultry sheds;
- Two storey brick dwelling with associated pool and shed, water tanks and septic;
- A sediment basin in the south west corner of the site; and
- A aggregate driveway throughout the site.

Image 7.2.1 View of single storey brick building in eastern portion of site

Image 7.2.2 View of three of the four poultry sheds on site

Image 7.2.3 View of the sediment basin on site

7.3. Boundary Fencing

The site boundary is securely enclosed along the entire perimeter, comprised of permanent steel and wood fencing.

7.4. Adjacent Land Use Activities

Observations made during the site walkover indicated the following land use activities adjacent to the site:

- North - Rural residential;
- East - Rural residential with orcharding and poultry farming;
- West - Open pasture; and
- South - Rural residential with a site compound.

7.5. Odours and Staining

There were no olfactory or visual evidence of contamination observed on the site, during the site walkover.

7.6. Chemical Storage

There was some visual evidence observed of chemical storage on the site in the form of a small shed in the central southern portion of the site.

Image 7.6.1 View of chemical storage shed

7.7. Underground and Aboveground Storage Tanks

There was visual evidence observed of underground storage tanks on the site in the form of septic systems attached to the dwellings.

7.8. Fill Material

Fill materials are inferred to have been used in areas including garden beds, beneath structural footings and during the construction of the buildings, as well as north of the eastern dwelling.

7.9. Wastes

Widespread storage of waste was not observed on site.

7.10. Asbestos Containing Materials

There was visual evidence observed of potential asbestos containing materials within the poultry sheds, clad to the ceiling and walls. No visual evidence observed of potential asbestos containing materials was observed on the surface of the site.

Image 7.10.1 View inside the poultry sheds

A hazardous material building survey was not within the scope of this project.

7.11. Phytotoxicity

There was no visual evidence observed to suggest significant or widespread phytotoxic impact (in the form of dieback or plant stress) in the sparse vegetation at the site. Similar observations were made of visible vegetation on land adjacent to the site.

7.12. Surface Water and Site Drainage

Visual observations made in the context of site drainage during the walkover, indicated that drainage mechanisms on the site are likely to include:

- Downpipes from roofs and gutters into subsurface drainage infrastructure; and
- Infiltration into underlying soils, where soil permeability permits.

7.13. Adjacent Ecological Receptors

No significant ecological receptors were identified nearby the site. The closest surface water feature was identified as Kemps Creek 900m to the south west of the site.

8. DATA INTEGRITY ASSESSMENT

AG has relied on the following sources of data while undertaking this investigation:

- AG field observations during the site walkover;
- Penrith City Council;
- Department of Land and Water Conservations;
- Department of Primary Industries – Water;
- Australian Soil Resource Information System;
- Google Earth;
- National Environment Protection Council;
- Nearmap;
- NSW Environment Protection Authority;
- NSW Land and Property Information; and
- Water NSW.

Based on AG's experience and professional judgement, the data obtained from the sources relied upon, is considered to be adequately precise, accurate, representative, complete and comparable within the objectives of this investigation and for the purpose of drawing conclusions regarding land contamination risks at the site.

9. PRELIMINARY CONCEPTUAL SITE MODEL

9.1. Areas of Environmental Concern

A conceptual site model (CSM) has been completed using information from desk-based information and from completion of a site walkover. The methods used in the CSM follow the Contaminated Land Management risk-based approach, with the potential environmental risk assessed qualitatively using the 'source-pathway-target pollutant linkage' concept. For a site to be designated as Contaminated Land, a plausible linkage between the identified Sources, Pathways and Receptors must be demonstrated.

Overall, the site setting is considered to be of medium environmental sensitivity, due to the following reasons:

- The site is within close proximity to the Kemps Creek (~800m SW);
- The site is underlain by an unconfined aquifer; and
- The site is zoned as RU2 Rural Landscape.

AG notes that the contaminant laydown mechanism for these areas of environmental concern is considered likely to be 'top down'.

The assessment identified areas of environmental concern (AECs) and contaminants of potential concern (COPC) which have the potential to be (or are) present on site. The AECs identified is presented in **Figure 3** and associated COPC are presented in **Table 1**.

Table.1: AEC and CSM

ID	
AEC01	<u>Potential Sources:</u> Onsite sources identified: ▪ Poultry farming; ▪ Groundwater sediment basin; ▪ Imported fill materials; ▪ Asbestos associated with imported fill materials. <u>Offsite sources identified:</u> No significant sources identified offsite. <u>Potential Pathways:</u> The potential contamination pathways are considered to be as follows: ▪ Inhalation/ingestion of contaminants released in dust during redevelopment by site workers; ▪ Direct contact, ingestion or inhalation of soil contaminants by future site inhabitants; ▪ Migration of volatile compounds into proposed buildings/basements causing asphyxiation or risk of explosion; ▪ Migration of vapours into confined spaces within proposed on-site buildings/basements followed by inhalation by future inhabitants.

	Potential Receptors: Relevant potential receptors are considered to include: ▪ Onsite construction and maintenance workers; ▪ Third parties during construction (adjacent site users and adjacent residents); ▪ Flora and Fauna; ▪ Future residents/end users; ▪ Neighbouring residents; ▪ Kemps Creek; and ▪ Unconfined Aquifer (groundwater may be used for irrigation/ industrial use).
AEC02	Potential Sources: Onsite sources identified: ▪ Imported fill materials; ▪ Asbestos associated with imported fill materials. Offsite sources identified: No significant sources identified offsite. Potential Pathways: The potential contamination pathways are considered to be as follows: ▪ Inhalation/ingestion of contaminants released in dust during redevelopment by site workers; ▪ Direct contact, ingestion or inhalation of soil contaminants by future site inhabitants; ▪ Migration of volatile compounds into proposed buildings/basements causing asphyxiation or risk of explosion; ▪ Migration of vapours into confined spaces within proposed on-site buildings/basements followed by inhalation by future inhabitants. Potential Receptors: Relevant potential receptors are considered to include: ▪ Onsite construction and maintenance workers; ▪ Third parties during construction (adjacent site users and adjacent residents); ▪ Flora and Fauna; ▪ Future residents/end users; ▪ Neighbouring residents; ▪ Kemps Creek; and ▪ Unconfined Aquifer (groundwater may be used for irrigation/ industrial use).

9.2. Land Use Setting

AG understands that the proposed development works would result in a commercial/industrial land use setting.

Based on the proposed development works and guidance provided in Section 2.2 of Schedule B (1) of the National Environment Protection Measure (Assessment of Site Contamination) 2013 (ASC NEPM 2013), AG considers it reasonable to adopt the 'HIL D – commercial / industrial such as shops, offices, factories and industrial sites.

9.3. Human Health - Direct Contact

During the proposed development works, it is considered that a direct contact exposure pathway may exist and be achieved by inhalation/ingestion in dust during redevelopment by Site workers. There also poses the risk of direct contract, ingestion or inhalation of soil contaminants by future site occupants.

9.4. Human Health - Inhalation / Vapour Intrusion

In order for a potentially unacceptable inhalation / vapour intrusion human health exposure risk to exist, a primary vapour source (e.g. underground storage tank) or secondary vapour source (e.g. significantly contaminated soil or groundwater) would typically need to be present.

The historical evidence reviewed indicated a low likelihood for a potential primary source to be present on the site.

The same historical evidence indicated a potential land use activity to be uncontrolled filling. The excavation, transport, placement and spreading of imported (uncontrolled) fill material involves significant disturbance of soils which typically results in volatilisation of vapour producing contaminants. On that basis, the potential for vapours to be present in soils on site at concentrations which might present an unacceptable exposure risk, is considered to be moderate.

AG will consider data obtained during fieldwork in the context of inhalation / vapour intrusion risk.

9.5. Human Health - Aesthetics

Section 3.7 of Schedule B (1) ASC NEPM 2013 advises that there are no specific numeric aesthetic guidelines, however site assessment requires a balanced consideration of the quantity, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity.

As a conservative measure, AG will consider data obtained during fieldwork in the context of aesthetics risk.

9.6. Management Limits for Petroleum Hydrocarbon Compounds

NEPM 2013 notes that there are a number of policy considerations which reflect the nature and properties of petroleum hydrocarbons:

- formation of observable light non-aqueous phase liquids (LNAPL);
- fire and explosive hazards; and
- effects on buried infrastructure (e.g. penetration of or damage to, in-ground services by hydrocarbons).

Section 2.9 of Schedule B (1) ASC NEPM 2013 includes 'management limits' to avoid or minimise these potential effects. Application of the management limits requires consideration of site-specific factors such as the depth of building basements and services and depth to groundwater, to determine the maximum depth to which the limits should apply. Section 2.9 of Schedule B (1) ASC NEPM 2013 also notes that management limits may have less relevance at operating industrial sites which have no or limited sensitive receptors in the area of potential impact, and when management limits are exceeded, further site-specific assessment and management may enable any identified risk to be addressed.

9.7. Ecological Health – Terrestrial Ecosystems

Section 3.4.2 of Schedule B (1) ASC NEPM 2013 suggests that a pragmatic risk-based approach be taken in applying ecological investigation levels and ecological screening levels in residential and commercial/ industrial land use settings.

AG considers that further assessment of terrestrial ecosystems exposure risks is warranted.

10. DATA QUALITY OBJECTIVES

NEPM ASC 2013 provides guidance on the development of data quality objectives (DQO) using a seven-step process.

The DQO for this project are set out in **Sections 10.1** to **10.7** of this report.

10.1. Step 1: State the problem

The first step involves summarising the contamination problem that requires new environmental data and identifying resources available to solve the problem.

The objectives of this project are to:

- Assess the potential for contamination to be present on the site as a result of past and current land use activities;
- Provide advice on whether the site would be suitable (in the context of land contamination) for the proposed land use setting; and
- Provide recommendations for further investigation, management and/or remediation (if warranted).

The project is being undertaken because:

- The site is proposed for redevelopment which would result in a commerical / industrial land use scenario; and
- A contamination assessment of the site is required for pre-purchase due diligence.

The project team identified for this project consists of suitably experienced environmental consultants from AG.

The regulatory authorities identified for this project include NSW EPA and the local council.

10.2. Step 2: Identify the decision/goal of the study

The second step involves identifying decisions that need to be made about the contamination problem and the new environmental data required to make them.

The decisions that need to be made during this project include:

- Is the environmental data collected for the project, suitable for assessing relevant land contamination exposure risks?
- Do the concentrations of identified contaminants of potential concern (COPC) present an unacceptable exposure risk to identified receptors, for the proposed land use setting?
- Is the site suitable for the proposed land use setting, in the context of land contamination?

10.3. Step 3: Identify the information inputs

The third step involves identifying the information needed to support decisions and whether new environmental data will be needed.

The inputs required to make the decisions set out in Section 10.2 for this project, will include:

- Data obtained during searches of the site's history;
- The nature and extent of sampling at the site, including both density and distribution;
- Samples of relevant site media;
- The measured physical and/or chemical parameters of the site media samples (including field screening and laboratory analysis, where relevant); and
- Assessment criteria adopted for each of the media sampled.

Taking into consideration the objectives of this project, and the conceptual site model and land use setting presented in **Section 9** of this project, the following assessment criteria relevant to the proposed land use setting have been adopted for this project:

- Human health direct contact – HILs in Table 1A (1) in NEPM ASC 2013 and HSLs in Table B4 of Friebel, E & Nadebaum, P (2011);
- Human health inhalation/vapour intrusion – HSLs in Table 1 (A) in NEPM ASC 2013;
- Human health (asbestos) – absence / presence for preliminary screening, and no visible ACM on surface;
- Petroleum hydrocarbon compounds (management limits) – Table 1 B (7) of NEPM ASC 2013;
- Ecological Investigation and Screening Levels as calculated per NEPM ASC 2013 Table 1 (B) 1-6; and
- Aesthetics – no highly malodorous site media (e.g. strong residual petroleum hydrocarbon odours, hydrogen sulphide in site media, organosulfur compounds), no hydrocarbon sheen on surface water, no discoloured chemical deposits or soil staining with chemical waste other than of a very minor nature, no large monolithic deposits of otherwise low risk material (e.g. gypsum as powder or plasterboard, cement kiln dust), no presence of putrescible refuse including material that may generate hazardous levels of methane such as a deep-fill profile of green waste or large quantities of timber waste, and no soils containing residue from animal burial (e.g. former abattoir sites).

10.4. Step 4: Define the boundaries of the study

The fourth step involves specifying the spatial and temporal aspects of the environmental media that the data must represent to support decisions.

The spatial extent of the project will be limited to the subject investigation area as defined by its boundaries (refer **Figure 2**).

The temporal boundaries of the project include:

- The project timeframe presented in the AG proposal for this project,
- Unacceptable weather conditions at the time of undertaking fieldwork, including rainfall, cold and/or heat;
- Access availability of the site (to be defined by the site owner/representative); and
- Availability of AG field staff (typically normal daylight working hours, Monday to Friday).

The lateral extent that contamination is expected to be distributed across, based on the conceptual site model, is defined by the inferred boundaries of the areas of environmental concern (AEC).

The vertical extent that contamination is expected to be distributed across, based on the conceptual site model and the project scope, is likely to be limited to shallow soils and fill material and shallow aquifers.

The scale of the decisions required will be based on the entire site.

Constraints which may affect the carrying out of this project may include access limitations, presence of above and below ground infrastructure, and hazards creating health and safety risks.

10.5. Step 5: Develop the analytical approach (or decision rule)

The fifth step involves defining the parameter of interest, specifying the action level, and integrating information from Steps 1 to 4 into a single statement that gives a logical basis for choosing between alternative actions.

10.5.1. Rinsate Blanks

One rinsate blank will be collected and scheduled for analysis, for each day of sampling undertaken, if non-disposable sampling equipment was used on that day. The rinsate blank will be analysed for at least one of the analytes the sample/s collected that day are being scheduled for analysis for (with the exception of asbestos).

10.5.2. Trip Spikes and Trip Blank Samples

One trip spike and trip blank sample will be used and scheduled for analysis, for each day of groundwater sampling undertaken, if site samples being collected that day are being analysed for volatile contaminants of concern (typically BTEX and/or TRH).

10.5.3. Laboratory Analysis Quality Assurance / Quality Control

The analytical laboratory QA/QC program will typically include laboratory method blank samples, matrix spike samples, surrogate spike samples, laboratory control samples, and laboratory duplicate samples.

10.5.4. If/Then Decision Rules

AG has adopted the following 'if/then' decision rules for this project:

- If the result of the assessment of field data and laboratory analytical data is considered acceptable, then that field data and laboratory analytical data is suitable for interpretation within the scope of this project; and
- If the field data and laboratory analytical data is within the constraints of the assessment criteria adopted for this project (refer **Section 10.3**), then the contamination exposure risks to identified receptors, are considered acceptable.

In the event the assessment of field data and/or laboratory analytical data results in the data being not suitable for interpretation, then AG will determine if additional data is required to allow interpretation to be undertaken.

In the event that field data and/or laboratory analytical data exceeds the assessment criteria adopted for this project (refer **Section 10.3**), AG will undertake an assessment of the exceedance in the context of the project objectives to determine if additional data is required and whether management and/or remediation is required.

10.6. Step 6: Specify the performance or acceptance criteria

The sixth step involves specifying the decision maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data. When assessing contaminated land, there are generally two types of errors in decision making:

- Contamination exposure risks for a specific land use setting are acceptable, when they are not; and
- Contamination exposure risks for a specific land use setting are not acceptable, when they are.

AG will mitigate the risk of decision error by:

- Calculation of the 95% upper confidence limit (UCL) statistic to assess the mean concentration of relevant contaminants of potential concern;
- Assignment of fieldwork tasks to suitably experienced AG consulting staff, and suitably experienced contractors;
- Assignment of laboratory analytical tasks to reputable NATA accredited laboratories; and
- Assignment of data interpretation tasks to suitably experienced AG consulting staff, and outsourcing to technical experts where required.

AG will also adopt a range of data quality indicators (DQI) to facilitate assessment of the completeness, comparability, representativeness, precision and accuracy (bias).

Completeness			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**
Critical locations sampled	Refer **Section 10.7.1**	Critical samples analysed according to DQO	Refer **Section 10.7.6**
Critical samples collected	Refer **Section 10.7.1**	Analytes analysed according to DQO	Refer **Section 10.7.6**
SOPs appropriate and complied with	100%	Appropriate laboratory analytical methods and LORs	Refer **Section 10.7.6**
Field documentation complete	All sampling point logs, calibration logs and chain of custody forms	Sample documentation complete	All sample receipt advices, all certificates of analysis
		Sample extraction and holding times complied with	Refer **Section 10.7.7**
Comparability			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**

Same SOPs used on each occasion	100%	Same analytical methods used by primary laboratory	Refer **Section 10.7.7**
Climatic conditions	Samples stored in insulated containers with ice, immediately after collection	Same LORs at primary laboratory	Refer **Section 10.7.7**
Same types of samples collected, and handled/preserved in same manner	All soil samples same size, all stored in insulated containers with ice	Same laboratory for primary sample analysis	All primary samples to Eurofins | mgt
		Same analytical measurement units	Refer **Section 10.7.7**
Representativeness			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**
Appropriate media sampled according to DQO	Refer **Section 10.7.6**	Samples analysed according to DQO	Refer **Section 10.7.6**
Media identified in DQO sampled	Refer **Section 10.7.6**		
Precision			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**
Field duplicate / triplicate RPD	Minimum 5% duplicates and triplicates No limit for analytical results <10 times LOR 50% for analytical results 10-20 times LOR 30% for analytical results >10 times LOR	Laboratory duplicates	No exceedances of laboratory acceptance criteria

SOPs appropriate and complied with	100%		
Accuracy (bias)			
Field Considerations	**Assessment Criterion**	**Laboratory Considerations**	**Assessment Criterion**
Field trip spikes	Recoveries between 60% and 140%	Matrix spike recovery	No exceedances of laboratory acceptance criteria
Field trip blanks	Analyte concentration <LOR	Surrogate spike recovery	No exceedances of laboratory acceptance criteria

10.7. Step 7: Develop the plan for obtaining data

The seventh step involves identifying the most resource effective sampling and analysis design for generating the data that is required to satisfy the DQOs.

10.7.1. Sampling Point Density and Locations

Table A in NSW EPA *Sampling Design Guidelines* (1995) provides guidance on minimum sampling point densities required for site characterisation, based on detecting circular hot spots by using a systematic sampling pattern. This guidance assumes the investigator has little knowledge about the probable locations of the contamination, the distribution of the contamination is expected to be random (e.g. land fill sites) or the distribution of the contamination is expected to be fairly homogenous (e.g. agricultural lands).

However, Section 3.1 of NSW EPA *Sampling Design Guidelines* (1995) states that a judgemental sampling pattern can be used where there is enough information on the probable locations of contamination. Further to this, Section 6.2.1 of ASC NEPM 2013 states that the number and location or sampling points is based on knowledge of the site and professional judgement. Sampling should be localised to known or potentially contaminated areas identified from knowledge of the site either from site history or an earlier phase of site investigation. Judgemental sampling can be used to investigate sub-surface contamination issues in site assessment.

Table 1 in the *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, May 2009*, Western Australia Department of Health (DOH (2009)) indicates that where the 'likelihood of asbestos' is assessed as "possible" or "suspect", the investigation regimen should include a sampling density that is either judgemental or the same as that set out in Table A of NSW EPA *Sampling Design Guidelines* (1995) for assessing asbestos.

As this project has included gathering data which provides a reasonable understanding of site history (in the context of potential areas of environmental concern on the site) and taking into consideration Table 1 in WA DOH (2009), it is considered reasonable to adopt a systematic sampling pattern, with up to 11 sampling points.

The locations of the sampling points are set out in **Figure 4**.

10.7.2. Sampling Methodology

The sampling point methodology presented in **Table 10.7.2** will be used for this project. The methodology is based on a range of factors considered relevant to this project, including:

- The identified contaminants of potential concern;
- The suspected laydown mechanisms for those contaminants of concern;
- The suspected likely depth of contamination; and
- Site specific constraints which affect the type of sampling techniques suited to the site.

Table 10.7.2 Proposed Sampling Methodology

AEC	Sampling Point ID	Method	Target Depth of Sampling Point (m bgl)
AEC01	BH01 to BH10, SS01	Solid Flight Auger, Push Tube, Hand Tools	1.0m bgl, practical refusal or 0.3m into natural material, whichever occurs first, Surface sample.
AEC02	SS02	Hand Tools	Surface sample.

Reference will also be made to Table 5 in WA DOH (2009) for the sampling and screening of fill soils for the presence of asbestos, where practical. The application of asbestos screening criteria published in NEPM ASC 2013 may be limited.

10.7.3. Identification, Storage and Handling of Samples

Sample identifiers will be used for each sample collected, based on the sampling point number and the depth/interval the sample was collected from, e.g. a sample collected from BH03 at a depth of 0.2m below ground level, would be identified as BH03-0.2.

Project samples will be stored in laboratory prepared glass and plastic containers (and zip lock bags if collected for asbestos).

Soil samples analysed for organic contaminants of concern will be placed in insulated container/s with ice.

Samples will be transported to the relevant analytical laboratory, with chain of custody (COC) documentation that includes the following information:

- AG project identification number;
- Each sample identifier;
- Date each sample was collected;
- Sample type (e.g. soil or water);
- Container type/s for each sample collected;
- Preservation method used for each sample (e.g. ice);
- Analytical requirements for each sample and turnaround times; and
- Date and time of dispatch and receipt of samples (including signatures).

10.7.4. Decontamination

All sampling equipment used during the soil investigation consisted of location specific nitrile gloves, as such decontamination was deemed unnecessary. To avoid cross contamination via the auger, samples were collected from the centre of the soil formation, ensuring to avoid sampling materials which had come into contact with the auger.

Non-disposable equipment used during the groundwater investigation (i.e. interface probe), will be decontaminated before and in between sampling events, to mitigate potential for cross contamination between samples collected. The decontamination methodology to be adopted for this project will include:

- Washing relevant sampling equipment using potable water with a phosphate free detergent (i.e. Decon 90 or similar) mixed into the water;
- Rinsing the washed non-disposable sampling equipment with distilled or de-ionised water; and
- Air drying as required.

Disposable sampling equipment (plastic bailers) will be used during the groundwater sampling regime.

10.7.5. Laboratory Selection

The analytical laboratories used for this project will be NATA accredited for the analysis undertaken.

10.7.6. Laboratory Analytical Schedule

Project samples will be scheduled for NATA accredited laboratory analysis, using a combination of:

- Observations made in the field of the media sampled; and
- The contaminants of potential concern (COPC) identified for the area of environmental concern that the sample was collected from.

Based on site history, AG has adopted the laboratory analytical schedule (and associated upper limiting quantities) presented in **Table 10.7.6** for this project.

10.7.7. Laboratory Holding Times, Analytical Methods and Limits of Reporting

The laboratory holding times, analytical methods and limits of reporting (LOR) being used for this project, are presented in **Table 10.7.7**.

Table 10.7.7 Laboratory Holding Times, Analytical Methods and Limits of Reporting

Analyte	Holding Time	Analytical Method	Limit of Reporting
Soil			
BTEX and TRH C_6-C_{10}	14 days	USEPA 5030, 8260B and 8020	0.2-0.5 (mg/kg)
TRH >C_{10}-C_{40}	14 days	USEPA 8015B & C	20-100 (mg/kg)
VOC	14 days	USEPA 8260	0.1-0.5 (mg/kg)
PAH	14 days	USEPA 8270	0.1-0.5 (mg/kg)
OCP/OPP	14 days	USEPA 8081	0.2 (mg/kg)
PCB	28 days	USEPA 8270	0.2 (mg/kg)
PFAS	14 days	Inhouse based on USEPA 537 V1.1	0.005 (mg/kg)

Analyte	Holding Time	Analytical Method	Limit of Reporting
Metals (ex. Hg & Cr^{VI})	6 months	USEPA 8015B & C	0.05 – 2 (mg/kg)
Hg & Cr^{VI}	28 days	USEPA 8015B & C	0.05 – 2 (mg/kg)
Asbestos	No limit	AS4964:2004	Absence / presence
Asbestos	No limit	Inhouse Method	0.001% w/w
Water			
BTEX and TRH C_6-C_{10}	14 days	NEPM Schedule B3	0.02-0.1 (mg/L)
TRH >C_{10}-C_{40}	14 days	NEPM Schedule B3	0.1 (mg/L)
VOC	714days	USEPA 8260	0.1-0.5 (mg/L)
PAH	7 days	USEPA 8270, 8100, NEPM Schedule B3	0.001 (mg/L)
OCP/OPP	7 days	USEPA 8141, USEPA 8081, USEPA 8270, NEPM Schedule B3	0.002-0.0005 (mg/L)
PCB	7 days	USEPA 8082, NEPM Schedule B3	0.001-0.005 (mg/L)
PFAS	14 days	Inhouse based on USEPA 537 V1.1	0.01-0.05 (µg/L)
Metals (ex. Hg & Cr^{VI})	6 months	USEPA 6010, 6020	0.05 – 2 (mg/L)
Hg & Cr^{VI}	28 days	USEPA 6010, 6020	0.05– 2 (mg/L)

11. INTRUSIVE SAMPLING METHODOLOGY

Soil sampling and analysis were undertaken with reference to the following documents:

- NSW EPA 1995. *Contaminated Sites Sampling Design Guidelines,* NSW Environment Protection Authority.
- NEPM 1999. *'National Environment Protection (Assessment of Site Contamination) Measure. Schedule B (2) Guideline on Data Collection, Sample Design and Reporting.'* National Environmental Protection Council, Adelaide.
- Standards Australia. 2005*.' AS 4482.1. Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-volatile and Semi-volatile Compounds.'* www.standards.com.au.
- Standards Australia. 1999. *'AS 4482.2. Guide to the Sampling and Investigation of Potentially Contaminated Soil Part 2: Volatile Compounds'.* www.standards.com.au.
- Standards Australia. 1998. *'AS/NZS 5667.11:1998. Water Quality – Sampling. Part 11: Guidance on Sampling of Groundwater.'* www.standards.com.au.
- Standards Australia. 1998. *'AS/NZS 5667.1:1998. Water Quality – Sampling. Part 1: Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation and Handling of Samples'.* www.standards.com.au.
- ACS NEPM. 2013 *National Environment Protection (Assessment of Site Contamination) Measure 2013 Schedule B (1) Investigation Levels for Soil and Groundwater*

11.1. Scope of Fieldworks

To clarify and quantify the existence of the potential contaminants, a sampling analysis and quality plan (SAQP) was developed. The site works were performed on the 4TH October 2019, in accordance with the SAQP and supervised by AG environmental scientists at all times.

The scope of the investigation was developed based upon the findings of the desktop investigation and the site walkover and the SAQP subsequently developed. Based upon this approach the following scope of works was performed:

- Completion of a site-specific Safe Work Method Statement in accordance with AG health and safety policy;
- Completion of eleven (12) soil sampling locations (using solid flight auger, push tube and hand tool techniques);
- Collection of asbestos samples from any surface sample locations;
- Collection of discrete soil samples every 1.0 m recovered or change of strata from the drilling of the soil bores;
- Collection and analysis of quality assurance/quality control (QA/QC) samples in accordance with NEPM requirements; and
- Analysis of twelve (12) primary soil and two (2) quality control samples.

11.2. Laboratory Analysis

All soil samples will be forwarded to a NATA accredited laboratory for analysis of the analytes listed below. Eurofins | Mgt shall be used for the analysis of primary samples and ALS for the analysis of interlaboratory samples.

12. FIELDWORK

12.1. Soil Sampling

Soil sampling was undertaken by AG on 4th October 2019. A total of ten (10) boreholes (BH01-BH10) and two (2) surface samples (SS01-SS02) were advanced across the site using a combination of track mounted drill rigs or hand tools until reaching inferred natural materials between 0.3-0.7m bgl. Samples for potential analysis were collected from the near surface, at 1.0 m intervals within the soil profile or with change of strata, and in areas of observed contamination. Each soil sample was collected using a new clean pair of nitrile gloves and placed in the appropriate acid rinsed sample containers provided by the laboratory.

Upon completion of the soil boring, each borehole was backfilled with excavated soils at the completion of the sampling task at each sampling point. Soil bore logs were maintained in the field by an AG environmental scientist for all exploratory holes. Field observations such as lithology, odours, staining, depth of water etc. were noted on the logs. The logs are presented within **Appendix F**.

Each sampling point established was marked on a site plan. The locations of these sampling points are presented in **Figure 4**.

Image 12.1.1 View of sampling technique as observed in BH10

12.2. Site Geology

Observations were made of soils encountered during sampling work. These observations were recorded on borehole logs. A copy of these logs is presented in **Appendix F**.

Anthropogenic materials were not observed in the fill profile of any of the locations sampled. Inferred natural material was encountered in every borehole sampling location (BH01-BH10). Soils were generally observed to comprise fill topsoil followed by residual silty clays overlying shale bedrock.

Image 12.2.1 Example of soil profile, as observed within BH08

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12.3. Odours

Olfactory evidence of contamination was not detected in any of the soil samples collected.

12.4. Staining

Visual evidence of contamination in the soil samples collected was not detected.

12.5. Potential Asbestos Containing Materials

Visual evidence of potential asbestos containing materials (ACM) at each soil sampling point was not observed.

13. LABORATORY ANALYSIS

The samples collected were transported to the analytical laboratory, using chain of custody (COC) protocols. A selection of these samples was scheduled for analysis, with reference to the relevant COPC identified for the AEC that the samples were collected from.

All soil and groundwater samples were forwarded to the NATA accredited laboratory for analysis of the analytes listed below. Eurofins | Mgt were used for the analysis of primary samples and SGS for the analysis of interlaboratory samples.

Table 13.1 details the analysis undertaken for soil samples.

Table 13.1 Soil Analytical Schedule

Sample ID	Analytical Suite									
	TRH	BTEX	PAH	8 Metals*	Asbestos (NEPM 500ml)	OCP/OPP	PCBs	Nutrients	Asbestos ID	-
BH21-0.4-0.5, BH2-0.1-0.2, BH3-0.1-0.2, BH4-0.2-0.3, BH5-0.1-0.2, BH6-0.1-0.2, BH7-0.1-0.3, BH8-0.0-0.2, BH9-0.0-0.2, BH10-0.0-0.2, SS02	X	X	X	X	X	X	X	X		
SS01				X				X		
FRAG-1									X	
TRIP SPIKE / TRIP BLANK		X								

*Metals: As, Cd, Cr, Cu, Hg, Ni, Pb, Zn

A copy of the analytical laboratory certificates of analysis, is presented in **Appendix G.**

The sample analytical results were tabulated and presented in the attached **Table LAR1.**

14. DATA QUALITY INDICATOR ASSESSMENT

14.1. Completeness

An assessment of the completeness of data collected was undertaken, and the results presented in **Table 14.1**.

Table 14.1 Completeness DQI

Field Considerations	**Target**	**Actual**	**Comment**
Critical locations sampled	11	11	Performance against indicator considered acceptable.
Critical samples collected	11	11	Performance against indicator considered acceptable.
SOPs appropriate and complied with	100%	100%	Performance against indicator considered acceptable.
Field documentation complete	All sampling point logs, calibration logs and chain of custody forms	All sampling point logs, calibration logs and chain of custody forms	Performance against indicator considered acceptable.
Laboratory Considerations	**Target**	**Actual**	**Comment**
Critical samples analysed according to DQO	Refer **Section 10.7.6**	100%	Performance against indicator considered acceptable.
Analytes analysed according to DQO	Refer **Section 10.7.6**	100%	Performance against indicator considered acceptable.
Appropriate laboratory analytical methods and LORs	Refer **Section 10.7.7**	100%	Performance against indicator considered acceptable.
Sample documentation complete	All sample receipt advices, all certificates of analysis	100%	Performance against indicator considered acceptable.
Sample extraction and holding times complied with	Refer **Section 10.7.7**	100%	Performance against indicator considered acceptable.

The data collected is considered to be adequately complete within the objectives and constraints of the project.

14.2. Comparability

An assessment of the comparability of data collected was undertaken, and the results presented in **Table 14.2**.

Table 14.2 Comparability DQI

Field Considerations	Target	Actual	Comment
Same SOPs used on each occasion	100%	100%	Performance against indicator considered acceptable.
Climatic conditions	Samples stored in insulated containers with ice, immediately after collection	100%	Performance against indicator considered acceptable.
Same types of samples collected, and handled/preserved in same manner	All soil samples same size, all stored in insulated containers with ice	100%	Performance against indicator considered acceptable.
Laboratory Considerations	**Target**	**Actual**	**Comment**
Same analytical methods used by primary laboratory	Refer **Section 10.7.7**	100%	Performance against indicator considered acceptable.
Same LORs at primary laboratory	Refer **Section 10.7.7**	100%	Performance against indicator considered acceptable.
Same laboratory for primary sample analysis	All primary samples to Eurofins | mgt	100%	Performance against indicator considered acceptable.
Same analytical measurement units	Refer **Section 10.7.7**	100%	Performance against indicator considered acceptable.

The data collected is considered to be adequately comparable within the objectives and constraints of the project.

14.3. Representativeness

An assessment of the representativeness of data collected was undertaken, and the results presented in **Table 14.3**.

Table 14.3 Representativeness DQI

Field Considerations	Target	Actual	Comment
Appropriate media sampled according to DQO	Refer **Section 10.7.2**	100%	Performance against indicator considered acceptable.
Media identified in DQO sampled	Refer **Section 10.7.2**	100%	Performance against indicator considered acceptable.
Laboratory Considerations	**Target**	**Actual**	**Comment**
Samples analysed according to DQO	Refer **Section 10.7.6**	Refer comments	Performance against indicator considered acceptable.

The data collected is considered to be adequately complete within the objectives and constraints of the project.

14.4. Precision

An assessment of the precision of data collected was undertaken, and the results presented in **Table 14.4**

Table 14.4 Precision DQI

Field Considerations	Target	Actual	Comment
SOPs appropriate and complied with	100%	100%	Performance against indicator considered acceptable.
Laboratory Considerations	**Target**	**Actual**	**Comment**
Laboratory duplicates	No exceedances of laboratory acceptance criteria	No exceedances	Performance against indicator considered acceptable.

The data collected is considered to be adequately precise within the objectives and constraints of the project.

14.5. Accuracy

An assessment of the precision of data collected was undertaken, and the results presented in **Table 14.5**.

Table 14.5 Accuracy DQI

Laboratory Considerations	Target	Actual	Comment
Laboratory method blank	No exceedances of laboratory acceptance criteria	No exceedances of laboratory acceptance criteria	Performance against indicator considered acceptable.
Matrix spike recovery	No exceedances of laboratory acceptance criteria	No exceedances of laboratory acceptance criteria	Performance against indicator considered acceptable.
Surrogate spike recovery	No exceedances of laboratory acceptance criteria	No exceedances of laboratory acceptance criteria	Performance against indicator considered acceptable.
Laboratory control sample recovery	No exceedances of laboratory acceptance criteria	No exceedances of laboratory acceptance criteria	Performance against indicator considered acceptable.

The data collected is considered to be adequately accurate within the objectives and constraints of the project.

15. DISCUSSION

A discussion on comparison of laboratory analytical results and field observations, in the context of the assessment criteria adopted for this project, is presented in **Sections 15.1** to **15.4**.

15.1. Human Health - Direct Contact (Commercial / Industrial)

15.1.1. TRH

The concentrations of TRH C_6-C_{10}, >C_{10}-C_{16}, >C_{16}-C_{34} and >C_{34}-C_{40} detected in the soil samples analysed, were less than the applicable adopted direct contact human health exposure criteria.

15.1.2. BTEX

The concentrations of benzene, toluene, ethyl benzene and xylenes detected in the soil samples analysed, were less than the applicable adopted direct contact human health exposure criteria.

15.1.3. PAH

The concentrations of naphthalene detected in the soil samples analysed, were less than the applicable adopted direct contact human health exposure criteria.

The concentrations of benzo(a)pyrene TEQ detected in the soil samples analysed, were less than the applicable adopted direct contact human health exposure criteria.

The concentration of total PAH detected in the soil samples analysed, were less than the applicable adopted direct contact human health exposure criteria.

15.1.4. OCP

The concentration of relevant OCP compounds detected in the soil samples analysed, were less than the applicable adopted direct contact human health exposure criteria or less than laboratory limits of reporting.

15.1.5. PCBs

The concentration of PCBs detected in the soil samples analysed, were less than laboratory limits of reporting.

15.1.6. Metals

The concentrations of arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury detected in the soil samples analysed, were less than the applicable adopted direct contact human health exposure criteria.

15.1.7. Asbestos

Asbestos was not observed or detected within any of the soil samples collected.

15.2. Human Health – Inhalation / Vapour Intrusion (Commercial / Industrial)

15.2.1. TRH

The concentrations of TRH C_6-C_{10} (minus BTEX) and >C_{10}-C_{16} (minus naphthalene) detected in the soil samples analysed, were less than the applicable adopted inhalation / vapour intrusion human health exposure criteria.

15.2.2. BTEX

The concentrations of benzene, toluene, ethyl benzene and xylenes detected in the soil samples analysed, were less than the applicable adopted inhalation / vapour intrusion human health exposure criteria.

15.2.3. PAH

The concentrations of naphthalene detected in the soil samples analysed, were less than the applicable adopted inhalation / vapour intrusion human health exposure criteria.

15.3. TPH Management Limits (Commercial / Industrial)

The concentrations of TRH C_6-C_{10}, >C_{10}-C_{16}, >C_{16}-C_{34} and >C_{34}-C_{40} detected in the soil samples analysed, were less than the applicable adopted TRH management limits or less than laboratory limits of reporting.

15.4. Aesthetics

There was limited visual evidence of foreign materials within the soil profile on site. The aesthetics assessment criteria adopted for this project, indicate that further assessment/management is not required.

15.5. Terrestrial Ecosystems

15.5.1. Ecological Screening Levels (ESLs)

The concentrations of relevant contaminants of concern detected in the soil samples analysed were less than the applicable adopted ecological screening levels (ESL) within all samples analysed.

15.6. Salinity Assessment

15.6.1. Soil Salinity

The laboratory analytical results indicated that the soils assessed to a nominal depth of 1.0m below ground surface, would classify as non-saline, with the exception of soils within the vicinity of BH4 which would classify as slightly saline, and the soils within the vicinity of BH10, which would classify as very saline.

15.6.2. Aggressivity

The laboratory analytical results of the samples analysed, indicate that the exposure classification[1] of the soils assessed to a nominal depth of 1.0m below ground surface would be:

- Concrete piles – non-aggressive in the vicinity of BH2 and BH5;
- Steel piles – non- aggressive in the vicinity of BH2 and BH5.

15.6.3. Sodicity

The laboratory analytical results indicate that soils assessed to a nominal depth of 1.0m below ground surface:

- in the vicinity of BH4, BH7, and BH10 would rate as sodic; and
- in the vicinity of BH1, BH2, BH5, BH8, and BH9 would rate as non-sodic.

Sodicity can be used as a measure for the erosion potential of soils. As the proposed development comprises covering a significant portion of the site with building footprints, driveways, and landscaping, erosion during operation of the new development, is considered unlikely to be a risk at the site.

[1] *Table 6.4.2 (C) and Table 6.5.2 (C) in AS 2159-2009 Piling – Design and Installation*

16. REVISED CONCEPTUAL SITE MODEL

Following a review of site history and subsequent intrusive field analysis, the areas of environmental concern (AEC) and contaminants of potential concern (COPC) have been revised and updated. As a result of this investigation, there were no subsequent AECs and associated COPCs identified for the site.

17. CONCLUSIONS AND RECOMMENDATIONS

Based on AG's assessment of the desktop review information, fieldwork data and laboratory analytical data, in the context of the proposed redevelopment scenario, AG makes the following conclusions:

- The detected concentrations of identified contaminants of potential concern in the soils assessed are considered unlikely to present:
    - An unacceptable inhalation / vapour intrusion human health exposure risk; or
    - An unacceptable petroleum management limit risk.
- The detected concentrations of contaminants in the soils assessed are considered unlikely to present a direct contact human health risk;
- The detected concentrations of contaminants in the soils assessed are considered unlikely to present an unacceptable ecological health risk;
- Asbestos was not observed or detected within any of the soil samples collected;
- The detected concentrations of nutrients in the soils assessed are considered to be similarly low across the entire site;
- Soils assessed onsite (up to a depth of 1.0m below ground surface) are considered to be:
    - non-saline to very saline;
    - non-aggressive to concrete piles;
    - non-aggressive to steel piles; and
    - non-sodic to sodic.
- The soil materials are considered suitable for the proposed land use setting; and
- The site is unlikely to present a high environmental risk to future tenants.

Based on the above conclusions, AG makes the following recommendations:

- As the soil materials are considered suitable for the proposed land use (in the context of contamination), no further investigation, management and/or remediation is deemed warranted.

This report, including its conclusions and recommendations, must be read in conjunction with the limitations presented in **Section 18.**

18. STATEMENT OF LIMITATIONS

The findings presented in this report are based on specific searches of relevant, government historical databases and anecdotal information that were made available during the course of this investigation. To the best of our knowledge, these observations represent a reasonable interpretation of the general condition of the site at the time of report completion.

This report has been prepared solely for the use of the client to whom it is addressed and no other party is entitled to rely on its findings.

No warranties are made as to the information provided in this report. All conclusions and recommendations made in this report are of the professional opinions of personnel involved with the project and while normal checking of the accuracy of data has been conducted, any circumstances outside the scope of this report or which are not made known to personnel and which may impact on those opinions is not the responsibility of Alliance Geotechnical Pty Ltd. Should information become available regarding conditions at the site including previously unknown sources of contamination, AG reserves the right to review the report in the context of the additional information.

This report must be reviewed in its entirety and in conjunction with the objectives, scope and terms applicable to AG's engagement. The report must not be used for any purpose other than the purpose specified at the time AG was engaged to prepare the report.

Logs, figures, and drawings are generated for this report based on individual AG consultant interpretations of nominated data, as well as observations made at the time site walkover/s were completed.

Data and/or information presented in this report must not be redrawn for its inclusion in other reports, plans or documents, nor should that data and/or information be separated from this report in any way.

Should additional information that may impact on the findings of this report be encountered or site conditions change, AG reserves the right to review and amend this report.

19. REFERENCES

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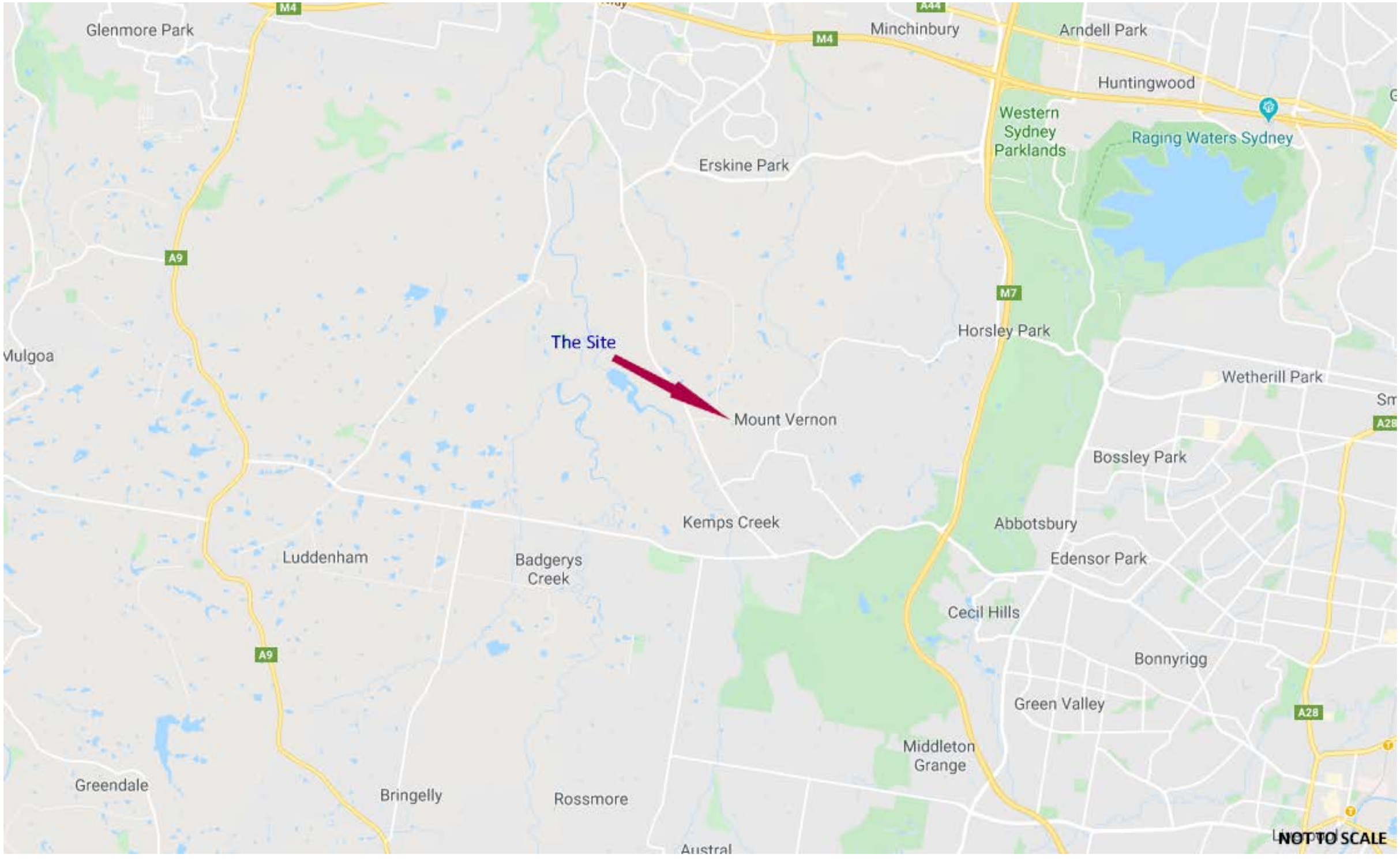
FIGURES



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Site Locality

Client Name:	ESR Group	Figure Number:	1
Project Name:	Stage 1 Preliminary Site Investigation with Limited Sampling	Figure Date:	15 October 2019
Project Location:	290 Aldington Road, Kemps Creek NSW	Report Number:	9687-ER-1-1

N

Source: NearMap (Nearmap.com)

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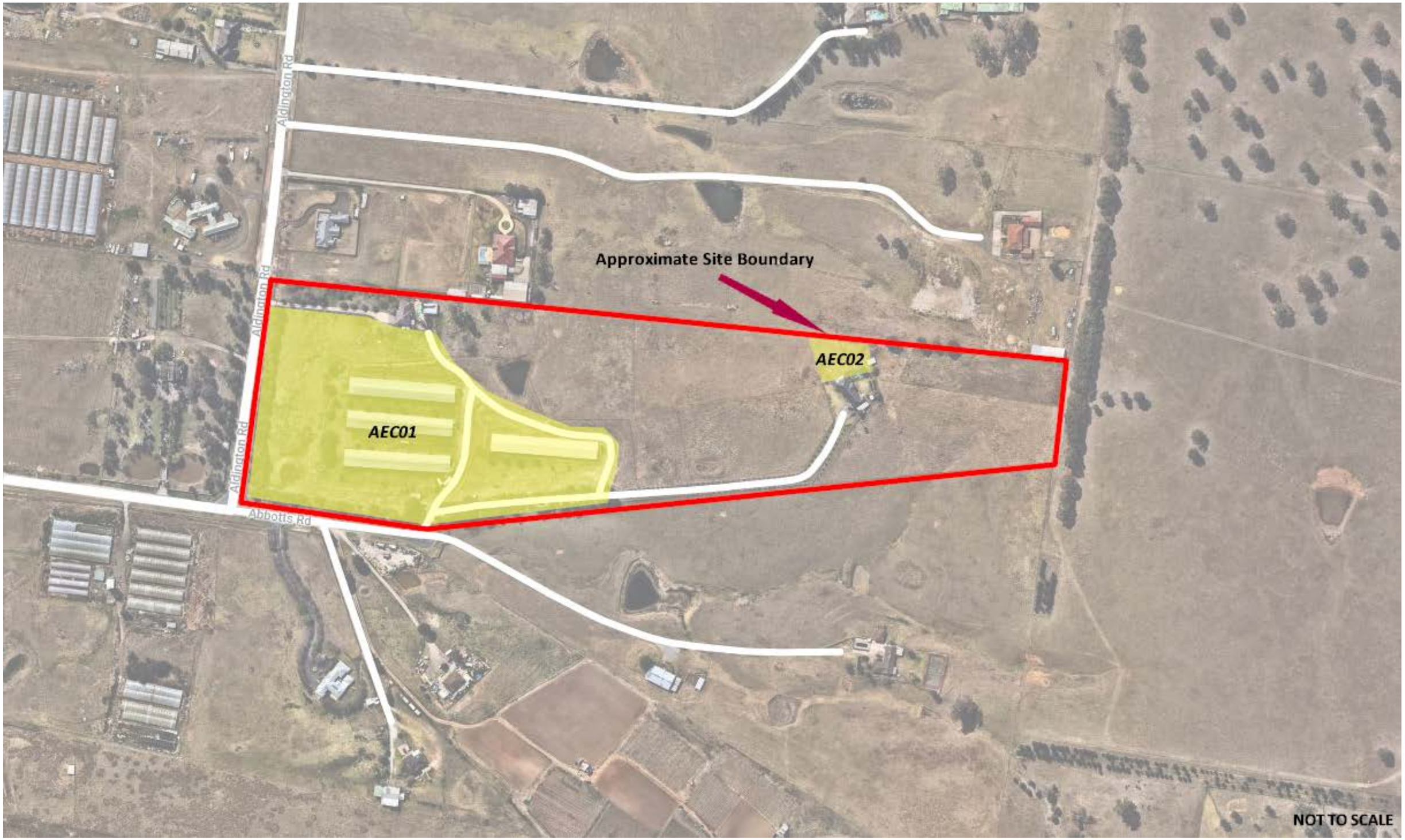
Site Layout

Client Name:	ESR Group	Figure Number:	2
Project Name:	Stage 1 Preliminary Site Investigation with Limited Sampling	Figure Date:	15 October 2019
Project Location:	290 Aldington Road, Kemps Creek NSW	Report Number:	9687-ER-1-1

N



Source: NearMap (Nearmap.com)

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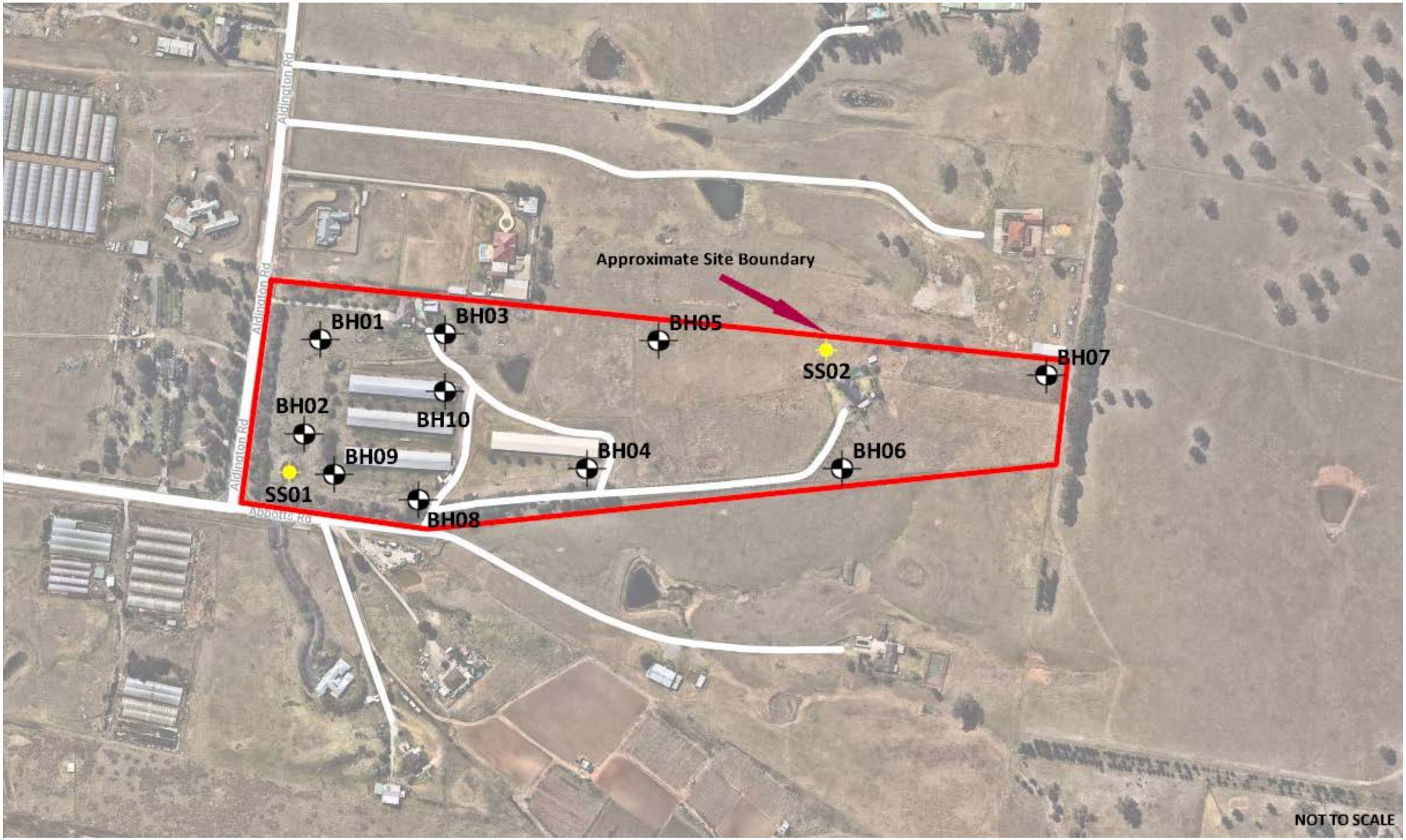
Areas of Environmental Concern

Client Name:	ESR Group	Figure Number:	3
Project Name:	Stage 1 Preliminary Site Investigation with Limited Sampling	Figure Date:	15 October 2019
Project Location:	290 Aldington Road, Kemps Creek NSW	Report Number:	9687-ER-1-1

N



Source: NearMap (Nearmap.com)

Alliance Geotechnical ENGINEERING | ENVIRONMENTAL | TESTING Manage the earth, eliminate the risk	Sampling Point Layout Plan				
	Client Name:	ESR Group	N	Figure Number:	4
	Project Name:	Stage 1 Preliminary Site Investigation with Limited Sampling		Figure Date:	15 October 2019
	Project Location:	290 Aldington Road, Kemps Creek NSW		Report Number:	9687-ER-1-1

TABLES

Table 1
290 Aldington Road, Kemps Creek NSW
Soil Results & Adopted Site Criteria
9687-ER-1-1

										Sample ID	BH1-0.4-0.5	BH2-0.1-0.2	BH3-0.1-0.2	BH4-0.2-0.3	BH5-0.1-0.2	BH6-0.1-0.2	BH7-0.1-0.3	BH8-0.0-0.2	BH9-0.0-0.2	BH10-0.0-0.2	SS01	SS02
										Reference	S19-Oc08933	S19-Oc08934	S19-Oc08935	S19-Oc08936	S19-Oc08937	S19-Oc08938	S19-Oc08939	S19-Oc08940	S19-Oc08941	S19-Oc08942	S19-Oc08943	S19-Oc08944
										Date Sampled	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019
										Sample Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Group	Analyte	Units	PQL	Screening Levels for Direct Contact (mg/kg) - CRC Care 2011	Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY)	Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013	ESLs for TPH Fractions F1 - F4, BTEX and Benzo(a)pyrene - NEPC 2013	Health Investigation Levels for Soil Contaminants - NEPC 2013	Data Set Minimum	Data Set Maximum													
				HSL - D Commercial / Industrial	HSL D - Commercial / Industrial	Commercial and Industrial	Commercial and Industrial	Commercial / Industrial D															
					0 m to <1 m	Fine Soil Texture	Fine Soil Texture																
Metals	Arsenic, As	mg/kg	2	-	-	-	-	3,000	7	17	11	7.3	10	9.6	10	9.2	17	11	12	13	6.7	15
	Cadmium, Cd	mg/kg	0.4	-	-	-	-	500	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
	Chromium, Cr	mg/kg	5.0	-	-	-	-	3,600	16	27	17	16	27	21	20	17	23	21	23	25	21	25
	Copper, Cu	mg/kg	5.0	-	-	-	-	240,000	21	66	27	21	44	61	37	28	39	26	26	66	36	41
	Lead, Pb	mg/kg	5	-	-	-	-	1,500	16	56	21	20	28	18	26	18	16	35	35	56	20	28
	Mercury (inorganic)	mg/kg	0.10	-	-	-	-	730	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Nickel, Ni	mg/kg	5.0	-	-	-	-	6,000	11	36	24	13	24	27	23	21	11	15	16	36	12	23
	Zinc, Zn	mg/kg	5.0	-	-	-	-	400,000	40	150	75	40	77	110	100	63	50	70	68	150	61	140
PAH	Acenaphthene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Anthracene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Benzo(a)anthracene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Benzo(a)pyrene	mg/kg	0.5	-	-	-	0.7	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.5	-	-	-	-	40	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-	0.6
	Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.5	-	-	-	-	-	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-	1.2
	Benzo(b&j)fluoranthene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Benzo(ghi)perylene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Chrysene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Dibenzo(ah)anthracene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Fluorene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Naphthalene	mg/kg	0.5	11,000	NL	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Pyrene	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Total PAH (18)	mg/kg	0.5	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
TRH	TRH C10-C36 Total	mg/kg	50	-	-	-	-	-	< 50	249	< 50	102	< 50	112	< 50	< 50	< 50	< 50	< 50	< 50	-	249
	TRH C10-C14	mg/kg	20	-	-	-	-	-	< 20	27	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	27
	TRH C15-C28	mg/kg	50	-	-	-	-	-	< 50	82	< 50	51	< 50	55	< 50	< 50	< 50	< 50	< 50	< 50	-	82
	TRH C29-C36	mg/kg	50	-	-	-	-	-	< 50	140	< 50	51	< 50	57	< 50	< 50	< 50	< 50	< 50	< 50	-	140
	TRH C6-C9	mg/kg	20	-	-	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20
	Naphthalene	mg/kg	0.5	11,000	NL	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	TRH >C10-C16 (F2)	mg/kg	50	20,000	NL	1,000	170	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	-	< 50
	TRH >C10-C16 (F2) - Naphthalene	mg/kg	50	-	-	-	-	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	-	< 50
	TRH C10-C40 Total (F bands)	mg/kg	100	-	-	-	-	-	< 100	180	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	-	180
	TRH >C16-C34 (F3)	mg/kg	100	27,000	-	5,000	2,500	-	< 100	180	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	-	180
	TRH >C34-C40 (F4)	mg/kg	100	38,000	-	10,000	6,600	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100
	TRH C6-C10	mg/kg	20	26,000	-	800	215	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20
	TRH C6-C10 minus BTEX (F1)	mg/kg	20	-	310	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20
BTEX	Benzene	mg/kg	0.1	430	4	-	95	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1
	Ethylbenzene	mg/kg	0.1	27,000	NL	-	185	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1
	m/p-xylene	mg/kg	0.2	-	-	-	-	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.4	< 0.2	-	< 0.2
	o-xylene	mg/kg	0.1	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1
	Toluene	mg/kg	0.1	99,000	NL	-	135	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1
	Total Xylenes	mg/kg	0.3	81,000	NL	-	95	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.4	< 0.3	-	< 0.3
OCP	4.4 - DDD	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	4.4 - DDE	mg/kg	0.05						< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	4.4 - DDT	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	a - BHC	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Aldrin	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Aldrin + Dieldrin (total)	mg/kg	0.05	-	-	-	-	45	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	b - BHC	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Chlordanes (total)	mg/kg	0.05	-	-	-	-	530	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1
	d - BHC	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	DDT + DDE + DDD (total)	mg/kg	0.05	-	-	-	-	3,600	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Dieldrin	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Endosulfan 1	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Endosulfan 2	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Endosulfan sulphate	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Endrin	mg/kg	0.05	-	-	-	-	100	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Endrin Aldehyde	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Endrin Ketone	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	g-BHC (Lindane)	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Heptachlor	mg/kg	0.05	-	-	-	-	50	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Hexachlorobenzene	mg/kg	0.05	-	-	-	-	80	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
	Methoxychlor	mg/kg	0.05	-	-	-	-	2,500	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2
	Toxaphene	mg/kg	1.0	-	-	-	-	-	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1
	Vic EPA IWRG 621 OCP 9total)	mg/kg	0.1	-	-	-	-	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2
	Vic EPA IWRG 621 Other OCP (total)	mg/kg	0.1	-	-	-	-	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2
	Alpha + Beta Endosulfan	mg/kg	0.05	-	-	-	-	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB	Aroclor-1016	mg/kg	0.1	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Aroclor-1221	mg/kg	0.1	-	-	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1
	Aroclor-1232	mg/kg	0.1	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Aroclor-1242	mg/kg	0.1	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Aroclor-1248	mg/kg	0.1	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Aroclor-1254	mg/kg	0.1	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Aroclor-1260	mg/kg	0.1	-	-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
	Total PCB*	mg/kg	0.1	-	-	-	-	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5
Nutrients	Nitrate & Nitrite (as N)	mg/kg	5	-	-	-	-	-	7	270	< 5	< 5	< 5	< 5	7.6	6.5	< 5	< 5	< 5	270	< 5	56
	Phosphorus	mg/kg	5	-	-	-	-	-	320	1700	340	320	340	1700	1000	610	340	920	460	580	890	1600
	Total Kjeldahl Nitrogen (as N)	mg/kg	10	-	-	-	-	-	710	5900	710	1300	930	1500	3500	2400	980	2200	1100	1800	2400	5900
	Total Nitrogen (as N)	mg/kg	10	-	-	-	-	-	710	5956	710	1300	930	1500	3507.6	2406.5	980	2200	1100	2070	2400	5956

Highlighted concentration exceeds the adopted site criteria - Screening Levels for Direct Contact (mg/kg) - CRC Care 2011

Highlighted concentration exceeds the adopted site criteria - Inhalation / Vapour Intrusion HSLs (mg/kg) - NEPC 2013 (CLAY)

Highlighted concentration exceeds the adopted site criteria - Management Limits for TPH Fractions F1 - F4 in soil (mg/Kg) - NEPC 2013

Highlighted concentration exceeds the adopted site criteria - ESLs for TPH Fractions F1 - F4, BTEX and Benzo(a)pyrene - NEPC 2013

Highlighted concentration exceeds the adopted site criteria - Health Investigation Levels for Soil Contaminants - NEPC 2013

- No published criteria or sample not analysed

NL Not Limiting

APPENDIX A

SURVEY

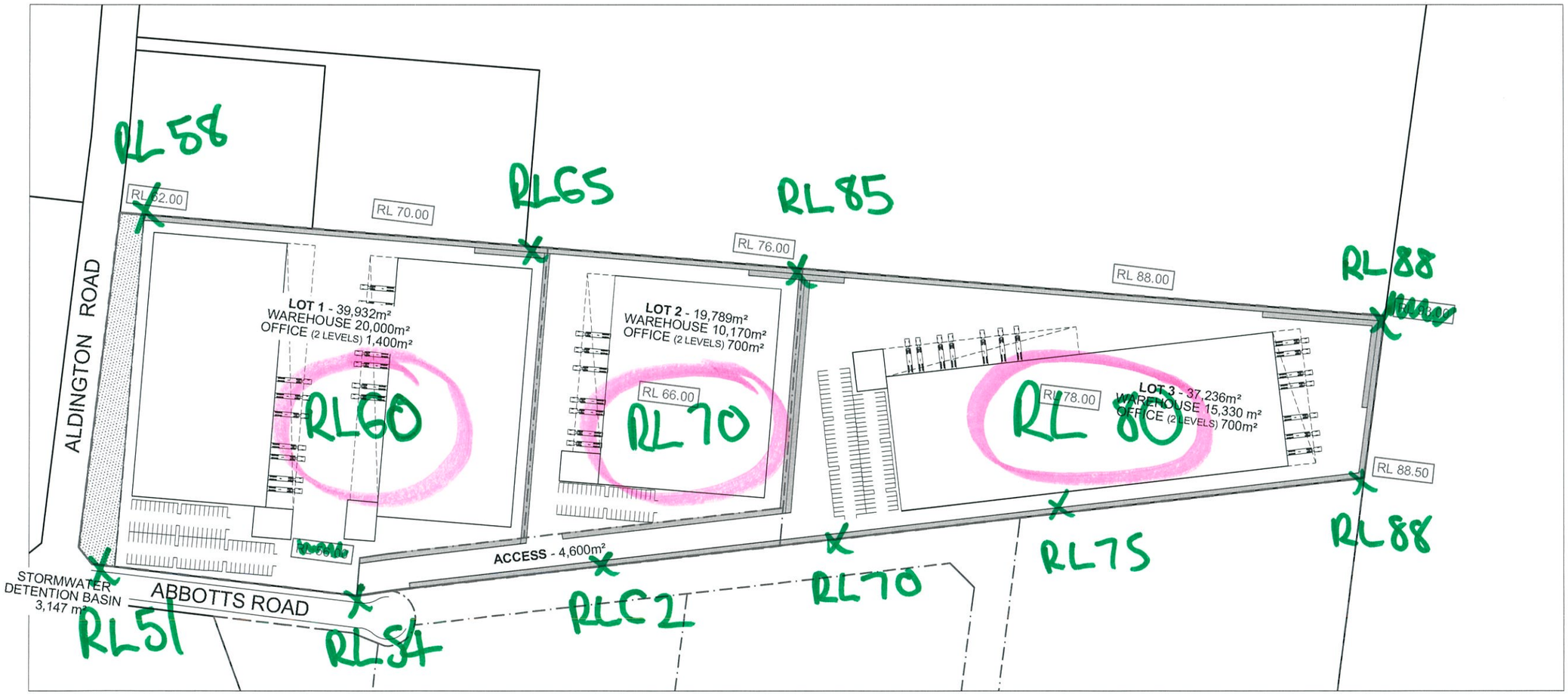
REVISIONS

A	PRELIMINARY	09.07.2019

DEVELOPMENT SUMMARY	
GROSS LAND AREA	104,704 m²
ROAD AREA	4,600 m²
NETT DEVELOPABLE LAND AREA	100,104 m²
NETT EFFICIENCY	48.25%
RETAINING	6,299 m²
STORMWATER DETENTION BASIN	3,147 m²
LOT 1	39,932 m²
WAREHOUSE 1	20,000 m²
OFFICE 1 (2 LEVELS)	1,400 m²
TOTAL BUILDING 1	21,400 m²
LOT 2	19,789 m²
WAREHOUSE 2	10,170 m²
OFFICE 2 (2 LEVELS)	700 m²
TOTAL BUILDING 2	10,870 m²
LOT 3	37,236 m²
WAREHOUSE 3	15,330 m²
OFFICE 3 (2 LEVELS)	700 m²
TOTAL BUILDING 3	16,030 m²
TOTAL BUILDING AREA	**48,300 m²**
TOTAL LOT AREA (INCL STORMWATER DETENTION)	**100,104 m²**

proposed pad & levels

X Existing RL's



ESR

PROJECT
CONCEPT MASTER PLAN
ALDINGTON ROAD
KEMPS CREEK
NSW

DRAWING TITLE
CONCEPT MASTER PLAN

0 25 50 75 100 125m
SCALE: 1 : 2500 @ A3

CREATE DATE : 09.07.2019 PLOT DATE : 18.05.2018
LAST SAVED BY: jadamczyk

277086 BM08-003 A

APPENDIX B

GROUNDWATER

WaterNSW

help · contact · customise

State Overview
State Overview

Rivers and Streams
favourites · search · download sites · find a site
Real Time Data - Rivers And Streams

Daily River Reports
Daily River Reports

Dams
favourites · search · download sites · find a site
Real Time Data - Major Dams

Groundwater (Telemetered data)
favourites · search · download sites · find a site
Real Time Data - Bores

All Groundwater Site details
search · download sites · find a site
All Groundwater Map
- North Coast Region
- Hunter Region
- **Greater Sydney Region**
- South Coast Region
- Northwest Region
- Central West Region
- Southwest Region
- Far West Region
- Great Artesian Basin
- Coal Basins

Meteorology
favourites · search · download sites · find a site
Real Time Data - Weather Stations

Hunter Integrated Telemetry System
Hunter Integrated Telemetry System

bandwidth (•) high ( ) low

glossary and metadata

All Groundwater Site Details » All Groundwater Map

Greater Sydney Region

bookmark this page

All data times are Eastern Standard Time

Map

contact WaterNSW

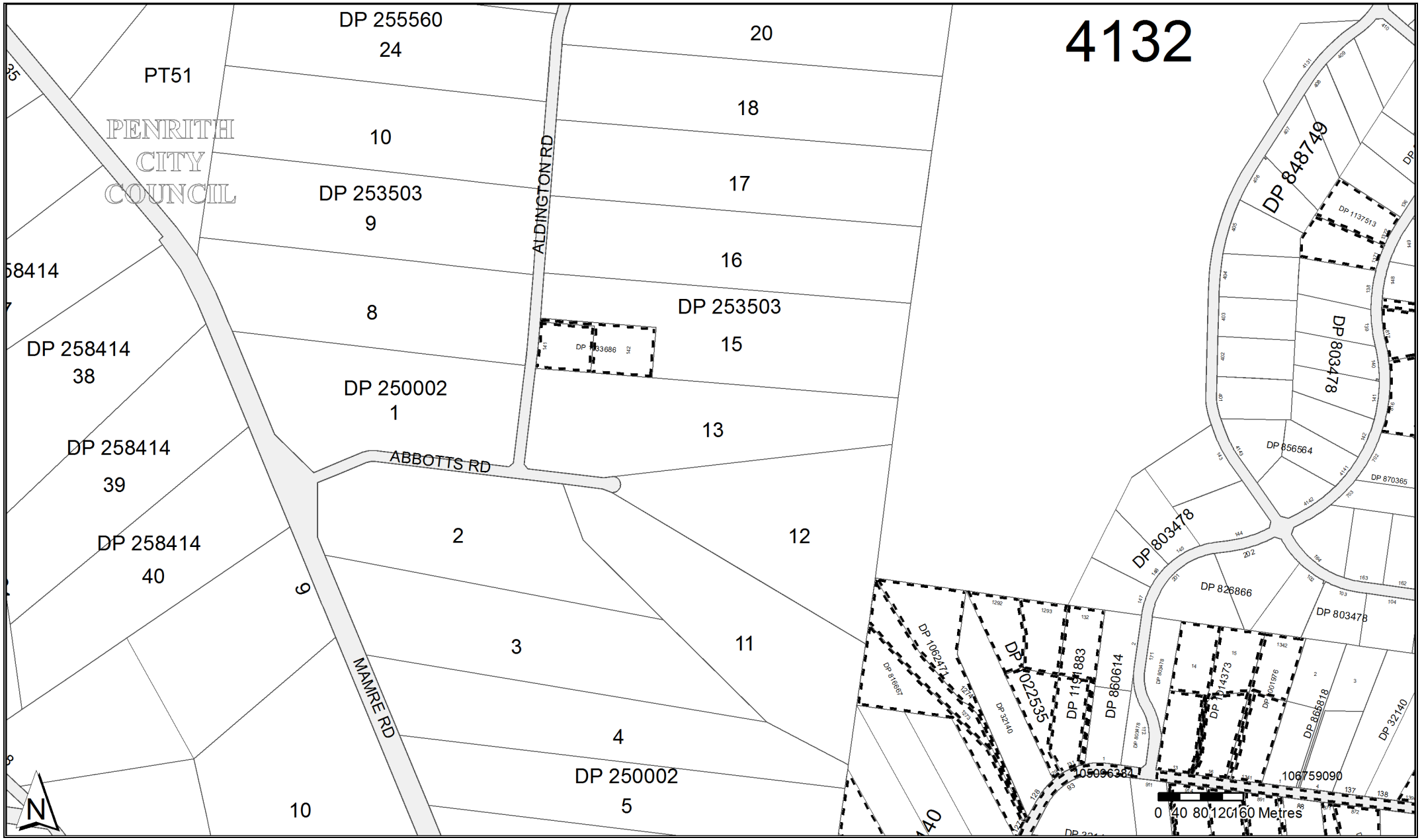
APPENDIX C

LAND TITLES

Cadastral Records Enquiry Report : Lot 13 DP 253503

Ref : NOUSER

Locality : KEMPS CREEK
Parish : MELVILLE
LGA : PENRITH
County : CUMBERLAND



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

	Status	Surv/Comp	Purpose
DP32140			
Lot(s): 123			
DP1221353	PRE-ALLOCATED	UNAVAILABLE	SUBDIVISION
DP816667			
Lot(s): 1271			
EX-SUR 81/47 DP984989			
DP1001976			
Lot(s): 1341, 1342			
DP32140	HISTORICAL	SURVEY	UNRESEARCHED
DP1012333			
Lot(s): 871, 872			
DP32140	HISTORICAL	SURVEY	UNRESEARCHED
DP1014373			
Lot(s): 13, 14, 15, 16			
DP32140	HISTORICAL	SURVEY	UNRESEARCHED
DP1022535			
Lot(s): 1291, 1292, 1293			
DP32140	HISTORICAL	SURVEY	UNRESEARCHED
DP1033686			
Lot(s): 141, 142			
DP253503	HISTORICAL	SURVEY	SUBDIVISION
DP1062471			
Lot(s): 1273, 1274			
DP816667	HISTORICAL	SURVEY	SUBDIVISION
EX-SUR 81/47 DP984989			
DP1068323			
Lot(s): 809, 810, 812, 816, 817			
DP870365	HISTORICAL	SURVEY	SUBDIVISION
DP1102225			
Lot(s): 900, 901			
DP32140	HISTORICAL	SURVEY	UNRESEARCHED
DP1134951			
Lot(s): 891, 892			
DP32140	HISTORICAL	SURVEY	UNRESEARCHED
DP1137513			
Lot(s): 1371, 1372			
DP803478	HISTORICAL	SURVEY	SUBDIVISION
DP1158455			
Lot(s): 1390			
DP32140	HISTORICAL	SURVEY	UNRESEARCHED
DP1168320			
Lot(s): 14			
DP32140	HISTORICAL	SURVEY	UNRESEARCHED
DP1187467			
Lot(s): 913, 914			
DP868948	HISTORICAL	SURVEY	SUBDIVISION
DP1191883			
Lot(s): 131, 132			
DP32140	HISTORICAL	SURVEY	UNRESEARCHED
Road			
Polygon Id(s): 105096384			
EX-SUR 81/47 DP984989			
Polygon Id(s): 106759090			
EX-SUR 64/24 DP980808			

Plan	Surv/Comp	Purpose
DP32140	SURVEY	UNRESEARCHED
DP250002	SURVEY	SUBDIVISION
DP253503	SURVEY	SUBDIVISION
DP255560	SURVEY	SUBDIVISION
DP258414	SURVEY	SUBDIVISION
DP259135	SURVEY	SUBDIVISION
DP734584	SURVEY	SUBDIVISION
DP803478	SURVEY	SUBDIVISION
DP812284	SURVEY	SUBDIVISION
DP816667	SURVEY	SUBDIVISION
DP826866	SURVEY	SUBDIVISION
DP848749	SURVEY	SUBDIVISION
DP856564	SURVEY	SUBDIVISION
DP857093	SURVEY	SUBDIVISION
DP860614	SURVEY	SUBDIVISION
DP865818	SURVEY	SUBDIVISION
DP868948	SURVEY	SUBDIVISION
DP870365	SURVEY	SUBDIVISION
DP1001976	SURVEY	SUBDIVISION
DP1012333	SURVEY	SUBDIVISION
DP1014373	SURVEY	SUBDIVISION
DP1022535	SURVEY	SUBDIVISION
DP1033686	SURVEY	SUBDIVISION
DP1062471	SURVEY	SUBDIVISION
DP1068323	SURVEY	SUBDIVISION
DP1068323	SURVEY	SUBDIVISION
DP1102225	SURVEY	SUBDIVISION
DP1134951	SURVEY	SUBDIVISION
DP1137513	SURVEY	SUBDIVISION
DP1158455	SURVEY	SUBDIVISION
DP1168320	UNRESEARCHED	SUBDIVISION
DP1168320	SURVEY	SUBDIVISION
DP1187467	SURVEY	SUBDIVISION
DP1187467	UNRESEARCHED	SUBDIVISION
DP1191883	SURVEY	SUBDIVISION
DP1191883	UNRESEARCHED	SUBDIVISION

CERTIFICATE OF TITLE

NEW SOUTH WALES

PROPERTY ACT, 1900

Vol. 11968 Fol. 173

Appln. No. 48377

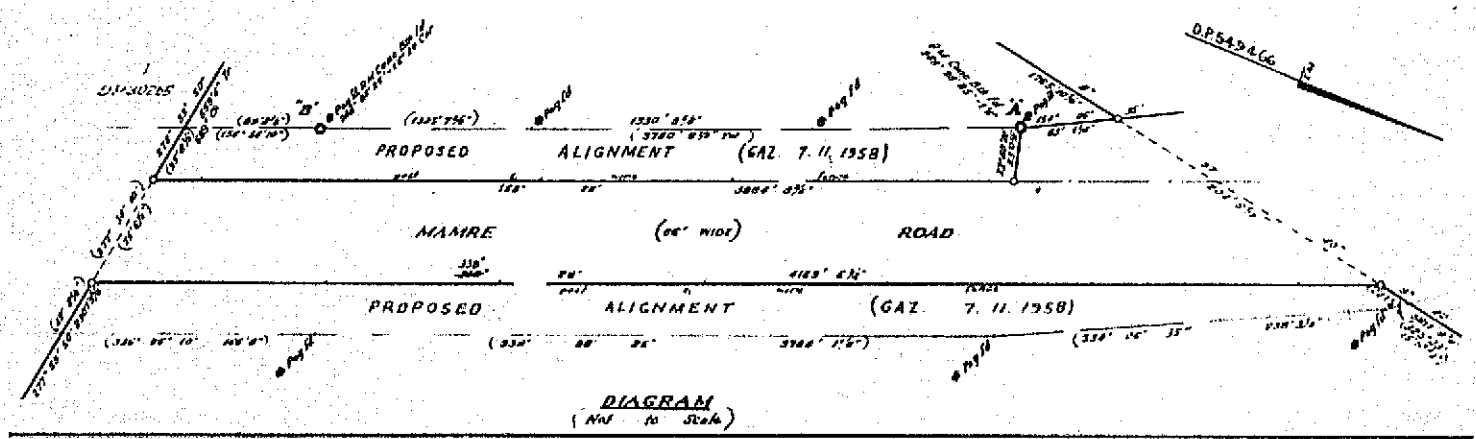
Edition issued 3-11-1972

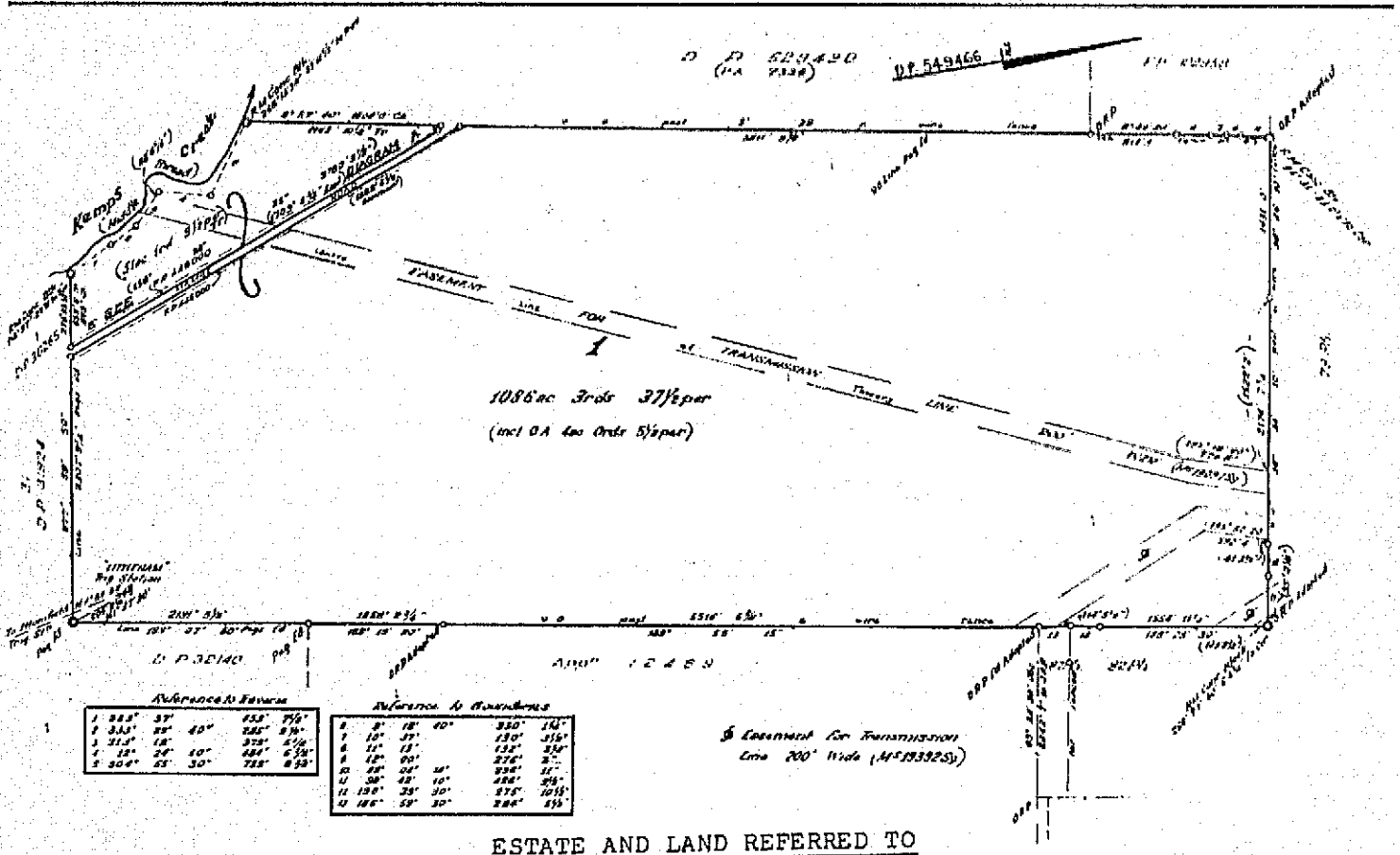
CANCELLED

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.

Registrar General.

PLAN SHOWING LOCATION OF LAND





ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 549466 at St.Marys in the City of Penrith Parish of Melville and County of Cumberland being part of Portion 61 granted to Nicholas Bayly on 1-1-1810.

FIRST SCHEDULE

~~UNIT CONSTRUCTION PTY. LIMITED~~

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. Easement for Electricity Transmission Line created by notification in Government Gazette of 16-8-1963 Folios 2387 to 2389 affecting the strip of land shown as "Easement for Transmission Line 200' Wide (Ms.190975y)" in the plan hereon.
3. Easement for Electricity Transmission Line created by notification in Government Gazette of 16-10-1964 Folios 3203 to 3205 affecting the strip of land shown as "Easement for Transmission Line 200'Wide (Ms.19392Sy.)" in the plan hereon.

Registrar General.

(Page 1) Vol. 11968 Fol. 173

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
Number One ~~Fluers~~ FLEURS Pty. Limited	Transfer	N643525	9.11.1973	15.1.1974	[signature]

This deed is cancelled as to ~~part~~ the whole ~~ex road~~

New Certificates of Title have issued on 29-9-1975

for lots in Deposited Plan No. 250002 as follows:-

Lots 1-7 Vol 12886 Fol 204-210 respectively.

[signature] [seal]

REGISTRAR GENERAL

The residue of land in this folio comprises the road in DP250002

[signature] [seal]

REGISTRAR GENERAL

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		
~~Mortgage~~	~~N503567~~	~~6-5-1971~~	~~to Finance Corporation of Australia Limited~~	~~21-11-1972~~	[signature]	Discharged	N 2090	[signature]
~~Mortgage~~	~~N643045~~	~~6-5-1971~~	~~to Chapman Finance Pty. Limited~~	~~21-11-1972~~	[signature]	Discharged	N11036.	[signature]
~~Mortgage~~	~~N345646~~	~~16-7-1973~~	~~to Grace Mackie widow and Patricia Margaret Mackie Spinster both of Pymble~~	~~27-7-1973~~	[signature]	Discharged	N643524	[signature]
Mortgage	N643526	14.12.1973	to Finance Corporation of Australia Limited	15.1.1974	[signature]			
			The interest of the Council of the City of Penrith in the new road shown on D.P. 250002	2-9-1975	[signature]			

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

N643524 Disg R
— 5 Fo R
— 5 M R
CT 25-5-75
DP 250002
P111402 Pek

[redacted]ICATE OF TITLE

NEW SOUTH WALES

[redacted] PROPERTY ACT, 1900

Vol. 12886 Fol. 210

Appln No.48377

Prior Title Vol.11968 Fol.173

EDITION ISSUED

29 9 1975

12886 Fol. 210

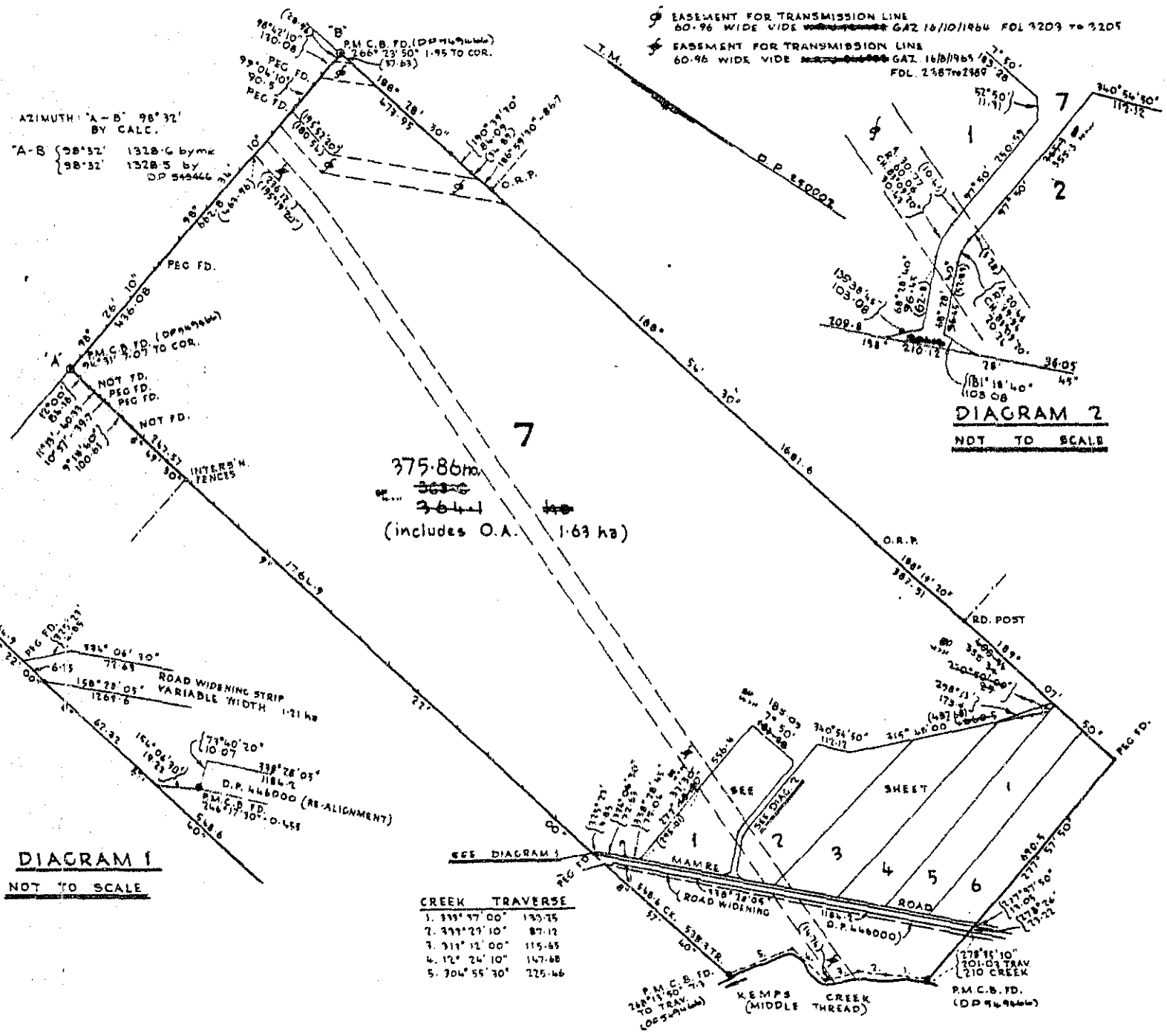
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

CANCELLED



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 7 in Deposited Plan 250002 at St.Marys in the City of Penrith Parish of Melville and County of Cumberland being part of Portion 61 granted to Nicholas Bayly on 1-1-1810.

FIRST SCHEDULE

NUMBER ONE FLEURS PTY. LIMITED.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. Easement for Electricity Transmission Line created by notification in Government Gazette of 16-8-1963 Folios 2387,2388 and 2389 affecting the piece of land above described shown as "Easement for Transmission Line 60.96 metres wide vide Gaz. 16-8-1963 Fol.2387 to 2389" in the plan hereon.
3. Easement for Electricity Transmission Line created by notification in Government Gazette of 16-10-1964 Folios 3203,3204 and 3205 affecting the piece of land above described shown as "Easement for Transmission Line 60.96 metres wide vide Gaz. 16-10-1964 Fol.3203 to 3205" in the plan hereon.
4. Mortgage No.N643526 to Finance Corporation of Australia Limited. Entered 15-1-1974.

Vol. 12886 Fol. 210

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
This deed is cancelled as to the whole ex road New Certificates of Title have issued on 15-3-1977 for lots in Deposited Plan No. 253503 as follows:- Lots 2 to 19 Vol. 13271 Fol. 5 to 17 respectively. REGISTRAR GENERAL	NEW CERTIFICATE(S) OF TITLE ISSUING ON DP253503 NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH				

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION
Mortgage.	P568749	—	to Finance Corporation of Australia Limited	27-1-1976	[signature]	
Caveat	P711482	—	as regards part being the land hatched black in the plan annexed to Caveat No P711482.	21.7.1976	[signature]	
88B INST	Q43283		Interests created pursuant to Section 88B Conveyancing Act, 1919, by the registration of Deposited Plan 253503	24.2.1977	[signature]	
			THE INTEREST OF THE COUNCIL OF THE CITY OF PENRITH IN THE NEW ROADS SHOWN ON DP 253503	24.2.1977	[signature]	
			The residue of land in this folio comprises new roads shown on DP253503 REGISTRAR GENERAL			

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

P506089 u/m
P568749 mR
P579692 R/m
(N643526)
P711482 Pt XR
CT 19-10-76
D.P. 253503.
Easement to Drain water (all lots)
Jm 25-2-77

[redacted]ICATE OF TITLE

NEW SOUTH WALES — PROPERTY ACT, 1900

Appln. No.48377

Prior Title Vol.12886 Fol.210

Vol. 13277 Fol. 11

EDITION ISSUED

16 3 1977

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.

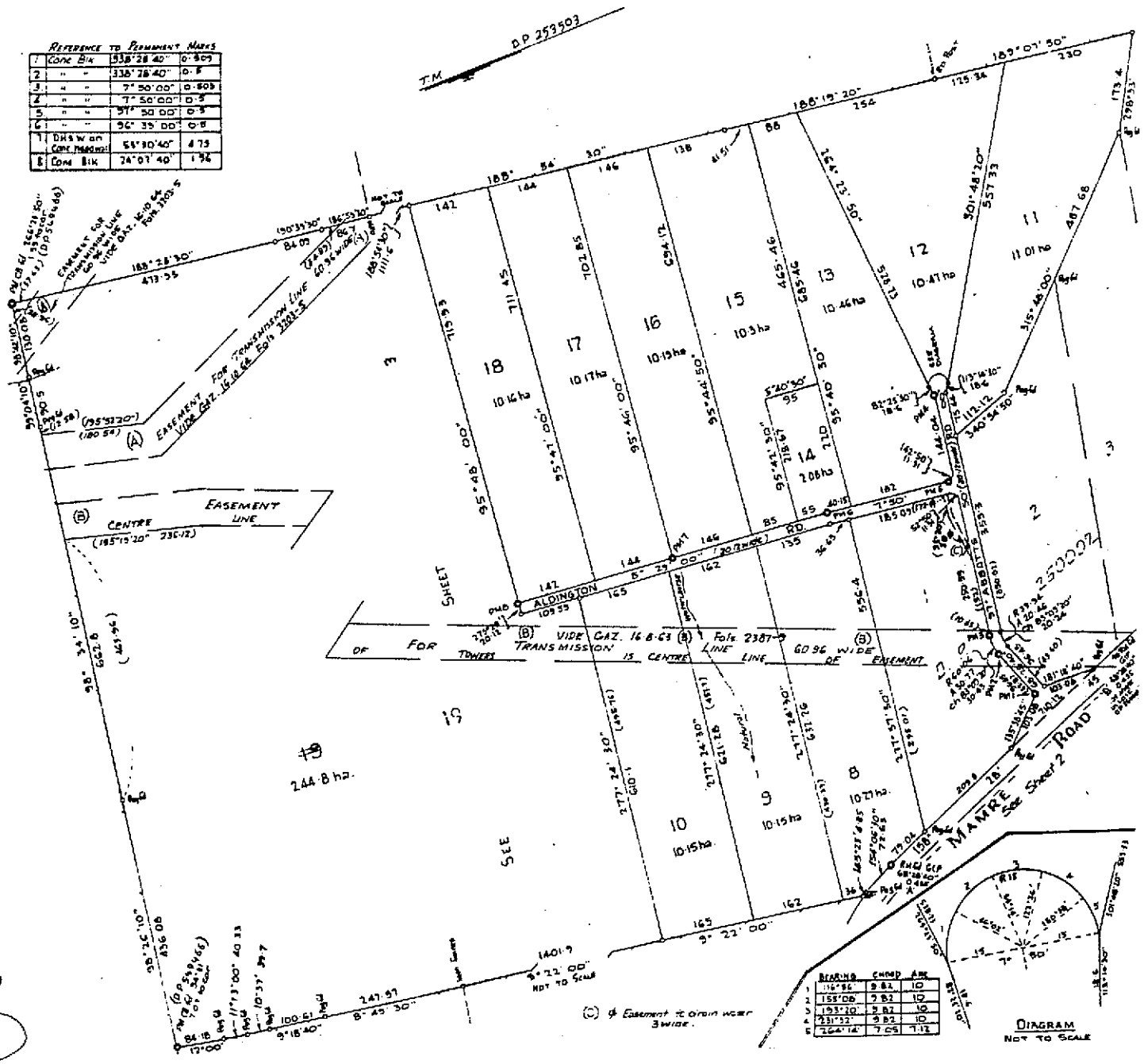
CANCELLED

Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 13 in Deposited Plan 253503 at St.Marys in the City of Penrith Parish of Melville and County of Cumberland being part of Portion 61 granted to Nicholas Bayly on 1-1-1810.

FIRST SCHEDULE

~~NUMBER ONE FLEURS PTY. LIMITED~~.

SECOND SCHEDULE

GRY

1. Reservations and conditions, if any, contained in the Crown Grant above referred to. Discharged Q177595
2. ~~Mortgage No.N643526 to Finance Corporation of Australia Limited. Registered 15-1-1974.~~
3. ~~Mortgage No.P568749 to Finance Corporation of Australia Limited. Registered 27-1-1976.~~ Discharged Q177595

Vol. 13277 Fol. 11

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
Vilko Seve, ~~Dairy Farmer~~ and Therese Seve ~~his wife~~ each as to three undivided one tenth shares and Rainer Harold Eichorn, ~~Dairy Farmer~~ and Anna Margaret Eichorn ~~his wife~~ each as to two undivided one tenth shares, ~~all of Eastern Creek~~, as tenants in common.	Transfer	Q177596	------	12-7-1977	

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		
V425511	Mortgage to Westpac Banking Corporation. Registered 12-11-1984.							

(Page 2 of 2 pages)

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

Q177595 D/M
9b Te
V425511 M1

97-10 CN

[redacted]

Application to Recc

CHANGE OF

nly

Real Property Act 1900
Crown Lands Consolidation Act
Western Lands Act 1901

8839247H

(A) **LAND**
Show no more than 20 References to Title.

FOLIO IDENTIFIER 13/253503

(B) **REGISTERED DEALING**
If applicable.

(C) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone
659m	ASHWOOD REFERENCE (max 15 characters): BJRW

(D) **REGISTERED PROPRIETOR**
whose name is to be changed.

RAINER HAROLD EICHORN

(E) **NEW NAME**
In full.

CN RAINER HARALD EICHHORN

(F) I, the Registered Proprietor, apply to have my New Name recorded in the Register in respect of the above ~~Land/Registered Dealing.~~

(G) **STATUTORY DECLARATION BY THE APPLICANT**

I, *[New Name]* RAINER HARALD EICHHORN, solemnly and sincerely declare that

1. I am identical with the Registered Proprietor referred to above;

2. ~~On ..... 199 ..... at .....~~
~~in the State of ..... I married .....~~;

3. My correct name is spelled RAINER HARALD EICHHORN

I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act 1900, and I certify this application correct for the purposes of the Real Property Act 1900.

Made and subscribed at St Marys in the State of N. S. W

on 23rd July 2002 in the presence of

R. G. Mills J.P.
Signature of Witness

RONALD GRAHAM MILLS.
Name of Witness (BLOCK LETTERS)

Justice of the Peace
Address and Qualification of Witness
18 St. Helens Close
West Hoxton N.S.W. 2171

R. Eichhorn
Signature of Applicant

CHECKED BY (office use only)

R. G. MILLS J.P. 56-00064 - 18.1.1956

51444

MARRIAGES registered in the District of Sydney, at BLACKTOWN in the State of New South Wales by JOHN HENRY MORGAN, Assistant District Registrar.

1. Place of registration ..	BLACKTOWN.	
No. in Register	181.	
2. Date of marriage.. ..	23rd. April, 1972.	
Place of marriage ..	St. Patrick's Church, Blacktown. N.S.W.	
	Bridegroom	Bride
3. Surname of parties ..	EICHHORN.	SEVE.
Christian names	Rainer Harald.	Margaret Anne.
4. Occupation	Farmer.	Secretary.
5. Residence	Lot C, Cobham Street, HORSLEY PARK. N.S.W.	Horsley Road, EASTERN CREEK. N.S.W.
6. Conjugal status	Bachelor.	Spinster.
7. Place of birth	Lahr. Germany.	Katoomba. N.S.W.
8. Age .. .. .. Date of birth	23 years. 19th. July, 1948.	20 years. 23rd. May, 1951.
9. Christian name and surname of father ..	Franz Gustav Eichhorn.	Vilko Seve.
Christian name and maiden surname of mother	Waltraud Elfriede Buchner.	Theresa Hellinger.
10. Name of person or persons giving consent where party or parties were minors	----	Vilko Seve. Theresa Seve.
11. Name of celebrant and rites according to which marriage was celebrated..	Hugh Francis Law. Roman Catholic Church.	
12. Names of witnesses to marriage	Ivan Posa. Nellie Perau.	
13. Signature of District Registrar	J.H. Morgan	
Date of registration	24th. April, 1972.	

I hereby certify that this is a true copy of particulars recorded in a Register in the state of New South Wales in the Commonwealth of Australia.

Registrar
13-05-2002

I hereby certify this document to be a true copy of the original document.

BARRY JOHN REX WILSON
SOLICITOR. 4th July, 2002.

Form: 01T
Licence: 10V/0096/96
Edition: 0011

TRANSFER

New South Wales
Real Property Act 1900

8839249D

PRIVACY NOTE: this information is legally required and w... part of the public record

STAMP DUTY — Office of State Revenue use only

NEW SOUTH WALES DUTY
31-07-2002 0001063808-001
SECTION 68(1)-ORIGINAL
NO DUTY PAYABLE

(A) **TORRENS TITLE** — If appropriate, specify the part transferred

FOLIO IDENTIFIER 13/253503

(B) **LODGED BY**

Delivery Box	Name, Address or DX and Telephone	CODES
659M	ASHWOODS Reference (optional):	T TW (Sheriff)

(C) **TRANSFEROR**

RAINER HARALD EICHHORN

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ Family Court Order Penrith L.C number FL158/020290 and as regards

(E) **ESTATE** the land specified above transfers to the transferee an estate in fee simple.

(F) **SHARE TRANSFERRED** 2/10 share

(G) Encumbrances (if applicable): 1. ..... 2. ..... 3. .....

(H) **TRANSFEREE**

MARGARET ANNA EICHHORN

(I) **TENANCY:**

DATE 23 / 07 / 2002
dd mm yyyy

(J) I certify that the transferor, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this transfer in my presence.

Signature of witness: R. G. Mills J.P.

Name of witness: RONALD GRAHAM MILLS

Address of witness: 19 St. Helens Close
West Hoxton NSW

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

Signature of transferor: R Eichhorn

I certify that the transferee, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this transfer in my presence.

Signature of witness: B. Wilson

Name of witness: BARRY JOHN REX WILSON

Address of witness: High & Woodriff Sts
Penrith NSW 2750
SOLICITOR

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

Signature of transferee: R. Eichhorn

If signed on the transferee's behalf by a solicitor or licensed conveyancer, insert the signatory's full name and capacity below:

R G. MILLS J.P. 56-00064 - 18.1.1956

All handwriting must be in block capitals.

Page 1 of ____ number additional pages sequentially

A set of notes on this form (01T-2) is available from Land and Property Information NSW.

OFFICE USE ONLY

RP3

STAMP DUTY

E 217677 A

TRANSMISSION APPLICATION

TA

SECTION 93, REAL PROPERTY ACT, 1900

(See Instructions for Completion on back of form)

of

$

R

DESCRIPTION OF LAND Note (a)

LAND of which deceased is registered proprietor

Torrens Title reference	If Part Only, Delete Whole and Give Details	Location
FOLIO IDENTIFIER 13/253503	WHOLE	AT ST. MARYS

D

REGISTERED DEALING Note (b)

~~LEASE, MORTGAGE, OR CHARGE of which deceased is registered proprietor~~

Type of Dealing	Registered Number	Torrens Title Reference	Location

DECEASED REGISTERED PROPRIETOR Note (c)

THERESA SEVE

Note (d)

(the abovenamed DECEASED) is registered as proprietor of the land above described. ~~abovementioned registered dealing~~. The APPLICANT

APPLICANT Note (e)

VILKO SEVE of 13 Abbotts Road, Kemps Creek

OFFICE USE ONLY

ENTITLEMENT Note (f) and (j)

being entitled as ~~Executor and~~ Devisee of the will/~~estate~~ of the abovenamed deceased

Probate No. 111515/91 granted on 6th September, 1991

~~Letters of Administration No.~~ ~~of whose estate were~~

to the said Vilko Seve

Note (d)

hereby applies to be registered as proprietor of the estate or interest of the said deceased in the land above described. ~~abovementioned registered dealing~~.

DATE 21st January 1992

I hereby certify this application to be correct for the purposes of the real Property Act, 1900.

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

Signature of Witness

EXECUTION Note (g)

BARRY JOHN REX WILSON

2 Castlereagh Street (~~LETTERS~~)

Penrith N.S.W. 2750

SOLICITOR

Address and Occupation of Witness

Signature of Applicant

EXECUTOR

TO BE COMPLETED BY LODGING PARTY Notes (g) and (h)

LODGED BY

SCOTT ASHWOOD PTY LIMITED

LEGAL SEARCHERS & CONVEYANCING AGENTS

64 CASTLEREAGH ST SYDNEY

232 4122 DX 967

Ref: Wilson 659m

Delivery Box Number

CT	PROBATE No. AND/OR OTHER	DATE OF DEATH	LOCATION OF DOCUMENTS
	111515/91	9.11.88	Herewith.
			In L.T.O. with
		✓	Produced by 374

OFFICE USE ONLY

Checked	Passed	REGISTERED - -19
Signed	Extra Fee	

Secondary Directions		
Delivery Directions		

Probate rtnd to 659m

Licence: AUS/0628/96

TRANSMISSION APPLICATION

New South Wales
Section 93 Real Property Act 1900

7799116S

Instructions for filling out this form are available from the Land Titles Office

Office of State Revenue use only

NEW SOUTH WALES DUTY
24-07-2001 0000689803-002
SECTION 63(C)
DUTY $ **********10.00

(A) **LAND**

Folio Identifier 13/253503 as to 6/10 share as tenant in common

(B) **REGISTERED DEALING**
If applicable.

(C) **LODGED BY**

LTO Box	Name, Address or DX and Telephone
659M	ASHWOOD Reference (15 character maximum):

(D) **DECEASED REGISTERED PROPRIETOR** VILKO SEVE

(E) **APPLICANT**

TA ANN MARGARET ~~SEVE~~ EICHHORN

NSW Treasury Revenue Office of State YEAR 2000-2005 P3 ALTERATION NOTED

(F) I, the Applicant, being entitled as beneficiary of ~~the will/estate~~ of the deceased registered proprietor (who died on 7th September, 1999 pursuant to Probate/~~Letters of Administration~~ No. 109352/00 granted on 1st August, 2000 19 to FRANK HUGO SEVE and ANN MARGARET EICHHORN, apply to be registered as proprietor of the estate or interest of the deceased registered proprietor in the land/~~registered dealing~~ specified above.

Certified correct for the purposes of the Real Property Act 1900. DATE 18-05-01

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

Signature of Witness

BARRY JOHN REX WILSON
High & Woodriff Sts
Penrith NSW 2750
SOLICITOR

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Applicant

Evidence sighted & returned (LTO use)

Checked by (LTO use) Reg 47

Page 1 of 2

& Minor Discrepancy

(H) **CONSENT OF EXECUTOR OR ADMINISTRATOR**

We FRANK HUGO SEVE and
I, ANN MARGARET EICHHORN executor of the will / ~~administrator of the estate~~ of the Deceased Registered Proprietor, hereby consent to this application.

B. Wilson

Signature of Witness

BARRY JOHN REX WILSON
High & Woodriff Sts
Penrith NSW 2750
SOLICITOR

Name of Witness (BLOCK LETTERS)

Address of Witness

F. Seve
A. M. Eichhorn

Signature of Executor/~~Administrator~~

PLAN FORM 2 — Plan Drawing only to appear in this space — * OFFICE USE ONLY

Signatures and seals only.

NEW NUMBER ONE FLEURS PTY LTD — Common Seal

THE COMMERCIAL BANKING COMPANY OF SYDNEY LIMITED BY ITS DULY APPOINTED ATTORNEY UNDER POWER OF ATTORNEY NO. 165165 DECLARES THAT HE HAS NOT RECEIVED NOTICE OF THE REVOCATION OF HIS POWER

WITNESS — DIVISIONAL MANAGER

Council Clerk's Certificate 83/76

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 24B of the †Metropolitan Water, Sewerage and Drainage Act, 1924, as amended. †Hunter District Water, Sewerage, and Drainage Act, 1938, as amended

have been complied with by the applicant in relation to the proposed SUBDIVISION (Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. 3840

Date 28.9.76

(Signature) Council Clerk

*This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.

†Delete if inapplicable.

M.P.D.

REFERENCE TO PERMANENT MARKS

1.	Conc. Blk	338°28'40"	0·509
2.	" "	338°28'40"	0·5
3.	" "	7°50'00"	0·503
4.	" "	7°50'00"	0·5
5	" "	97°50'00"	0·6
6.	" "	96°39'00"	0·5
7.	D.H.&W on conc. headwall	53°30'40"	4·79
8	Conc. Blk.	24°07'40"	1·56

T.M. D.P. 253503

SHEET 2 — See Sheet 2

MAMRE ROAD

ALDINGTON RD (20.12 WIDE)

ABBOTTS RD (20.12 WIDE)

EASEMENT FOR TRANSMISSION LINE 60.96 WIDE (A) VIDE GAZ. 16.10.64 Fols. 3203-5

(B) CENTRE LINE EASEMENT FOR TRANSMISSION TOWERS IS CENTRE LINE OF 60.96 WIDE EASEMENT (B) VIDE GAZ. 16.8.63 Fol. 2387-9

(C) ϕ Easement to drain water 3 wide.

BEARING	CHORD	ARC
1 116°56'	9·82	10
2 155°08'	9·82	10
3 193°20'	9·82	10
4 231°32'	9·82	10
5 264°14'	7·05	7·12

DIAGRAM NOT TO SCALE

D. P. 253503

Registered: 24.2.1977

C.A.: N° 83/76 N° 3840 of 28.9.76

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: PARISH

Last Plan: D P 250002#

PLAN OF SUBDIVISION OF LOT 7 IN D.P. 250002

Reduction Ratio 1: 5000 Lengths are in metres.

Municipality/Shire City: PENRITH

Locality: ST. MARYS

Parish: MELVILLE

County: CUMBERLAND

This is sheet 1 of my plan in 4 3 sheets (Delete if inapplicable).

I, BRIAN LINTON LYNE of P.O. Box 174 ST. IVES 2075 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 † 29.5.76

Signature

Surveyor registered under Surveyors Act, 1928, as amended. Datum Line of Azimuth. A-B. †Strike out either (1) or (2). †Insert date of survey.

Panel for use only for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

It is intended to dedicate Abbotts Road and Aldington Road to the Public for road purposes.

Pursuant to Sec. 88B of the Conveyancing Act 1919-64 it is intended to create:

1. Easement to drain water 3 wide. *

* INSTRUMENT FILED AS Q 43283

Y O 1 2 A 3 A

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

SURVEYOR'S REFERENCE: FLEURS ST. 2

I, Bruce Richard Davies, 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 28th day of February, 1977

PLAN FORM 3 To be used in conjunction with Plan Form 2

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

* OFFICE USE ONLY

D. P. 253503

Registered: 24.2.1977

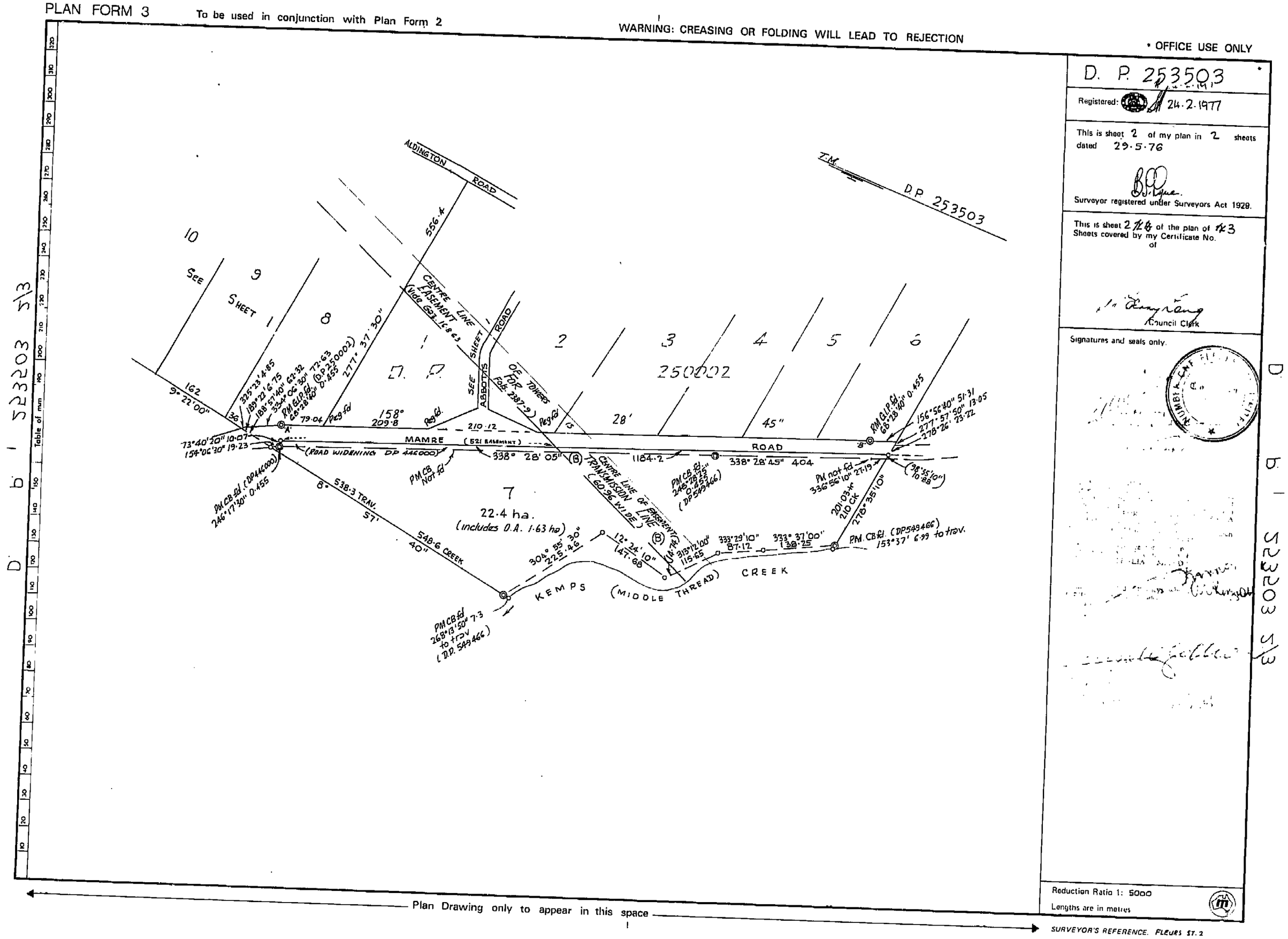
This is sheet 2 of my plan in 2 sheets dated 29.5.76

Surveyor registered under Surveyors Act 1928.

This is sheet 2 of the plan of 2 Sheets covered by my Certificate No. of

Council Clerk

Signatures and seals only.



Reduction Ratio 1: 5000

Lengths are in metres

SURVEYOR'S REFERENCE. FLEURS ST. 2

Plan Drawing only to appear in this space

I, Bruce Richard Davies, 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 28th day of February, 1977

PLAN FORM 3 To be used in conjunction with Plan Form 2 WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION * OFFICE USE ONLY

D. P. 253503

Registered: 24.2.1977

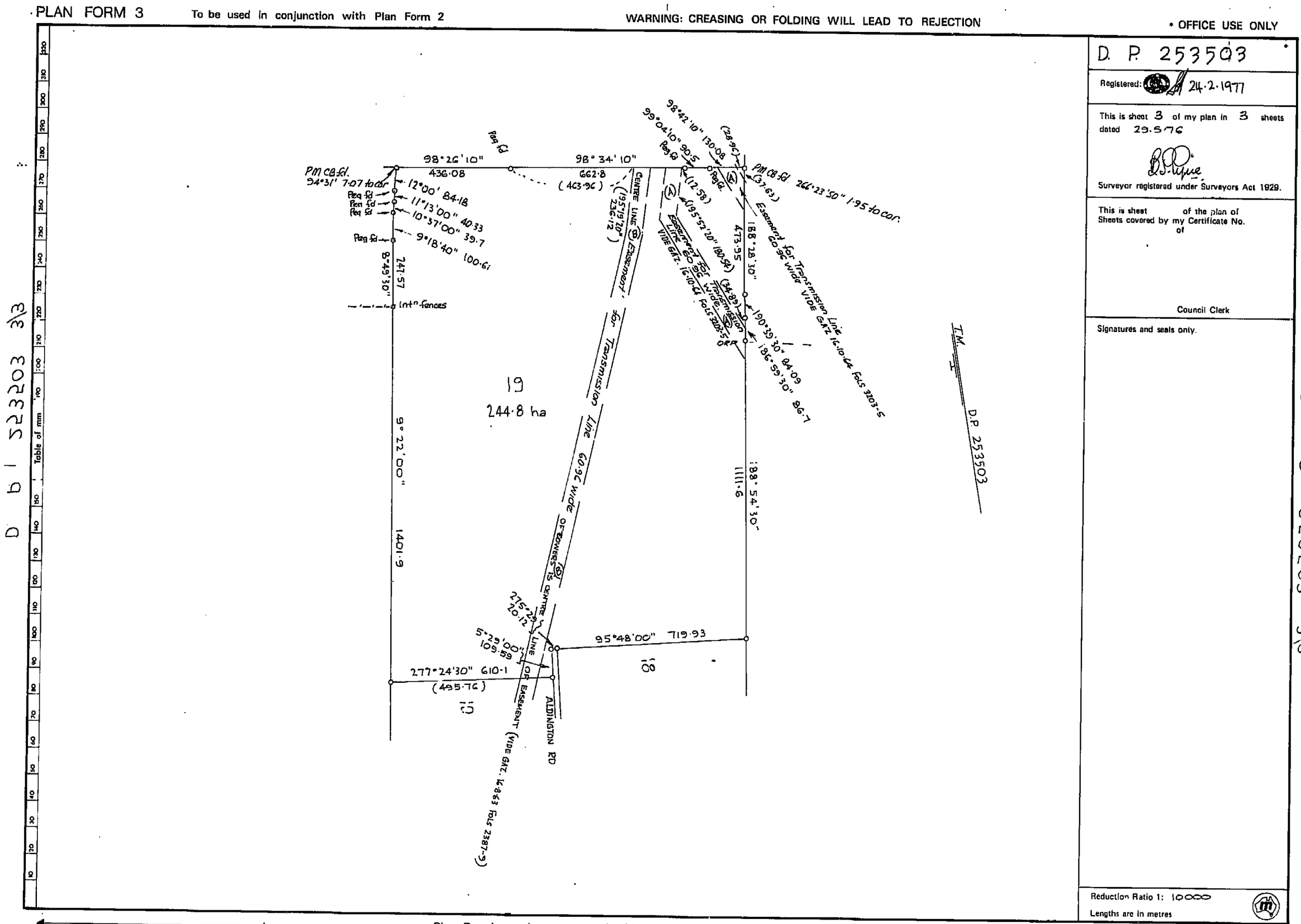
This is sheet 3 of my plan in 3 sheets dated 29.5.76

Surveyor registered under Surveyors Act 1929.

This is sheet of the plan of Sheets covered by my Certificate No. of

Council Clerk

Signatures and seals only.



Reduction Ratio 1: 10000

Lengths are in metres

Plan Drawing only to appear in this space

SURVEYOR'S REFERENCE.

I, Bruce Richard Davies, 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 28th day of February, 1977

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
26/9/2019 9:10AM

FOLIO: 13/253503

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 13277 FOL 11

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
26/10/1987		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
3/2/1992	E217677	TRANSMISSION APPLICATION	EDITION 1
12/11/1993		AMENDMENT: LOCAL GOVT AREA	
5/8/1999	6071781	DEPARTMENTAL DEALING	
25/7/2001	7799115	DISCHARGE OF MORTGAGE	
25/7/2001	7799116	TRANSMISSION APPLICATION	EDITION 2
6/8/2002	8839247	CHANGE OF NAME	
6/8/2002	8839248	CHANGE OF NAME	
6/8/2002	8839249	TRANSFER	EDITION 3
14/2/2004	AA413722	MORTGAGE	EDITION 4
13/11/2007	AD560890	CAVEAT	
21/6/2011	AG311349	DISCHARGE OF MORTGAGE	EDITION 5
14/2/2012	AG810813	WITHDRAWAL OF CAVEAT	
14/4/2015	AI621702	REJECTED - CHANGE OF NAME	
14/4/2015	AI621703	REJECTED - LEASE	
9/9/2019	AP504209	APPLICATION FOR REPLACEMENT CERTIFICATE OF TITLE	
9/9/2019	AP504210	CHANGE OF NAME	EDITION 6

*** END OF SEARCH ***

advlegs PRINTED ON 26/9/2019

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 13/253503

SEARCH DATE	TIME	EDITION NO	DATE
26/9/2019	9:09 AM	6	9/9/2019

LAND

LOT 13 IN DEPOSITED PLAN 253503
AT ST.MARYS
LOCAL GOVERNMENT AREA PENRITH
PARISH OF MELVILLE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP253503

FIRST SCHEDULE

ANNA MARGARET SEVE (CN AP504210)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 AP504209 THIS EDITION ISSUED PURSUANT TO S.111 REAL PROPERTY ACT, 1900

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

advlegs PRINTED ON 26/9/2019

APPENDIX D

LOTSEARCH REPORT

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 07 Oct 2019 18:29:51

Reference: LS008868 EP

Address: 290-308 Aldington Road, Kemps Creek, NSW 2178

Table of Contents

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
General area or suburb match	Georeferenced with the confidence of the general/approximate area
Road match	Georeferenced to the road or rail
Road intersection	Georeferenced to the road intersection
Feature is a buffered point	Feature is a buffered point
Land adjacent to geocoded site	Land adjacent to Georeferenced Site
Network of features	Georeferenced to a network of features

Dataset Listing

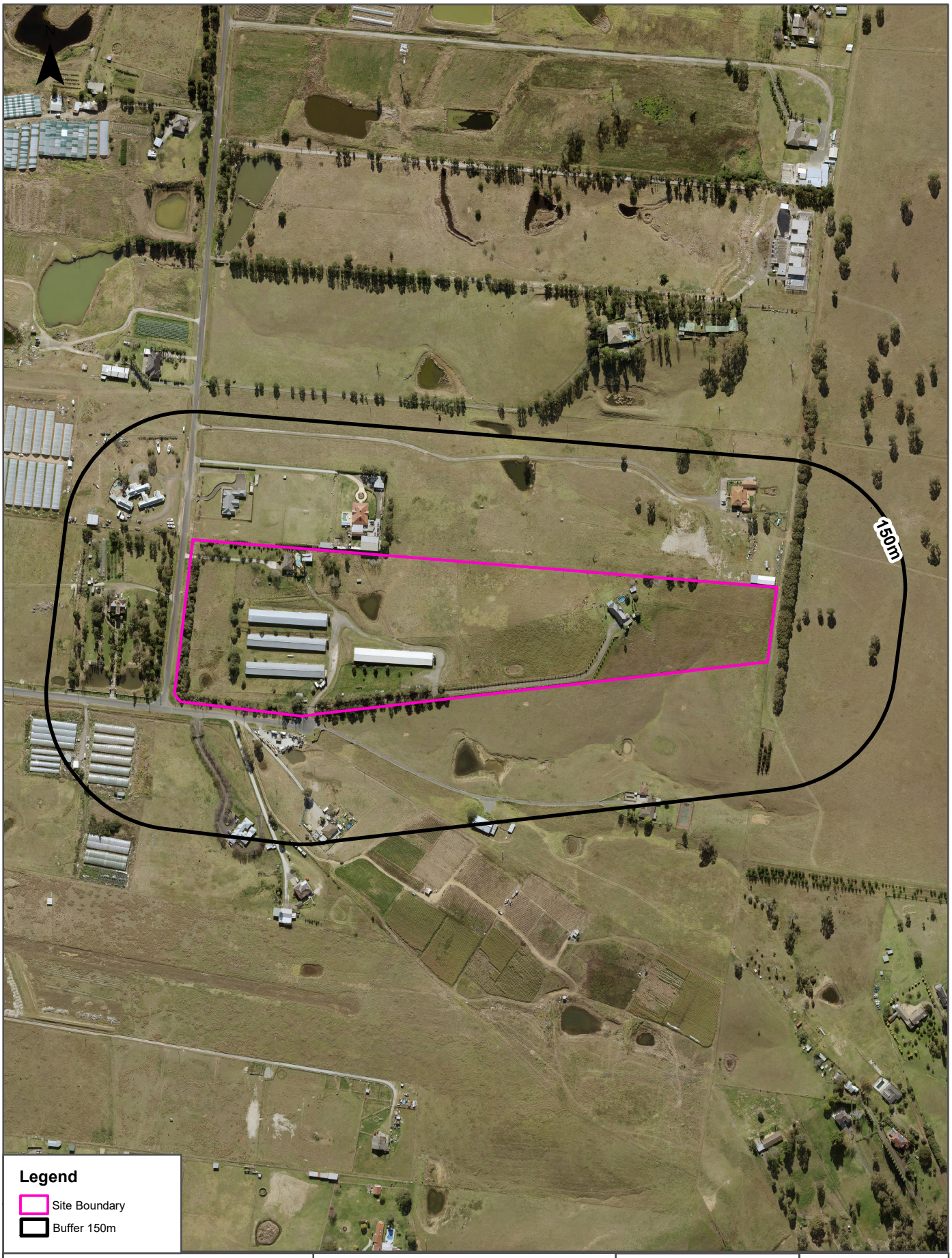
Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Finance, Services & Innovation	07/10/2019	07/10/2019	Daily	-	-	-	-
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	18/09/2019	17/09/2019	Monthly	1000	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	12/09/2019	12/09/2019	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	02/10/2019	11/10/2017	Monthly	1000	0	0	0
National Waste Management Facilities Database	Geoscience Australia	06/08/2019	07/03/2017	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	02/10/2019	02/10/2019	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program	Department of Defence	02/10/2019	02/10/2019	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	02/10/2019	02/10/2019	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	02/10/2019	02/10/2019	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	13/12/2018	13/12/2018	Annually	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	26/09/2019	26/09/2019	Monthly	1000	0	0	0
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	26/09/2019	26/09/2019	Monthly	1000	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	26/09/2019	26/09/2019	Monthly	1000	0	3	3
UPSS Environmentally Sensitive Zones	Environment Protection Authority	14/04/2015	12/01/2010	As required	1000	0	0	1
UBD Business to Business Directory 1991 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1991 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business to Business Directory 1986 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1986 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1982 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1982 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1970 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1970 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1961 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1961 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1950 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1950 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500	0	0	0
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500	-	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Points of Interest	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	Quarterly	1000	0	0	1
Tanks (Areas)	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	Quarterly	1000	0	0	0
Tanks (Points)	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	Quarterly	1000	0	0	0
Major Easements	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	Quarterly	1000	0	0	6
State Forest	NSW Department of Finance, Services & Innovation	18/01/2018	18/01/2018	As required	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	16/01/2019	14/11/2018	Annually	1000	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	1	1	1
Botany Groundwater Management Zones	NSW Department of Primary Industries	15/03/2018	01/10/2005	As required	1000	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	2000	0	0	8
Geological Units 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	1	-	2
Geological Structures 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	0	-	0
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000	0	0	0
Soil Landscapes	NSW Office of Environment & Heritage	12/08/2014		None planned	1000	2	-	4
Atlas of Australian Soils	ABARES	19/05/2017	17/02/2011	As required	1000	1	1	2
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning and Environment	04/10/2019	09/08/2019	Weekly	500	0	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	1	1	1
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000	1	1	1
Dryland Salinity Potential of Western Sydney	NSW Office of Environment & Heritage	12/05/2017	01/01/2002	None planned	1000	1	1	3
Mining Subsidence Districts	NSW Department of Finance, Services & Innovation	11/04/2019	11/04/2019	Quarterly	1000	0	0	0
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning and Environment	04/10/2019	07/12/2018	Weekly	1000	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning and Environment	04/10/2019	27/09/2019	Weekly	1000	1	2	7
Commonwealth Heritage List	Australian Government Department of the Environment and Energy - Heritage Branch	16/01/2019	31/07/2018	Unknown	1000	0	0	0
National Heritage List	Australian Government Department of the Environment and Energy - Heritage Branch	16/01/2019	28/09/2018	Unknown	1000	0	0	0
State Heritage Register - Curtilages	NSW Office of Environment & Heritage	15/07/2019	09/11/2018	Quarterly	1000	0	0	0
Environmental Planning Instrument Heritage	NSW Department of Planning and Environment	04/10/2019	27/09/2019	Weekly	1000	0	2	2
Bush Fire Prone Land	NSW Rural Fire Service	28/08/2019	03/06/2019	Quarterly	1000	1	1	3
Remnant Vegetation of the Cumberland Plain	NSW Office of Environment & Heritage	07/10/2014	04/08/2011	Unknown	1000	0	0	5
Ramsar Wetlands of Australia	Commonwealth of Australia Department of the Environment	08/10/2014	24/06/2011	As required	1000	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	0	1
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	0	2
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	04/10/2019	04/10/2019	Weekly	10000	-	-	-

Aerial Imagery 2019

290-308 Aldington Road, Kemps Creek, NSW 2178



Scale: 0 50 100 200 Meters	Data Sources: Aerial Imagery © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 08 October 2019

Contaminated Land & Waste Management Facilities

290-308 Aldington Road, Kemps Creek, NSW 2178

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 (m)	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 & Waste Management Facilities

290-308 Aldington Road, Kemps Creek, NSW 2178

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

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

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 (m)	Direction
N/A	No records in buffer											

Waste Management Facilities Data Source: Geoscience Australia

PFAS Investigation Sites

290-308 Aldington Road, Kemps Creek, NSW 2178

EPA PFAS Investigation Program

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

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

EPA PFAS Investigation Program: Environment Protection Authority

Defence PFAS Investigation & Management Program

Sites being investigated or 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 Investigation & 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

290-308 Aldington Road, Kemps Creek, NSW 2178

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

290-308 Aldington Road, Kemps Creek, NSW 2178

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 Activities

290-308 Aldington Road, Kemps Creek, NSW 2178

Licensed Activities under the POEO Act 1997

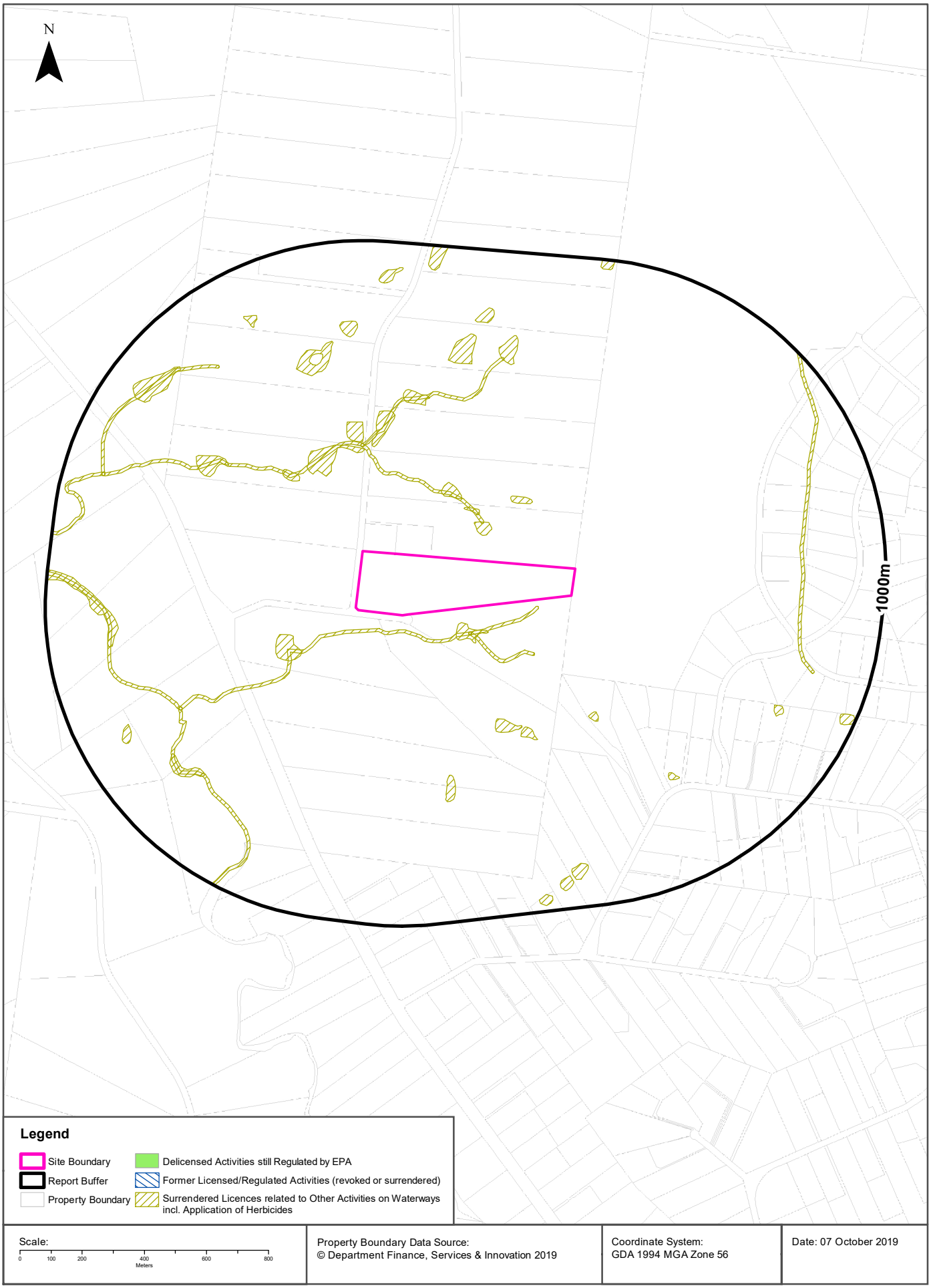
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

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

POEO Licence Data Source: Environment Protection Authority

Delicensed & Former Licensed EPA Activities

290-308 Aldington Road, Kemps Creek, NSW 2178



EPA Activities

290-308 Aldington Road, Kemps Creek, NSW 2178

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

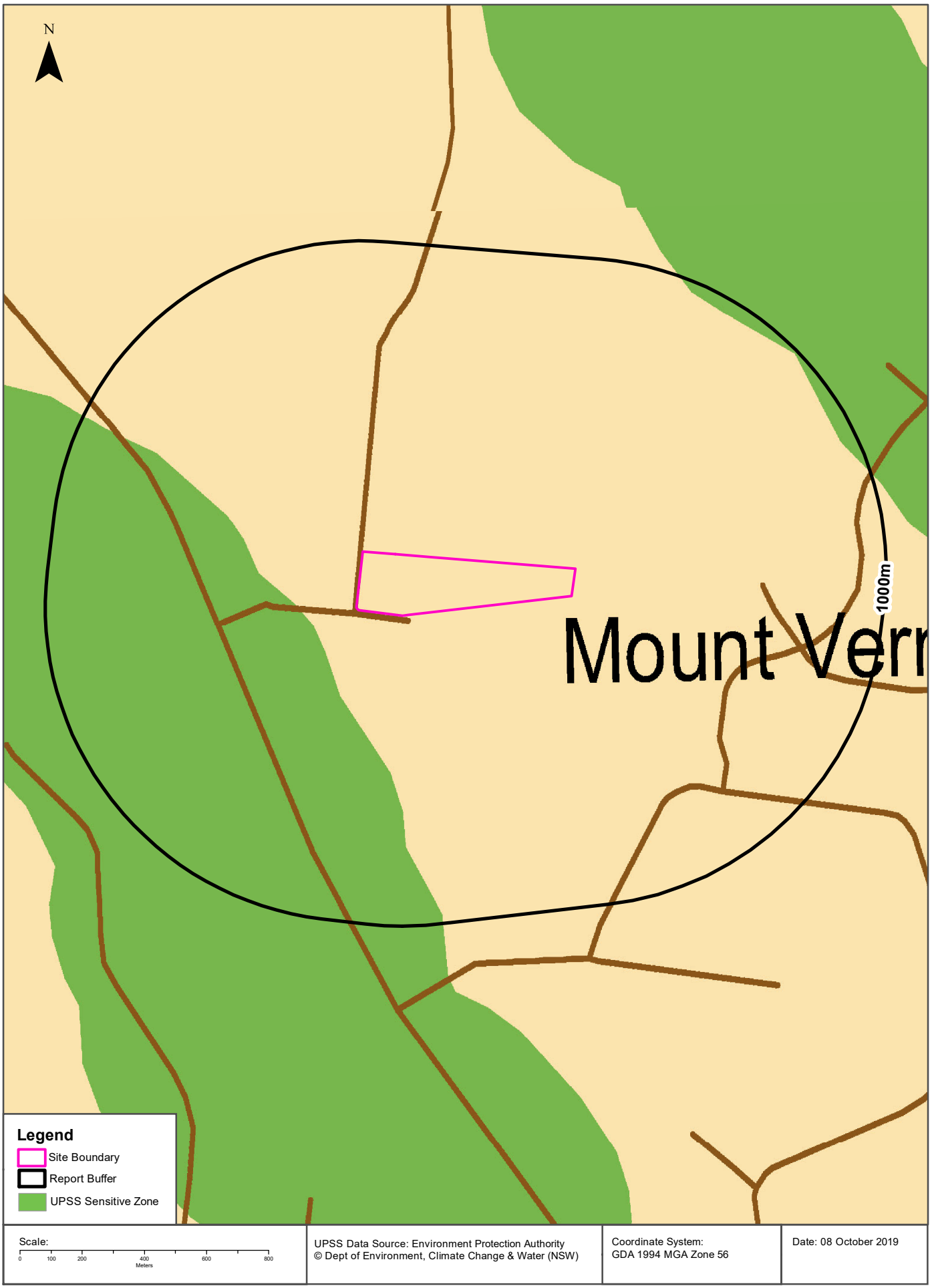
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

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	20m	-
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	20m	-
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	20m	-

Former Licensed Activities Data Source: Environment Protection Authority

UPSS Sensitive Zones

290-308 Aldington Road, Kemps Creek, NSW 2178



Historical Business Directories

290-308 Aldington Road, Kemps Creek, NSW 2178

1991 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1991 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

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

1991 Business to Business Directory Records Road or Area Matches

Records from the 1991 UBD Business to Business Directory, 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.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

Historical Business Directories

290-308 Aldington Road, Kemps Creek, NSW 2178

1986 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1986 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

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

1986 Business to Business Directory Records Road or Area Matches

Records from the 1986 UBD Business to Business Directory, 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.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

Historical Business Directories

290-308 Aldington Road, Kemps Creek, NSW 2178

1982 Business Directory Records
Premise or Road Intersection Matches

Records from the 1982 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

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

1982 Business Directory Records
Road or Area Matches

Records from the 1982 UBD Business Directory, 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.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

Historical Business Directories

290-308 Aldington Road, Kemps Creek, NSW 2178

1970 Business Directory Records
Premise or Road Intersection Matches

Records from the 1970 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

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

1970 Business Directory Records
Road or Area Matches

Records from the 1970 UBD Business Directory, 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.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

Historical Business Directories

290-308 Aldington Road, Kemps Creek, NSW 2178

1961 Business Directory Records
Premise or Road Intersection Matches

Records from the 1961 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

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

1961 Business Directory Records
Road or Area Matches

Records from the 1961 UBD Business Directory, 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.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

Historical Business Directories

290-308 Aldington Road, Kemps Creek, NSW 2178

1950 Business Directory Records
Premise or Road Intersection Matches

Records from the 1950 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

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

1950 Business Directory Records
Road or Area Matches

Records from the 1950 UBD Business Directory, 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.	Location Confidence	Distance to Road Corridor or Area
	No records in buffer				

Historical Business Directories

290-308 Aldington Road, Kemps Creek, NSW 2178

Dry Cleaners, Motor Garages & Service Stations Premise or Road Intersection Matches (1948-1993)

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

Note: The Universal Business Directories were published between 1948 and 1993. Dry Cleaners, Motor Garages & Service Stations have been extracted from all of these directories except the following years 1951, 1955, 1957, 1960, 1963, 1973, 1974, 1977, 1987.

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

Dry Cleaners, Motor Garages & Service Stations Road or Area Matches (1948-1993)

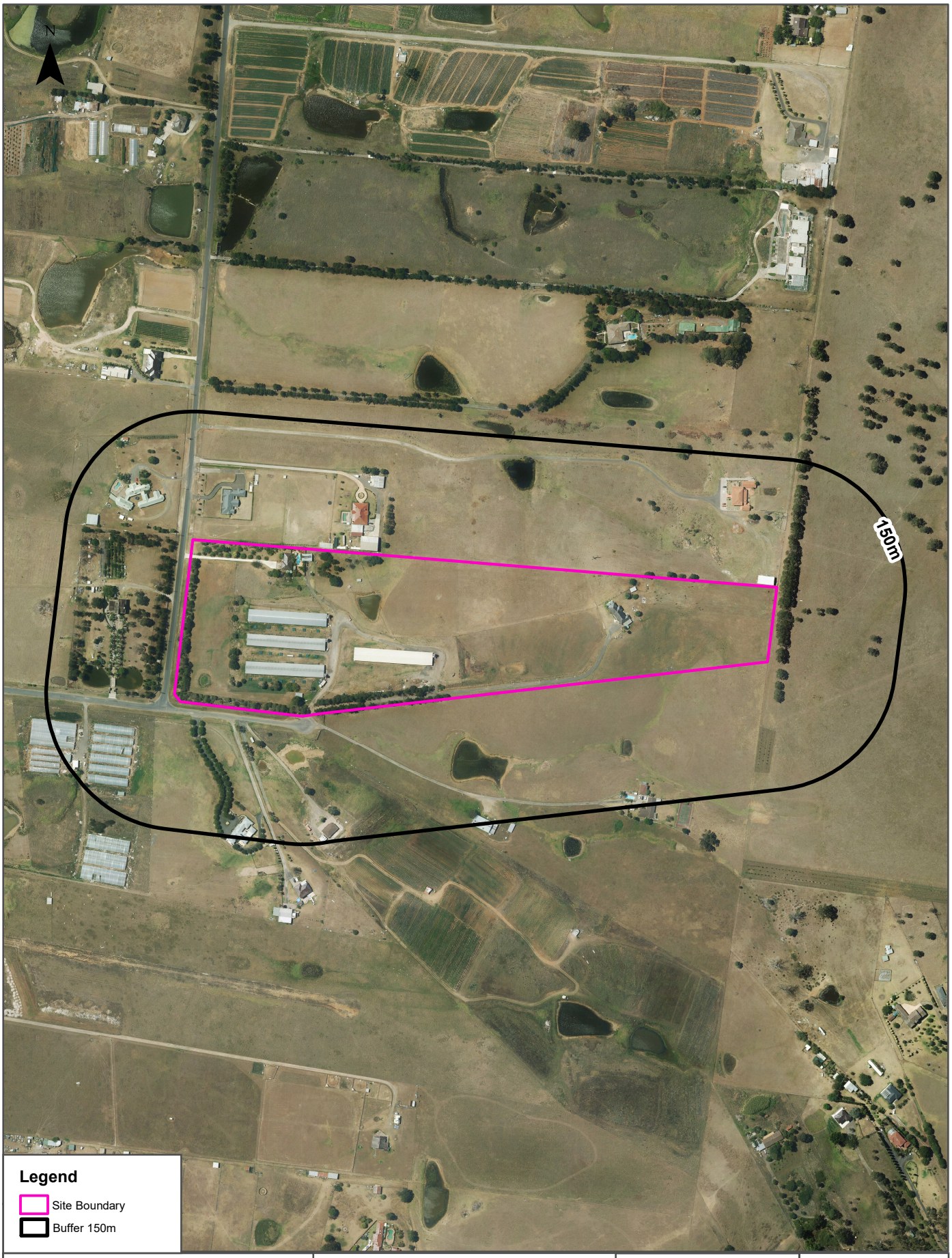
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Note: The Universal Business Directories were published between 1948 and 1993. Dry Cleaners, Motor Garages & Service Stations have been extracted from all of these directories except the following years 1951, 1955, 1957, 1960, 1963, 1973, 1974, 1977, 1987.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
	No records in buffer					

Aerial Imagery 2014

290-308 Aldington Road, Kemps Creek, NSW 2178



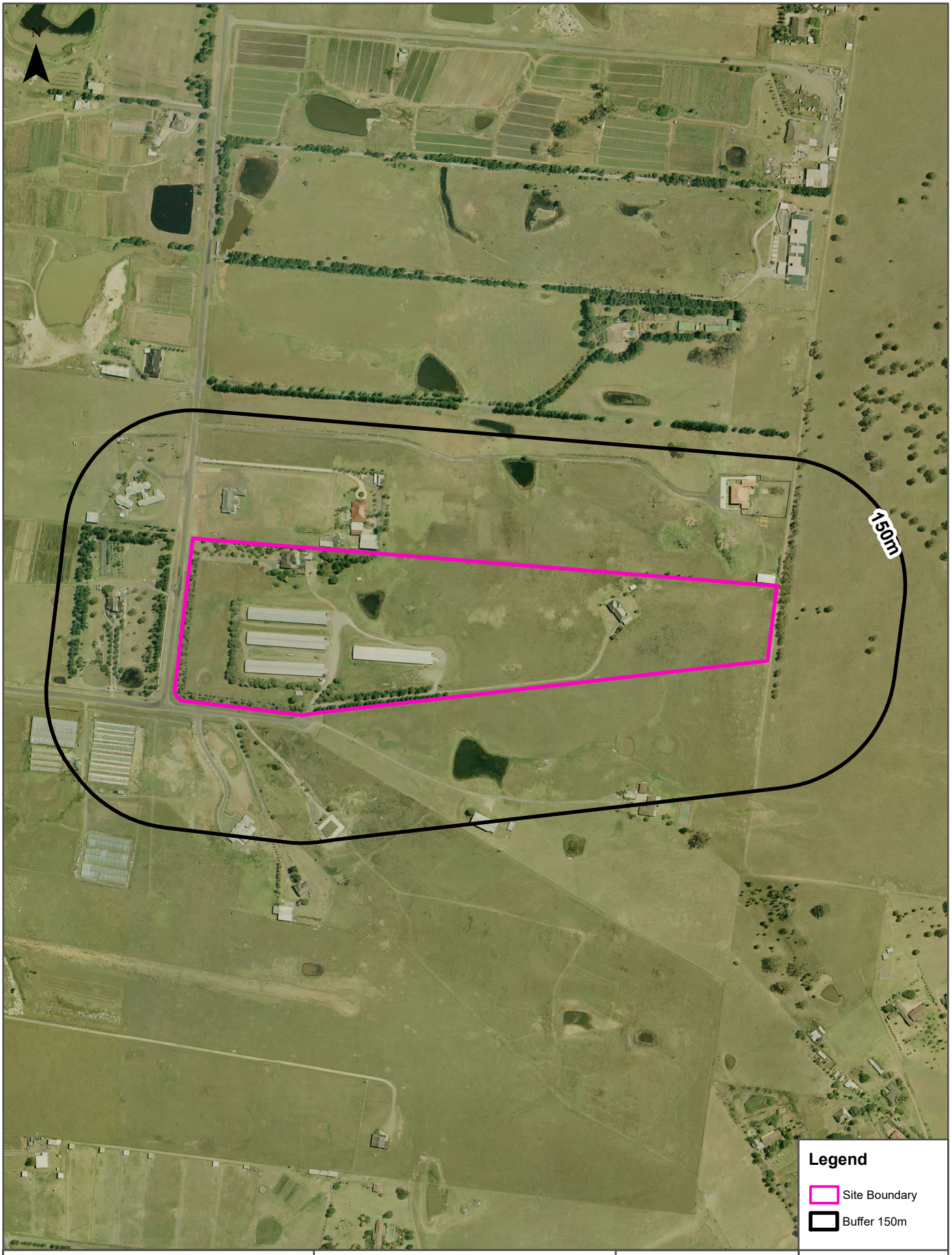
Scale: 0 50 100 200 Meters	Data Sources: Aerial Imagery © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 08 October 2019

Aerial Imagery 2009

290-308 Aldington Road, Kemps Creek, NSW 2178

Aerial Imagery 2005

290-308 Aldington Road, Kemps Creek, NSW 2178



Aerial Imagery 1991

290-308 Aldington Road, Kemps Creek, NSW 2178

Scale: 0 50 100 200 Meters	Data Sources: Aerial Imagery © Department of Finance, Services & Innovation	Coordinate System: GDA 1994 MGA Zone 56	Date: 07 October 2019

Aerial Imagery 1982

290-308 Aldington Road, Kemps Creek, NSW 2178

Scale: 0 50 100 200 Meters	Data Sources: Aerial Imagery © Department of Finance, Services & Innovation	Coordinate System: GDA 1994 MGA Zone 56	Date: 07 October 2019

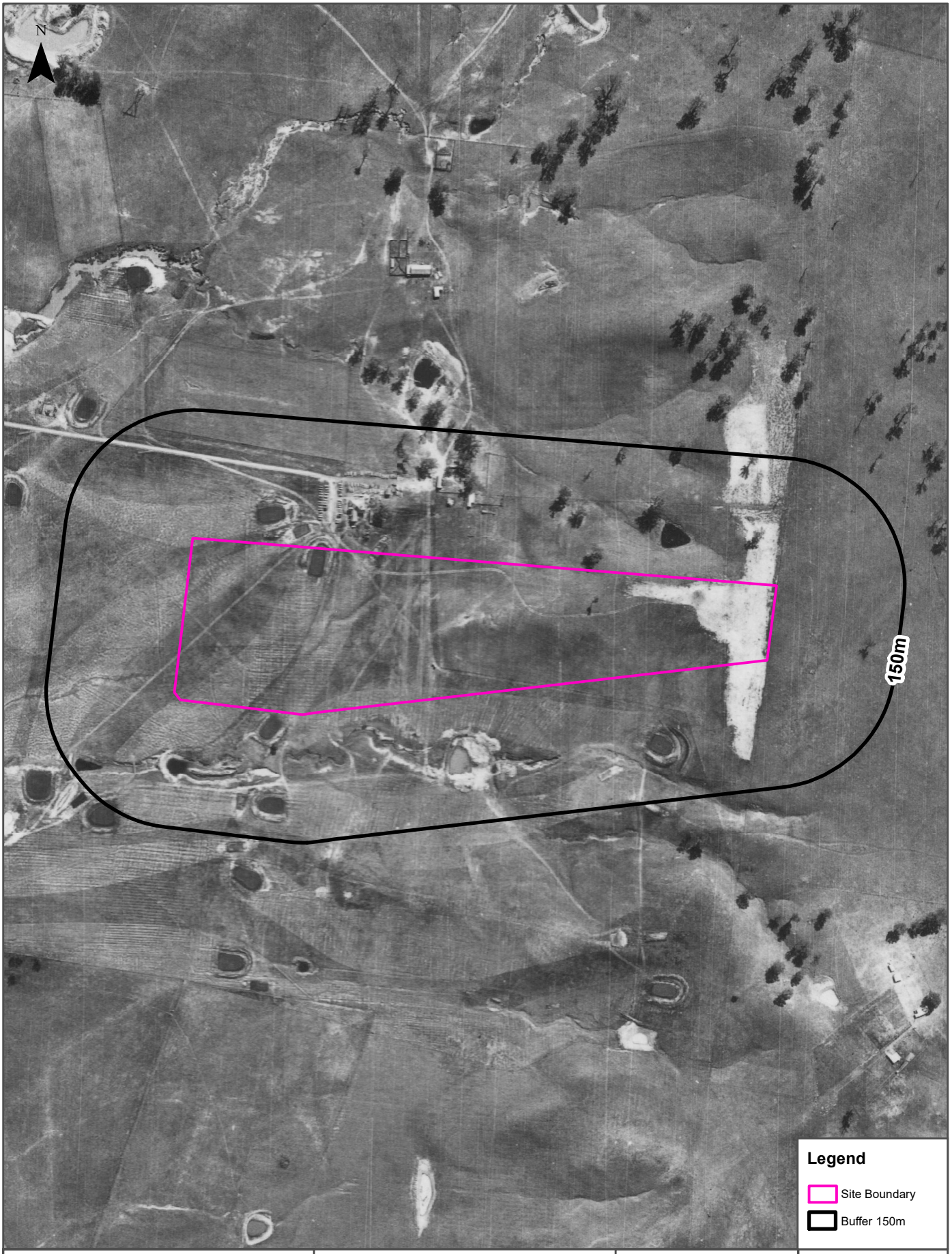
Aerial Imagery 1970

290-308 Aldington Road, Kemps Creek, NSW 2178

Scale: 0 50 100 200 Meters	Data Sources: Aerial Imagery © Department of Finance, Services & Innovation	Coordinate System: GDA 1994 MGA Zone 56	Date: 07 October 2019

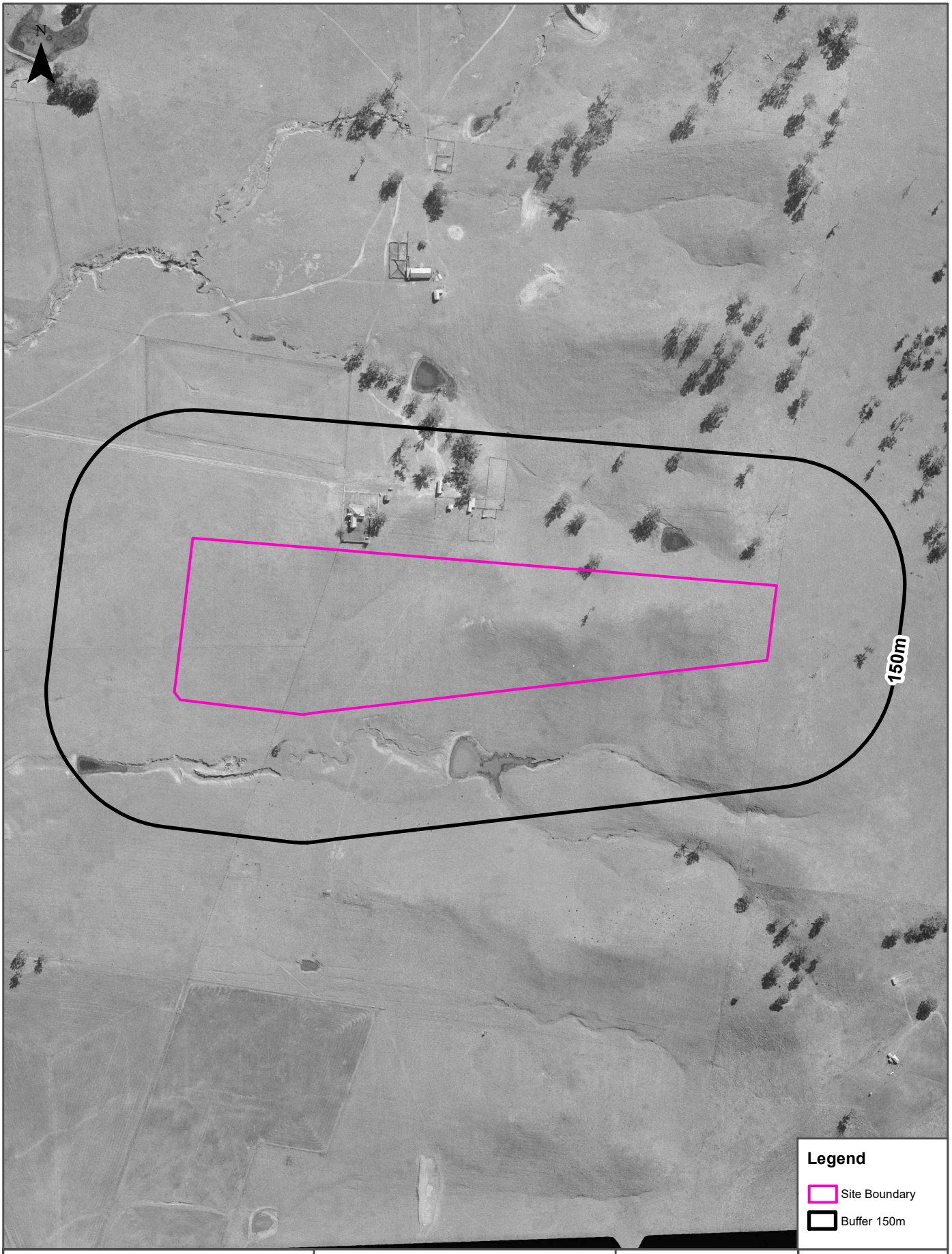
Aerial Imagery 1965

290-308 Aldington Road, Kemps Creek, NSW 2178



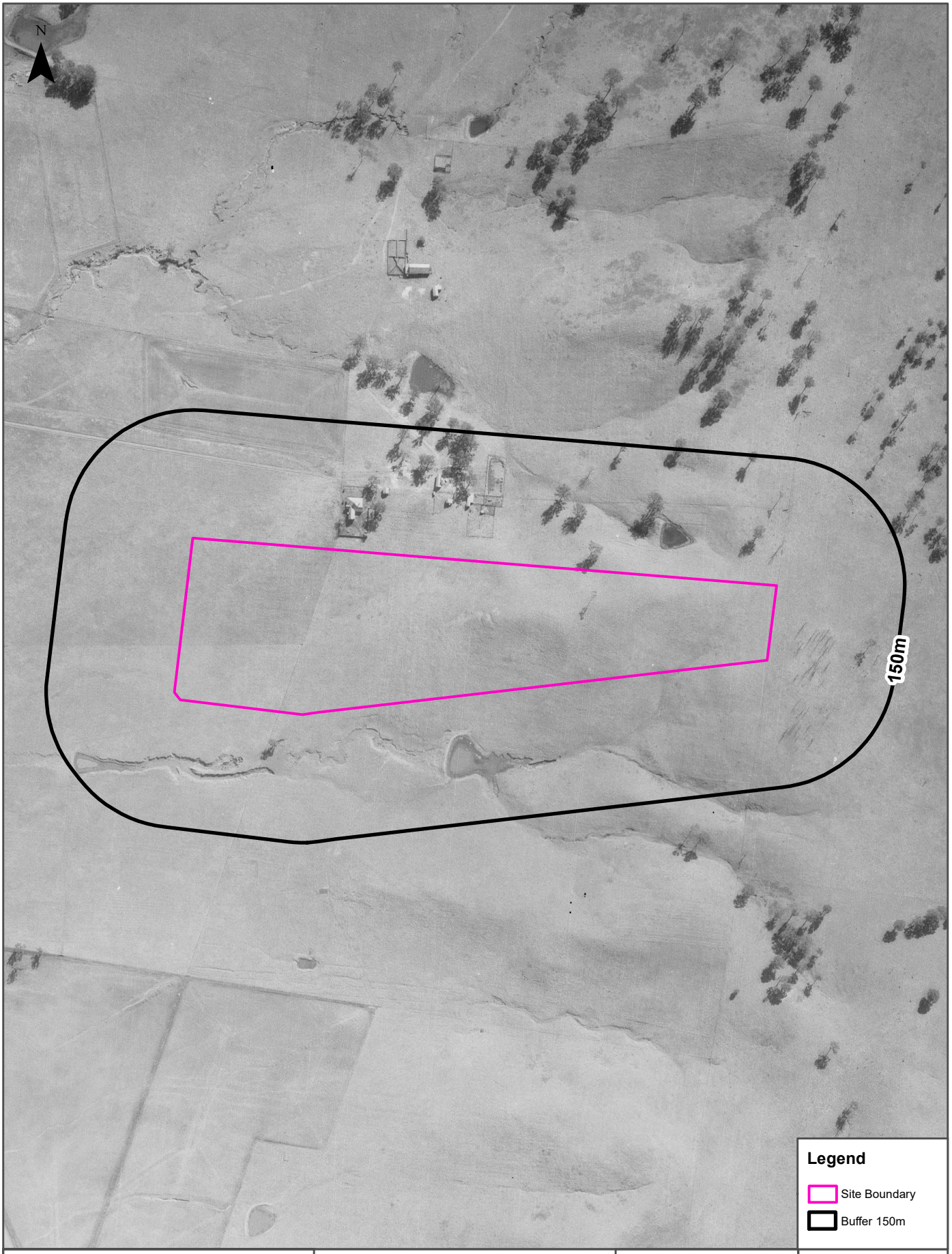
Aerial Imagery 1961

290-308 Aldington Road, Kemps Creek, NSW 2178



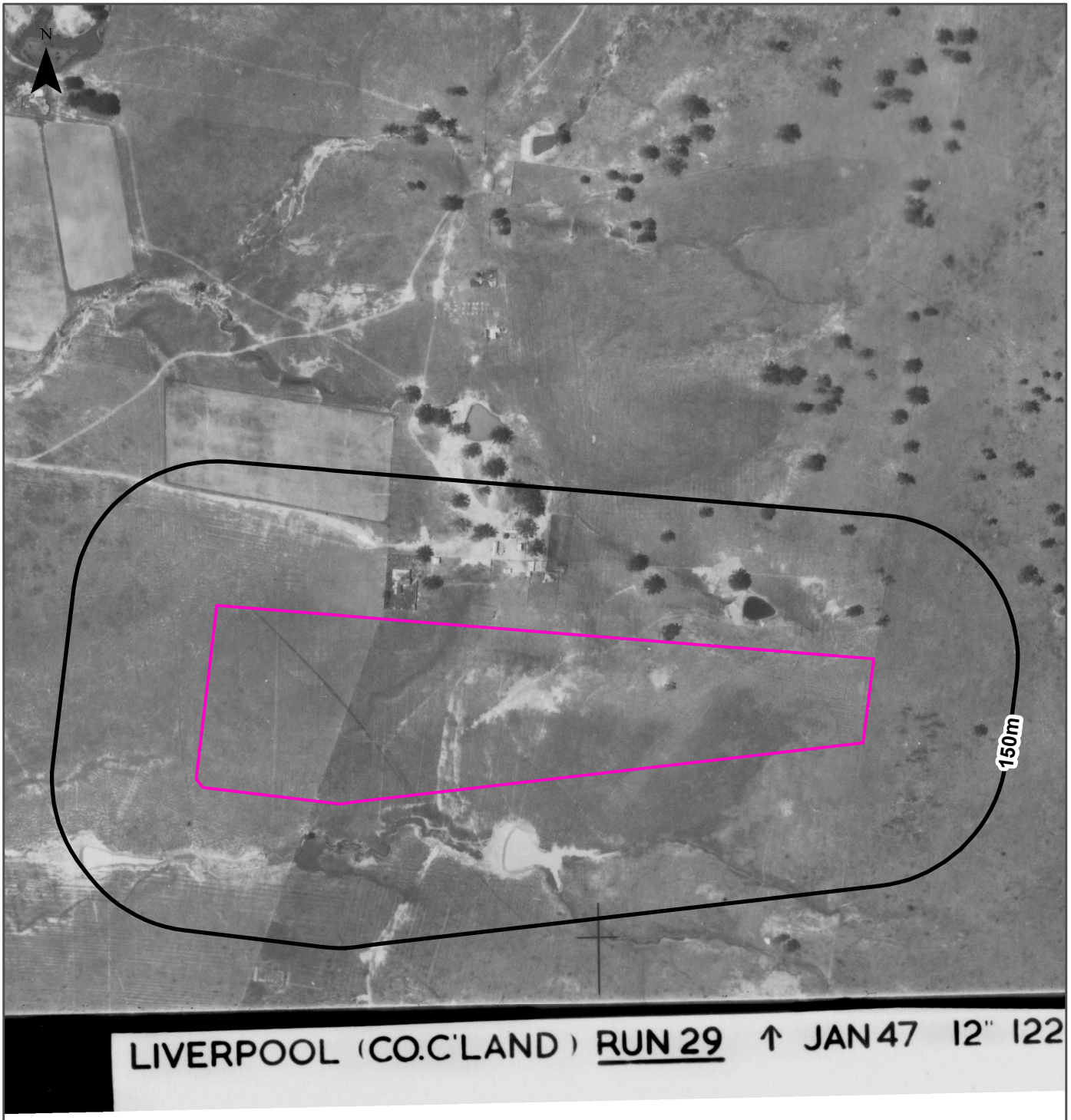
Aerial Imagery 1955

290-308 Aldington Road, Kemps Creek, NSW 2178



Aerial Imagery 1947

290-308 Aldington Road, Kemps Creek, NSW 2178



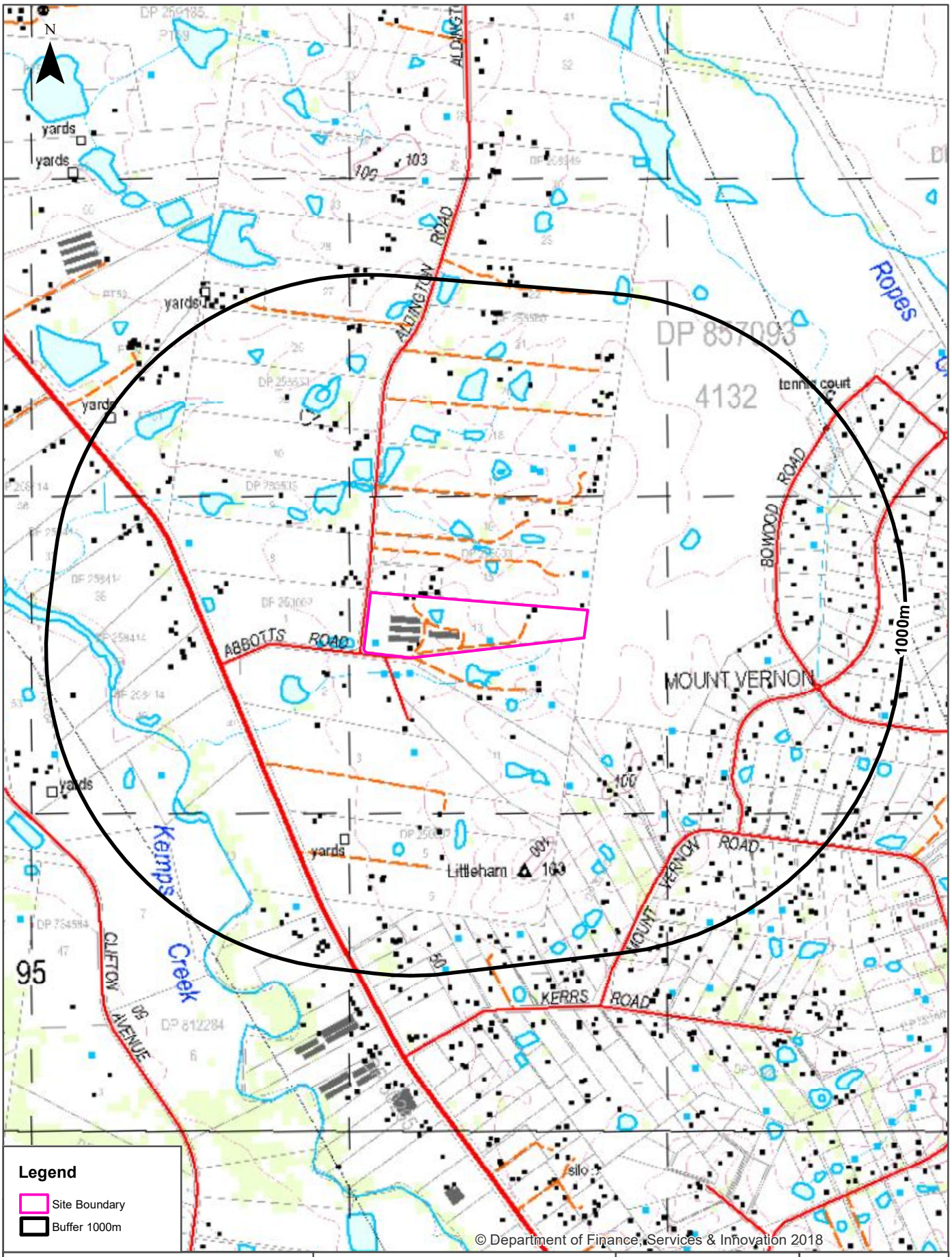
Legend

- Site Boundary
- Buffer 150m

Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 03 October 2019
0 50 100 200 Meters	© NSW Department of Finance, Services & Innovation	GDA 1994 MGA Zone 56	

Topographic Map 2015

290-308 Aldington Road, Kemps Creek, NSW 2178



Scale: 0 100 200 400 600 800 Meters

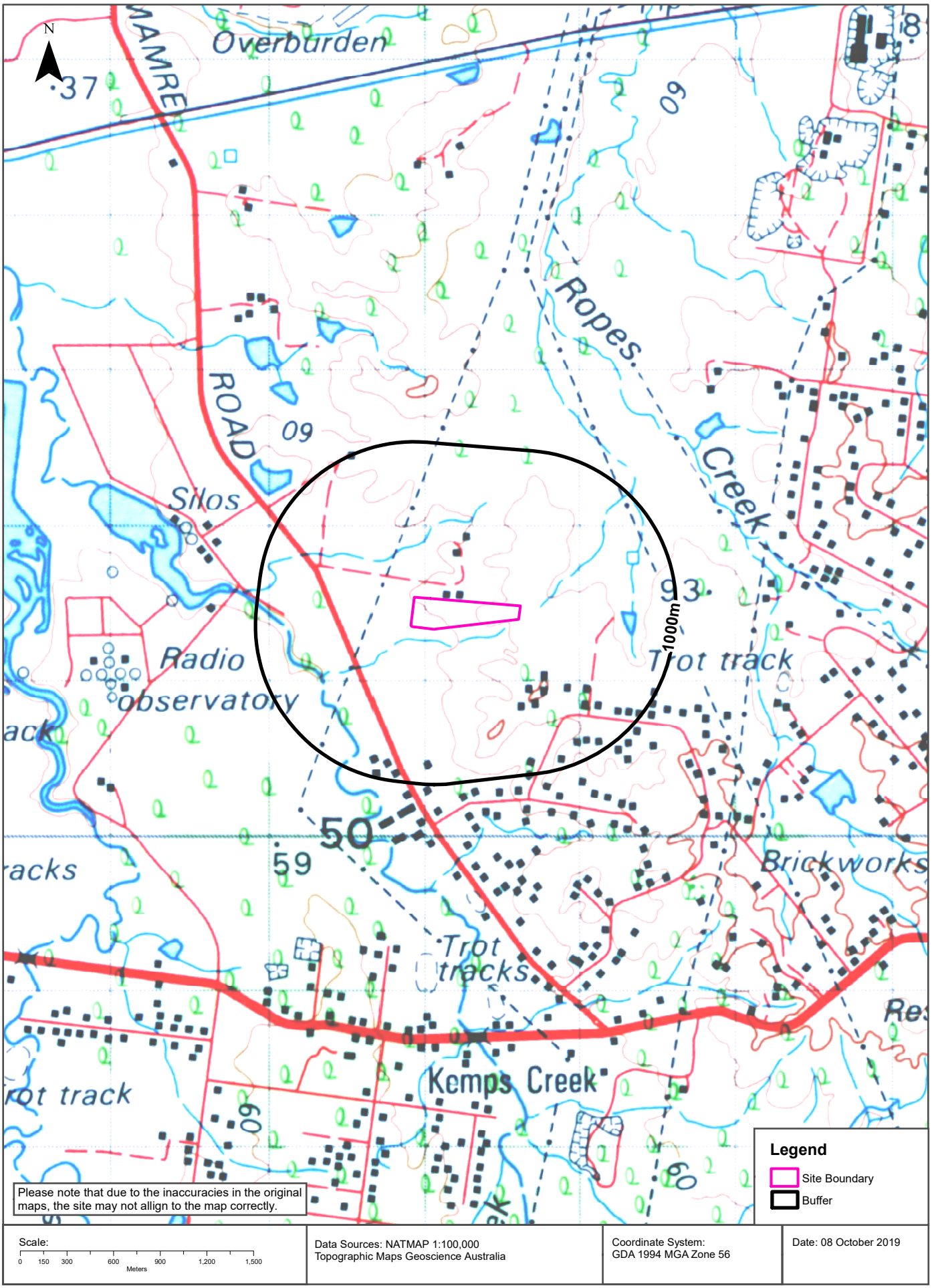
Data Sources: Topographic Map Data
© NSW Land and Property Information

Coordinate System:
GDA 1994 MGA Zone 56

Date: 08 October 2019

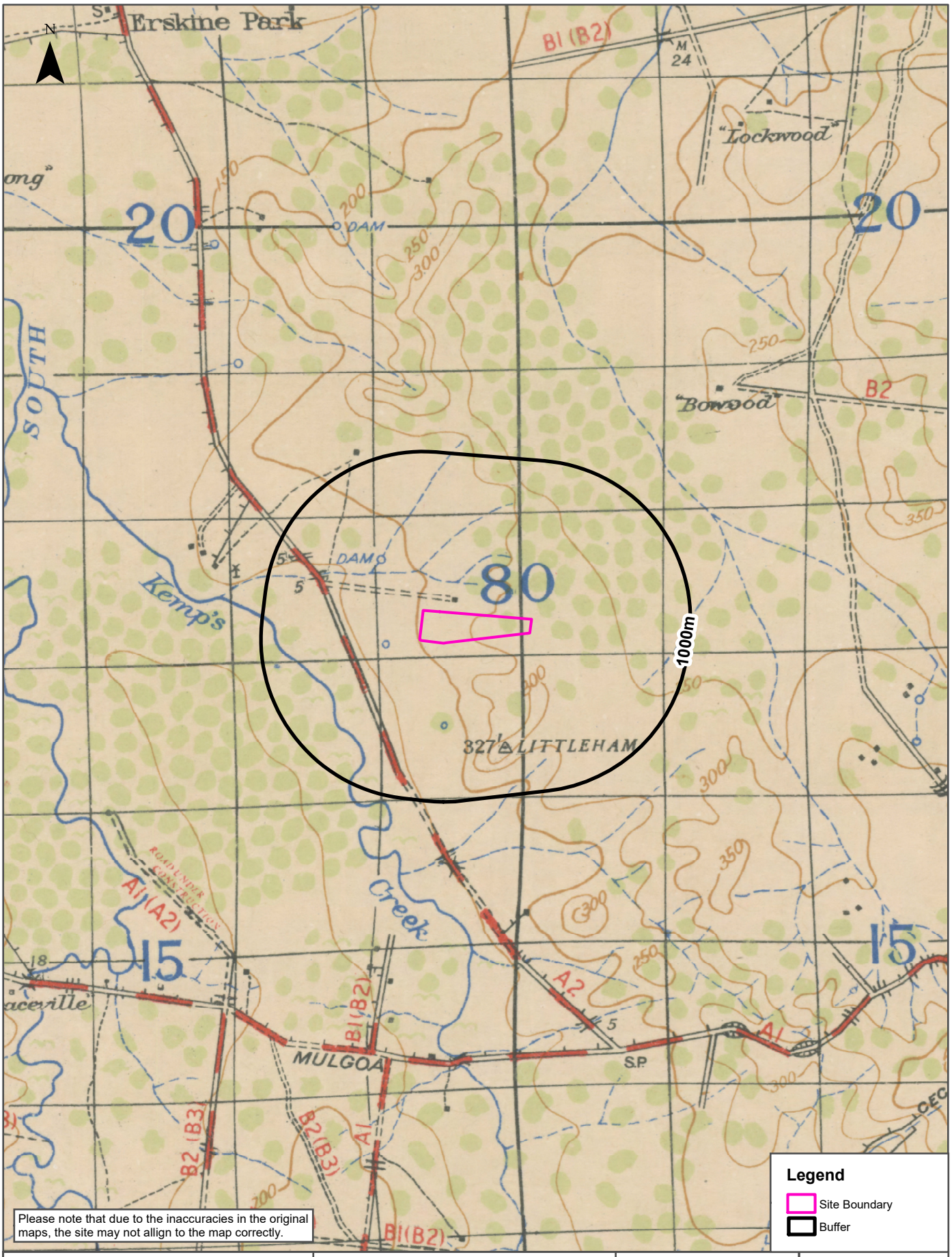
Historical Map 1975

290-308 Aldington Road, Kemps Creek, NSW 2178



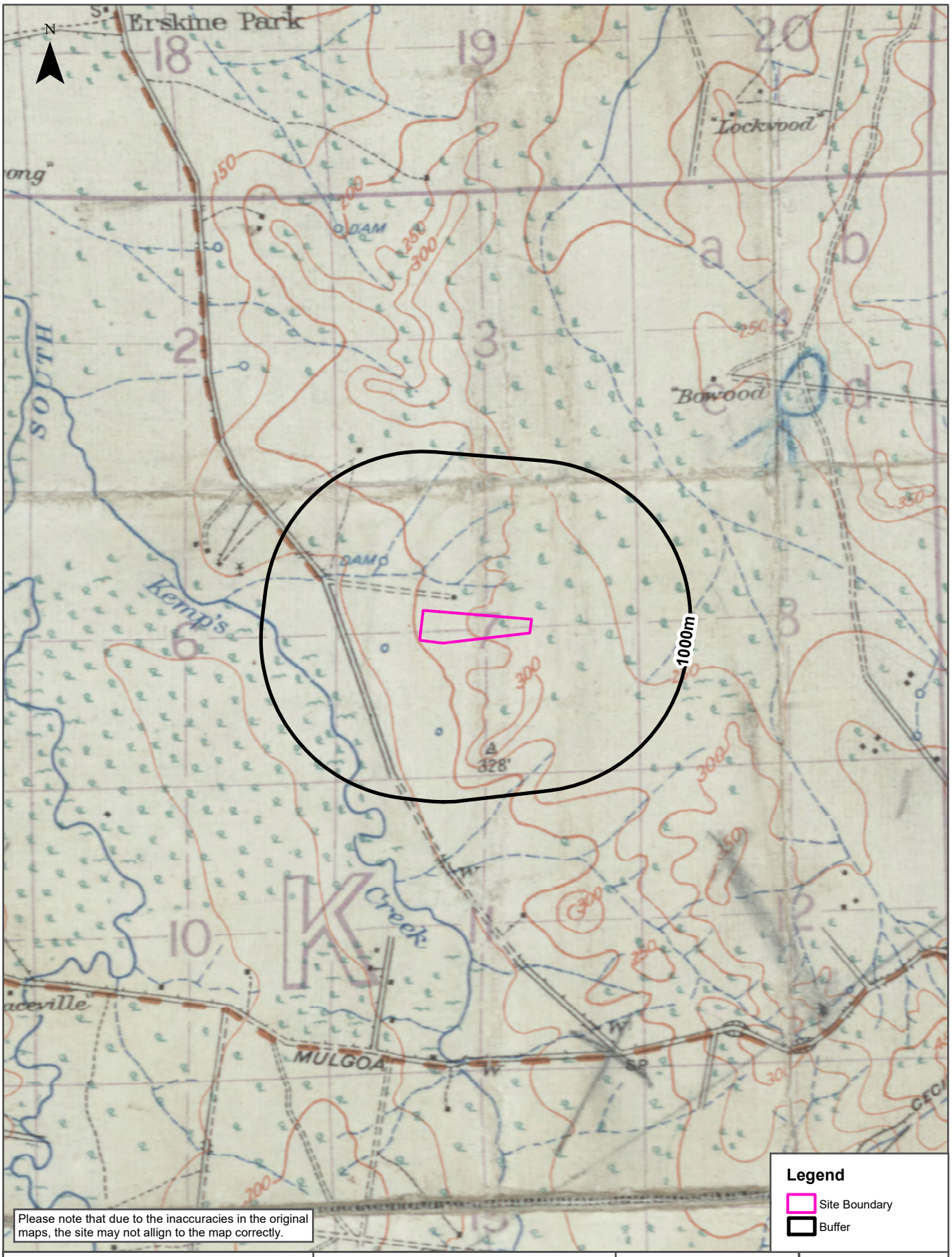
Historical Map c.1942

290-308 Aldington Road, Kemps Creek, NSW 2178



Historical Map c.1929

290-308 Aldington Road, Kemps Creek, NSW 2178



Scale: 0 150 300 600 900 1,200 1,500 Meters

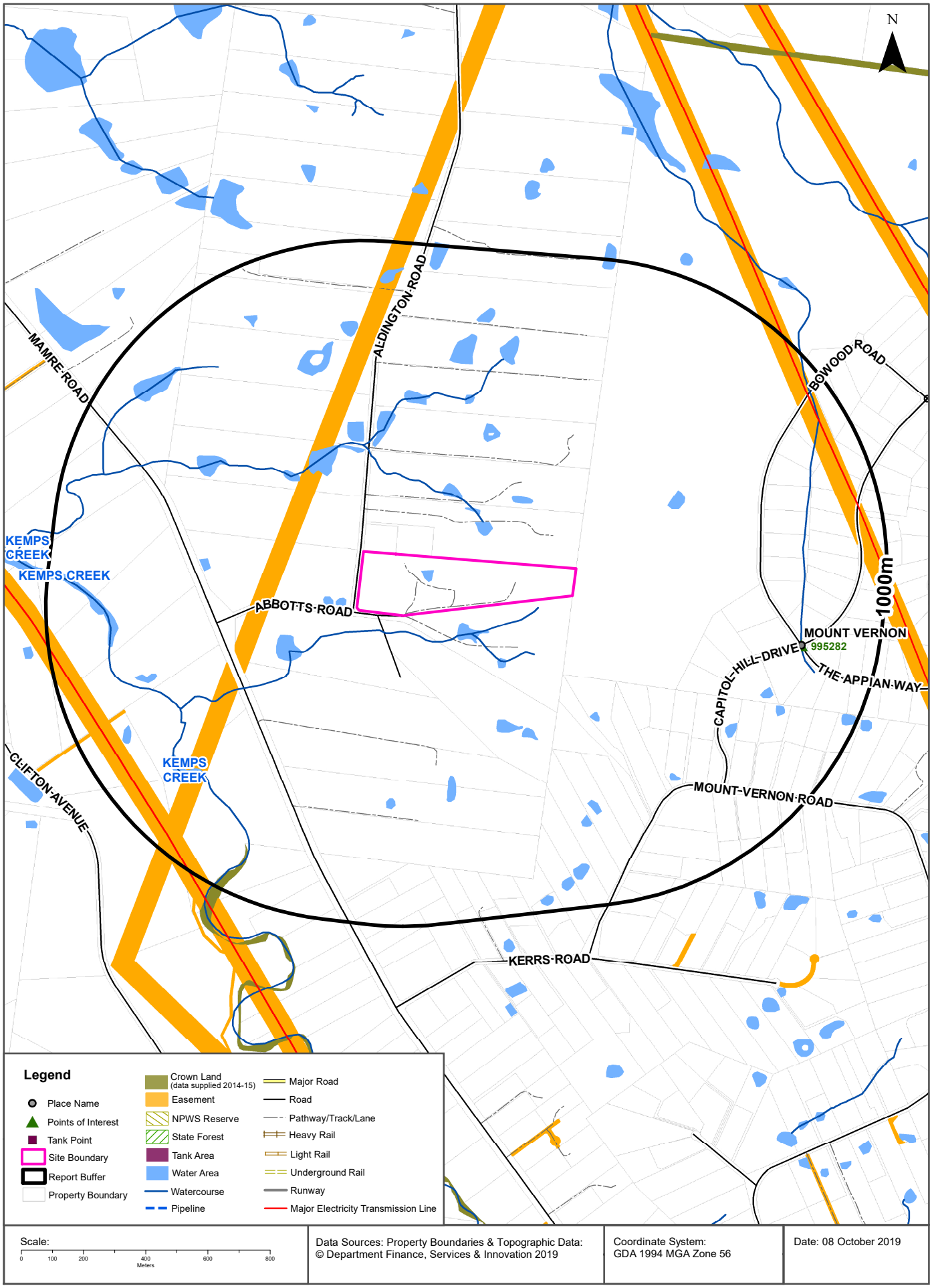
Data Sources: Australia 1:63360, Produced by Australian Section Imperial General Staff

Coordinate System: GDA 1994 MGA Zone 56

Date: 08 October 2019

Topographic Features

290-308 Aldington Road, Kemps Creek, NSW 2178



Topographic Features

290-308 Aldington Road, Kemps Creek, NSW 2178

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
995282	Suburb	MOUNT VERNON	752m	East

Topographic Features

290-308 Aldington Road, Kemps Creek, NSW 2178

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
	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
	No records in buffer					

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
120115487	Primary	Undefined		217m	North
120120854	Primary	Undefined		817m	South West
120111578	Primary	Undefined		862m	North
120112693	Primary	Undefined		870m	North West
120119388	Primary	Undefined		902m	South West
120116055	Primary	Undefined		924m	East

Topographic Features

290-308 Aldington Road, Kemps Creek, NSW 2178

State Forest

What State Forest exist within the dataset buffer?

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

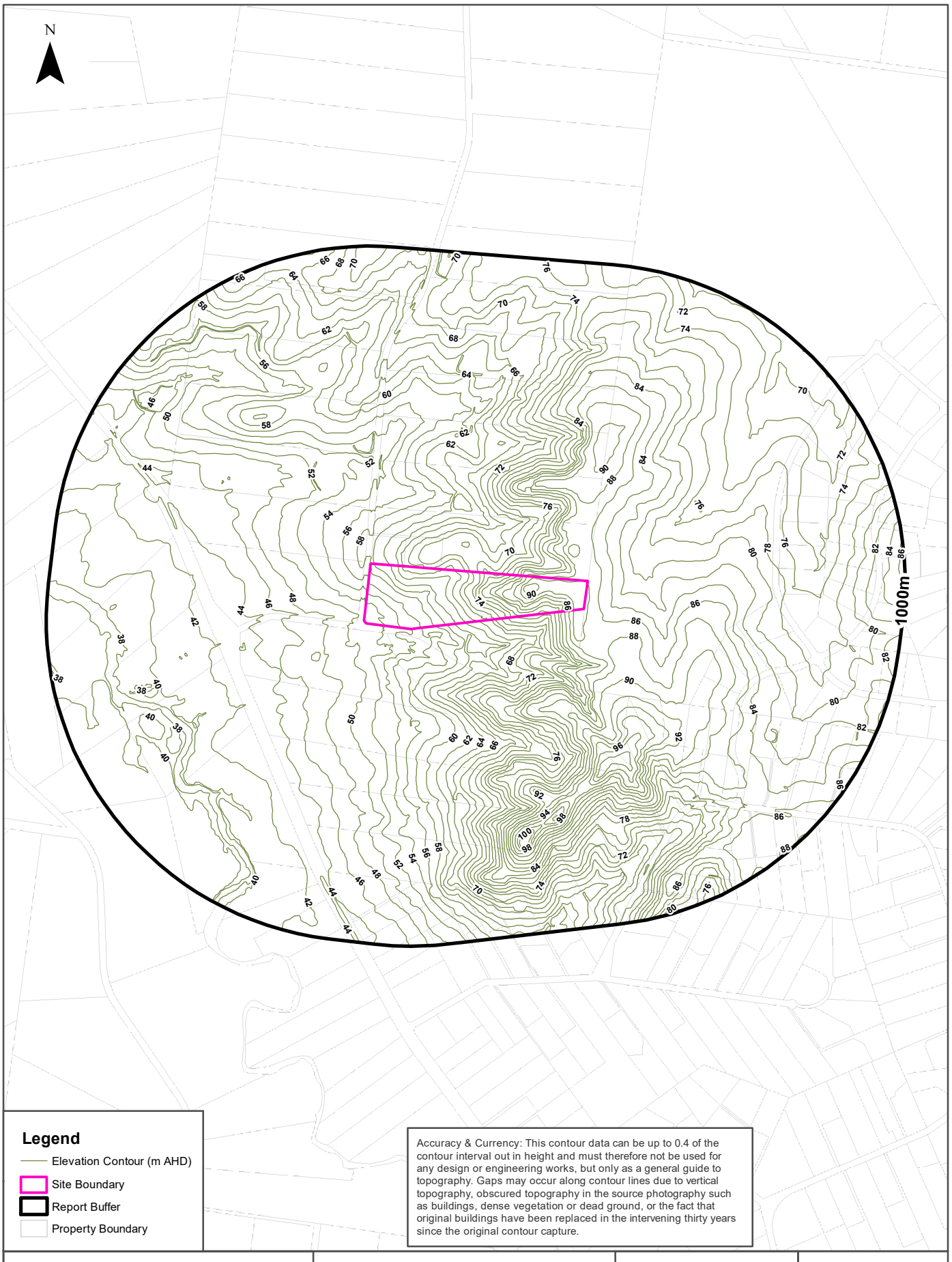
National Parks and Wildlife Service Reserves

What NPWS Reserves exist within the dataset buffer?

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

Elevation Contours (m AHD)

290-308 Aldington Road, Kemps Creek, NSW 2178



Hydrogeology & Groundwater

290-308 Aldington Road, Kemps Creek, NSW 2178

Hydrogeology

Description of aquifers on-site:

Description
Porous, extensive aquifers of low to moderate productivity

Description of aquifers within the dataset buffer:

Description
Porous, extensive aquifers of low to moderate productivity

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

Botany Groundwater Management Zones

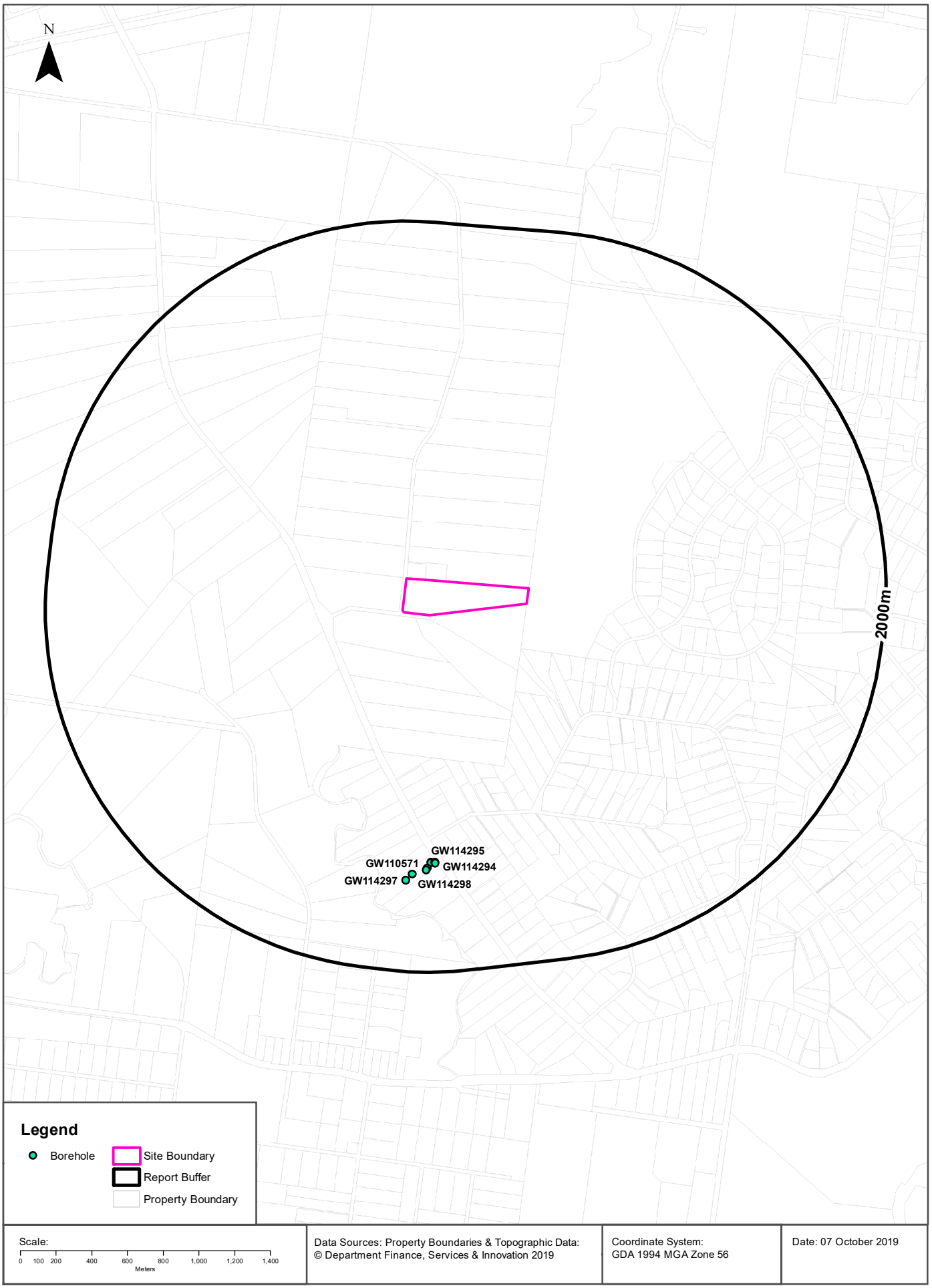
Groundwater management zones relating to the Botany Sand Beds aquifer within the dataset buffer:

Management Zone No.	Restriction	Distance	Direction
N/A	No records in buffer		

Botany Groundwater Management Zones Data Source : NSW Department of Primary Industries

Groundwater Boreholes

290-308 Aldington Road, Kemps Creek, NSW 2178



Hydrogeology & Groundwater

290-308 Aldington Road, Kemps Creek, NSW 2178

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)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW114295	10BL604605	Bore	Private	Monitoring Bore	Monitoring Bore		28/04/2011	6.00	6.00					1385m	South
GW114294	10BL604605	Bore	Private	Monitoring Bore	Monitoring Bore		28/04/2011	6.00	6.00					1385m	South
GW110570	10BL603558	Bore	Private	Monitoring Bore	Monitoring Bore		25/08/2009	12.00	6.00		4.40			1386m	South
GW110569	10BL603558	Bore	Private	Monitoring Bore	Monitoring Bore		25/08/2009	6.00	12.00		4.40			1390m	South
GW114296	10BL604605	Bore	Private	Monitoring Bore	Monitoring Bore		28/04/2011	6.00	6.00					1417m	South
GW110571	10BL603558	Bore	Private	Monitoring Bore	Monitoring Bore		25/08/2009	12.00	6.00		4.40			1428m	South
GW114298	10BL604605	Bore	Private	Monitoring Bore	Monitoring Bore		28/04/2011	7.00	7.00					1454m	South
GW114297	10BL604605	Bore	Private	Monitoring Bore	Monitoring Bore		28/04/2011	8.00	8.00					1490m	South

Hydrogeology & Groundwater

290-308 Aldington Road, Kemps Creek, NSW 2178

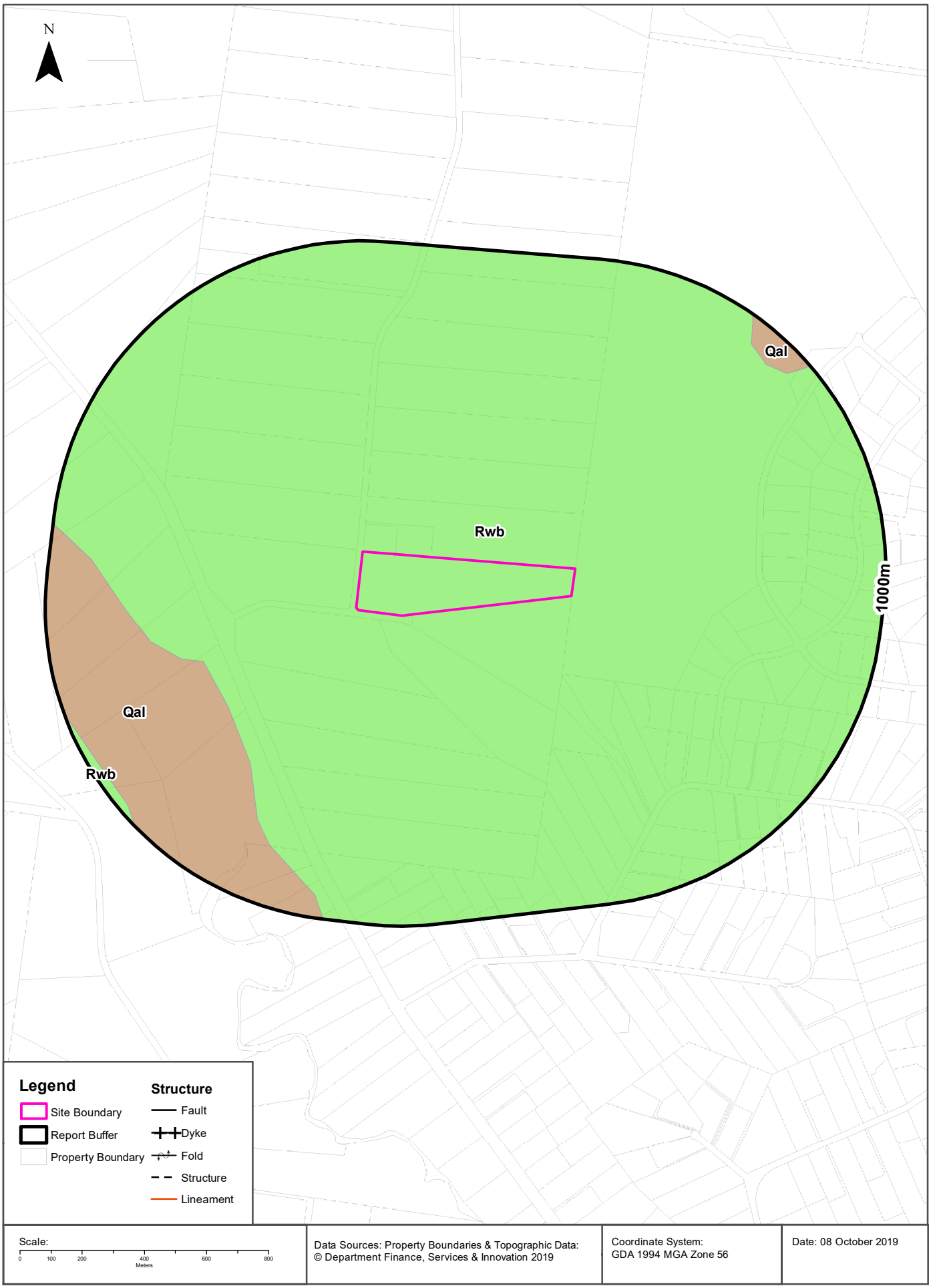
Driller's Logs

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

Groundwater No	Drillers Log	Distance	Direction
GW110570	0.00m-1.00m FILL,SILTY CLAY,BROWN 1.00m-6.00m CLAY SILTY,BROWN	1386m	South
GW110569	0.00m-1.00m FILL, SILTY CLAY BROWN 1.00m-6.00m CLAY SILTY, BROWN	1390m	South
GW110571	0.00m-1.00m FILL,SILTY CLAY,BROWN 1.00m-6.00m CLAY SILTY,BROWN	1428m	South

Geology 1:100,000

290-308 Aldington Road, Kemps Creek, NSW 2178



Geology

290-308 Aldington Road, Kemps Creek, NSW 2178

Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Rwb	Shale, carbonaceous claystone,claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group (undifferentiated)		Middle Triassic		Penrith	1:100,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Qal	Fine-grained sand, silt and clay				Quaternary		Penrith	1:100,000
Rwb	Shale, carbonaceous claystone,claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group (undifferentiated)		Middle Triassic		Penrith	1:100,000

Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

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

Naturally Occurring Asbestos Potential

290-308 Aldington Road, Kemps Creek, NSW 2178

Naturally Occurring Asbestos Potential

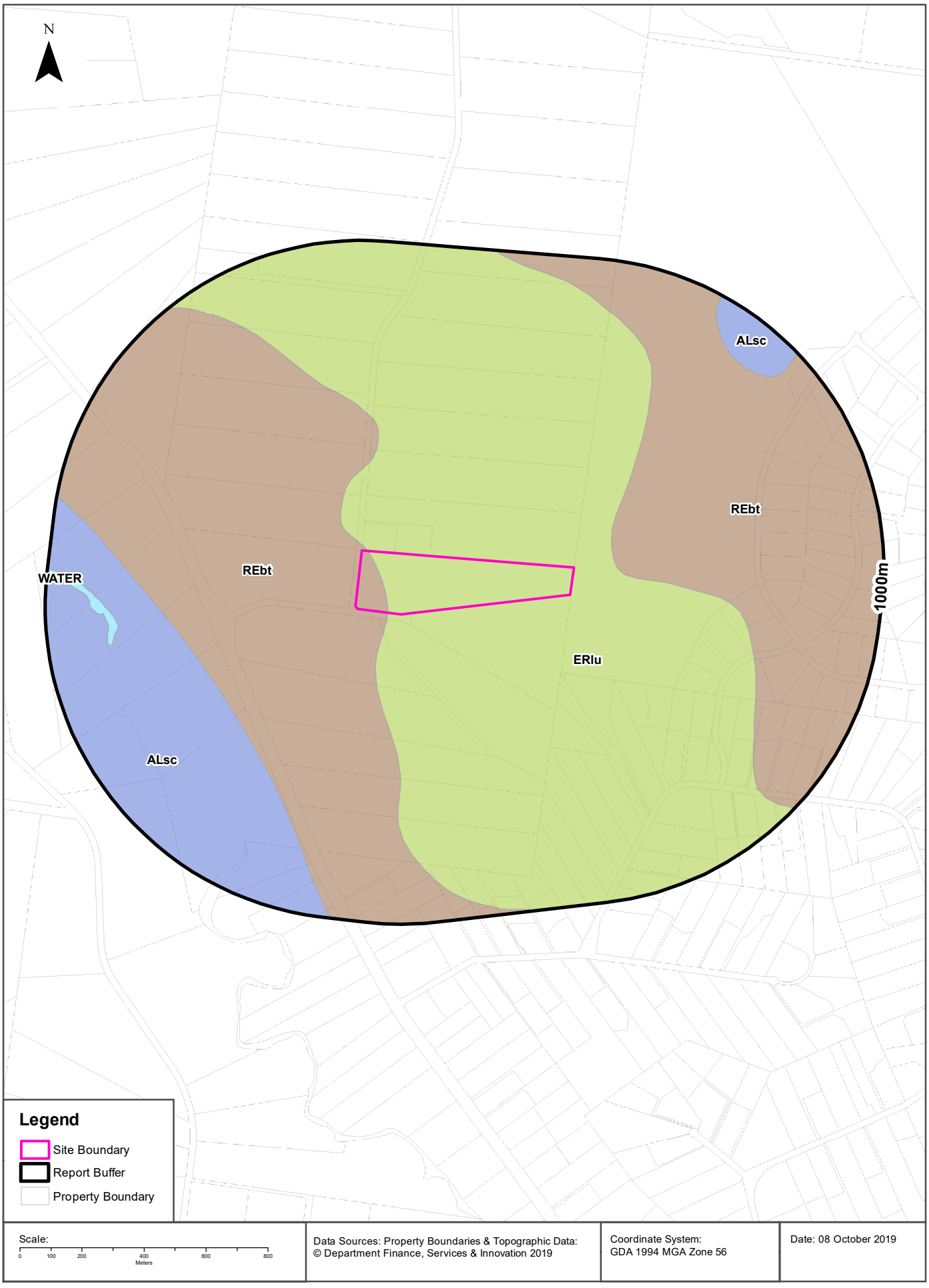
Naturally Occurring Asbestos Potential within the dataset buffer:

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

Mining Subsidence District Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

Soil Landscapes

290-308 Aldington Road, Kemps Creek, NSW 2178



Soils

290-308 Aldington Road, Kemps Creek, NSW 2178

Soil Landscapes

What are the onsite Soil Landscapes?

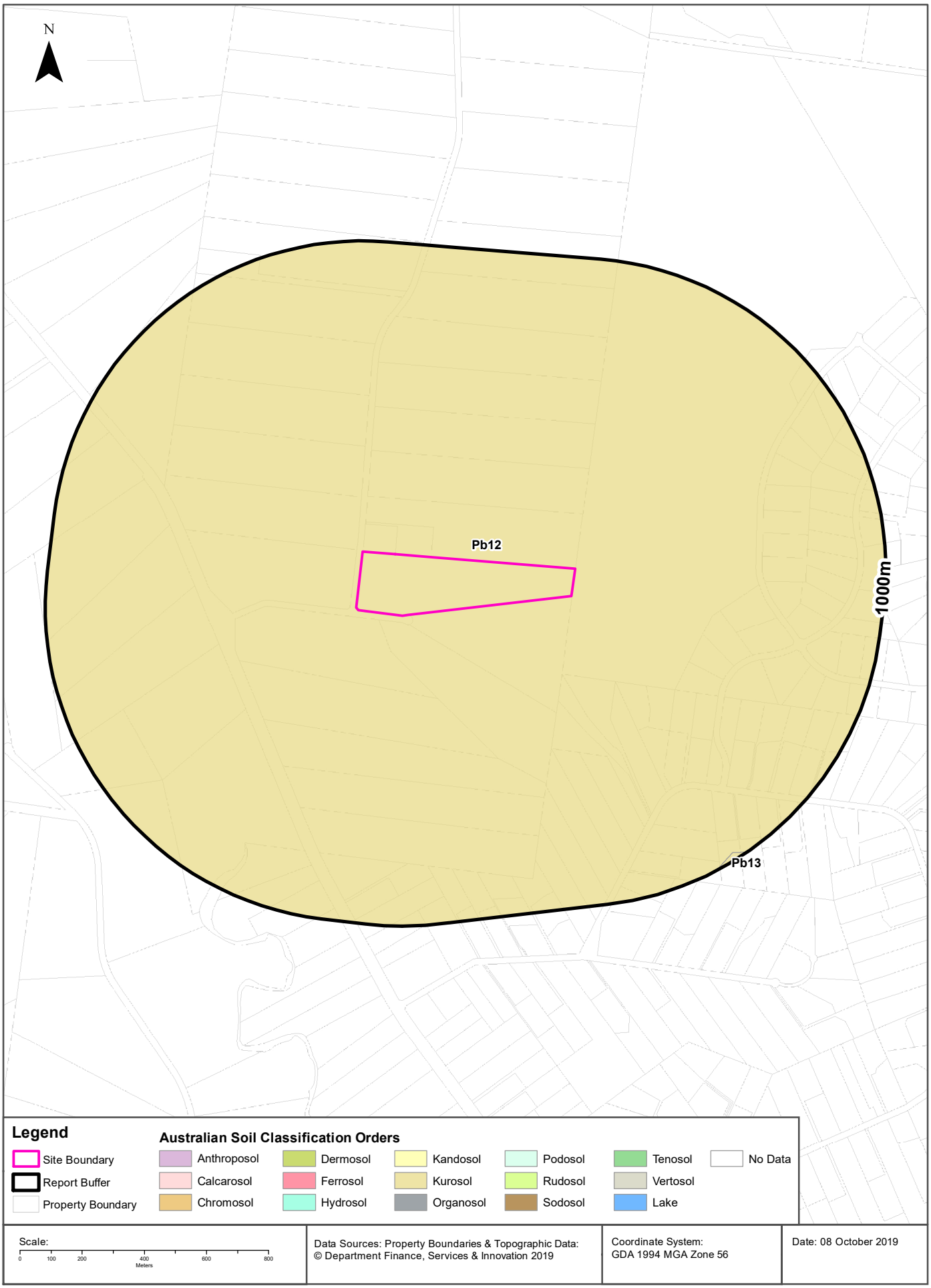
Soil Code	Name	Group	Process	Map Sheet	Scale
ERlu	LUDDENHAM		EROSIONAL	Penrith	1:100,000
REbt	BLACKTOWN		RESIDUAL	Penrith	1:100,000

What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
ALsc	SOUTH CREEK		ALLUVIAL	Penrith	1:100,000
ERlu	LUDDENHAM		EROSIONAL	Penrith	1:100,000
REbt	BLACKTOWN		RESIDUAL	Penrith	1:100,000
WATER	WATER		WATER	Penrith	1:100,000

Atlas of Australian Soils

290-308 Aldington Road, Kemps Creek, NSW 2178



Soils

290-308 Aldington Road, Kemps Creek, NSW 2178

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
Pb12	Kurosol	Gently rolling to rounded hilly country with some steep slopes and broad valleys: chief soils are hard acidic red soils (Dr2.21) with hard neutral and acidic yellow mottled soils (Dy3.42 and Dy3.41) on lower slopes and in valleys. Associated are small areas of various soils including (Gn3.54) on some ridges, (Dr3.31) on some slopes; (Dr2.23) in saddles and some mid-slope positions, and some low- lying swampy areas of (Uf6) soils and (Uc1.2) soils with peaty surfaces. Small areas of other soils such as (Db1.2) are likely throughout.	0m
Pb13	Kurosol	Ridge and valley country of gently undulating ridge tops and steep side slopes often with slumping, also rounded hilly to steep hilly areas and relatively narrow valleys: chief soils are hard acidic red soils (Dr2.21) with hard acidic yellow mottled soils (Dy3.41); in places some ironstone gravels occur in both these soils. Associated are hard neutral and alkaline red soils (Dr2.22 and Dr2.23) in saddles and some mid-slope positions; (Dy3.42 and Dy3.43) soils, usually in depressions; and small areas of undescribed soils in wet soaks and valley areas. Small areas of other soils are likely throughout.	974m

Acid Sulfate Soils

290-308 Aldington Road, Kemps Creek, NSW 2178

Environmental Planning Instrument - Acid Sulfate Soils

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

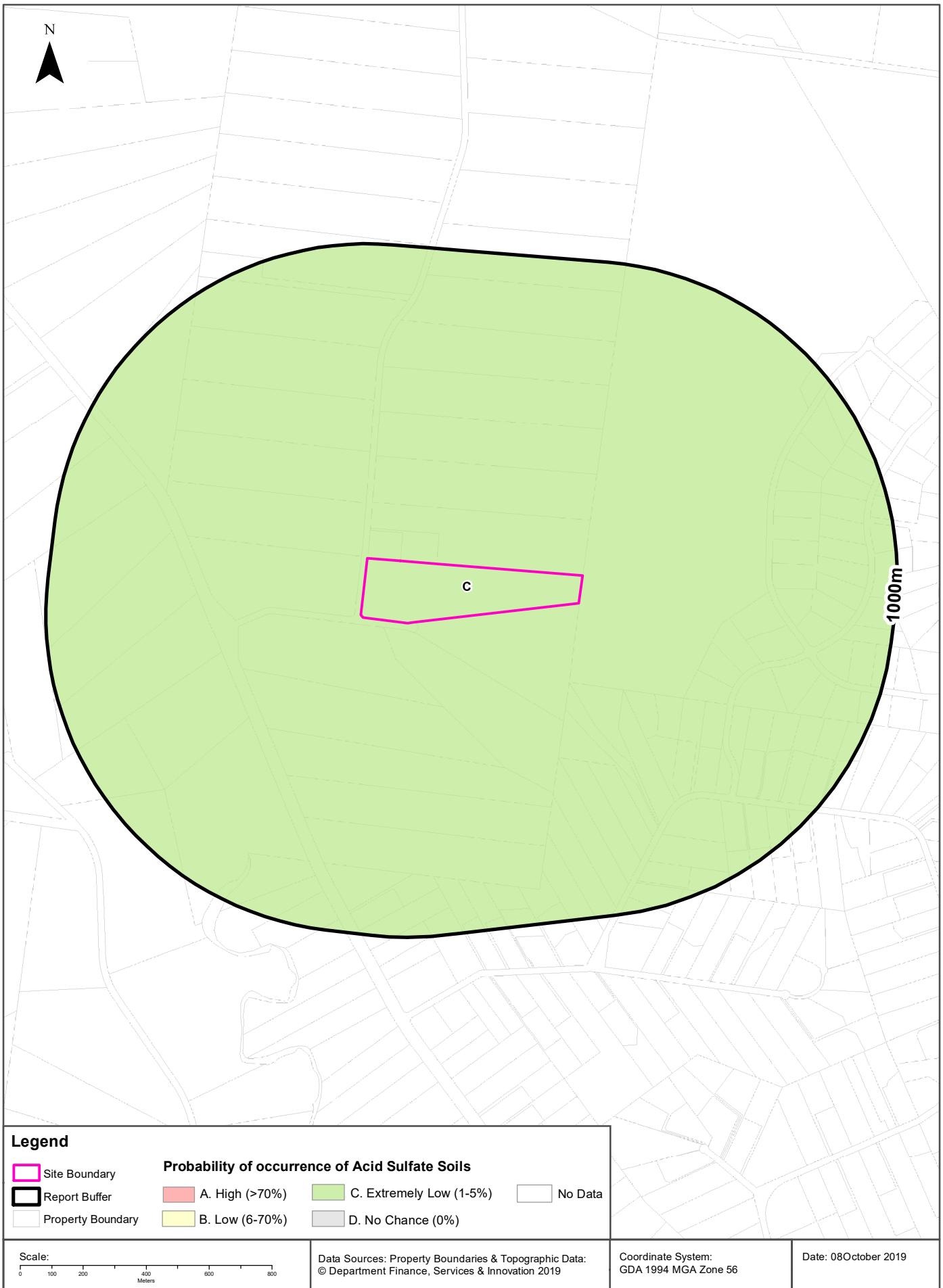
Soil Class	Description	EPI Name
N/A		

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

290-308 Aldington Road, Kemps Creek, NSW 2178



Acid Sulfate Soils

290-308 Aldington Road, Kemps Creek, NSW 2178

Atlas of Australian Acid Sulfate Soils

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

Class	Description	Distance
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m

Dryland Salinity

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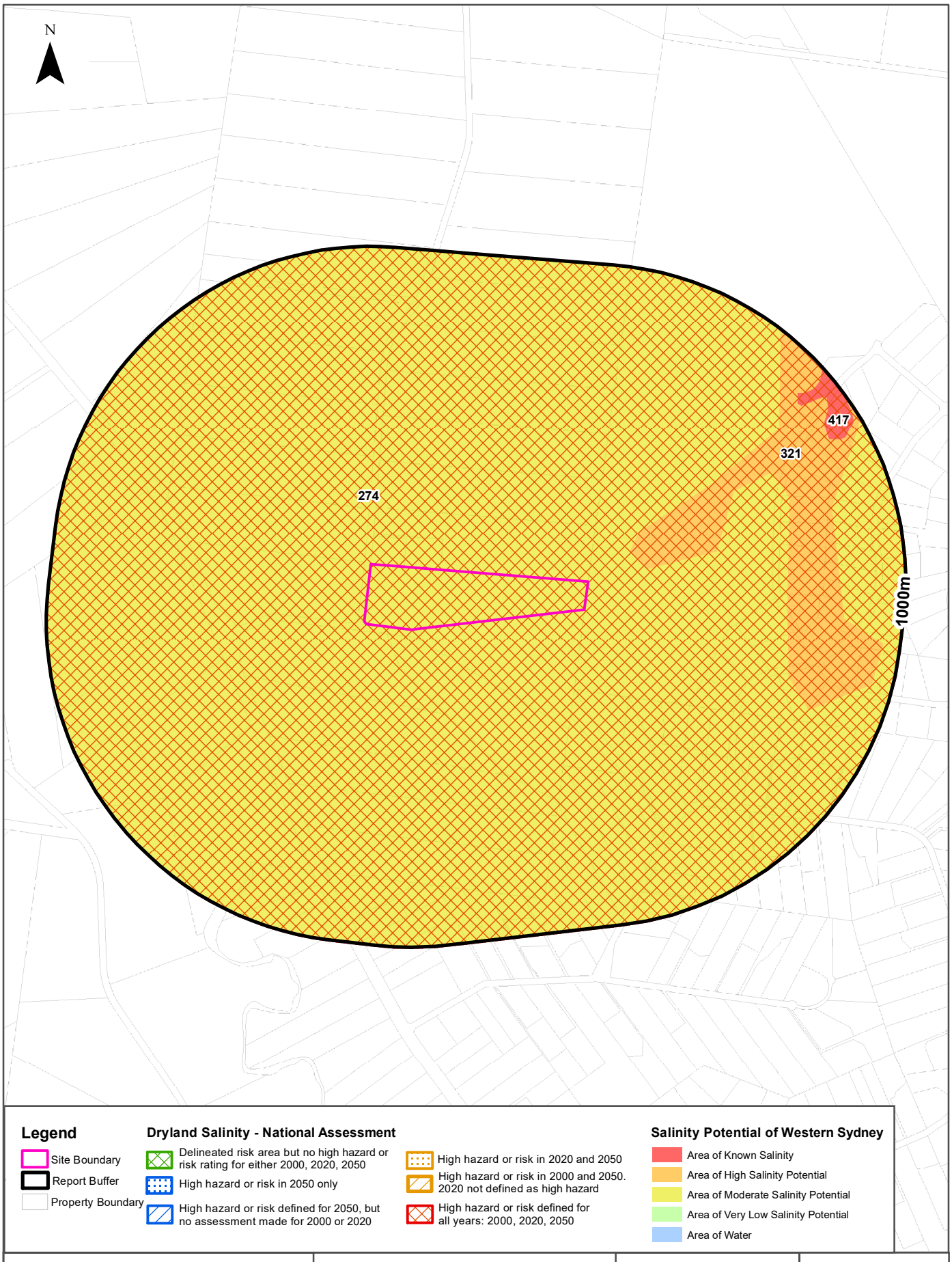


Dryland Salinity

290-308 Aldington Road, Kemps Creek, NSW 2178

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

Yes

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

Yes

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
High hazard or risk	High hazard or risk	High hazard or risk	0m	Onsite

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.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
274	MODERATE	Area of Moderate Salinity Potential	0m	Onsite
321	HIGH	Area of High Salinity Potential	161m	North
417	SALT	Area of Known Salinity	867m	North East

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage

Mining Subsidence Districts

290-308 Aldington Road, Kemps Creek, NSW 2178

Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

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

State Environmental Planning Policy

290-308 Aldington Road, Kemps Creek, NSW 2178

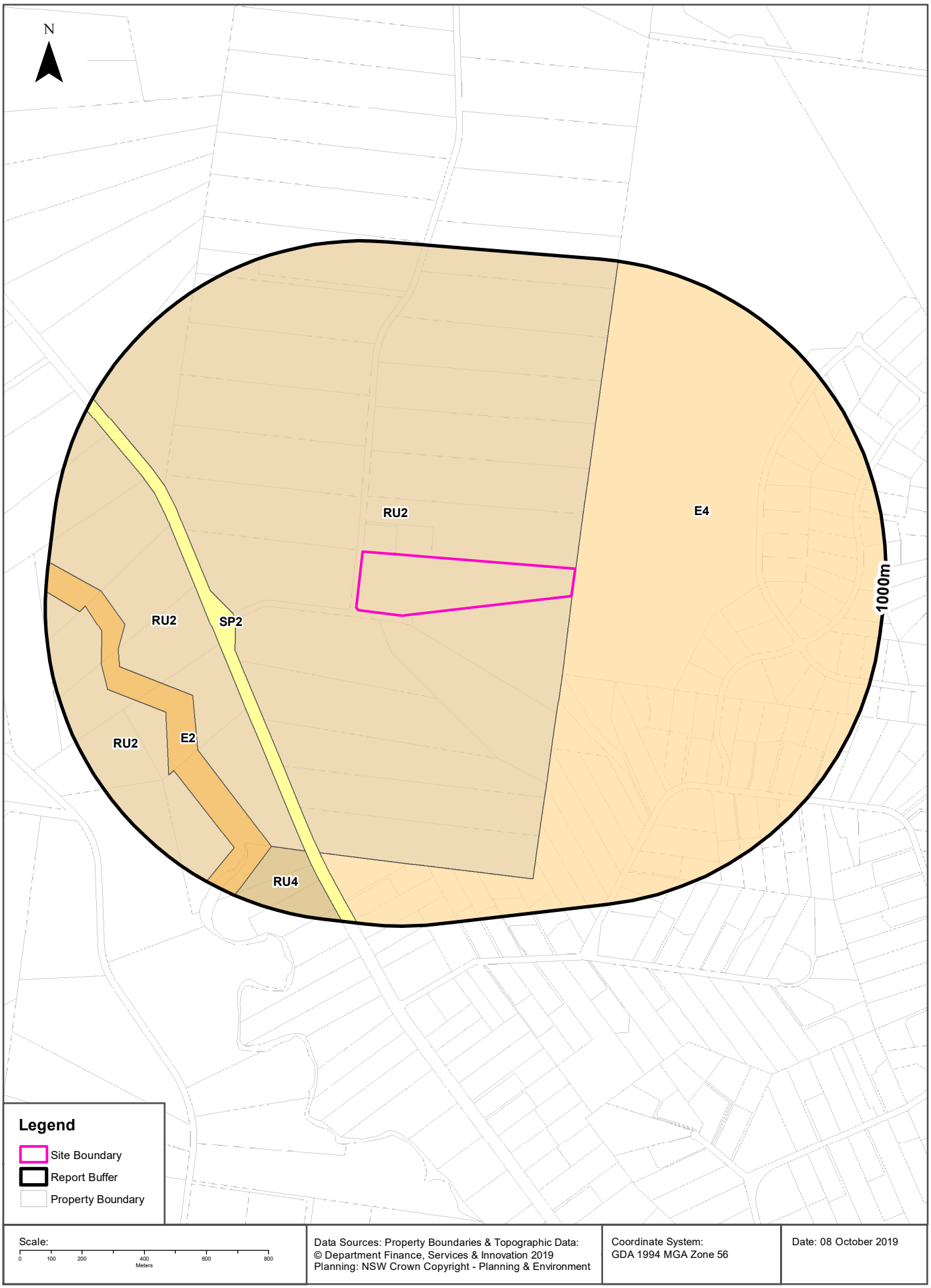
State Significant Precincts

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

290-308 Aldington Road, Kemps Creek, NSW 2178



Environmental Planning Instrument

290-308 Aldington Road, Kemps Creek, NSW 2178

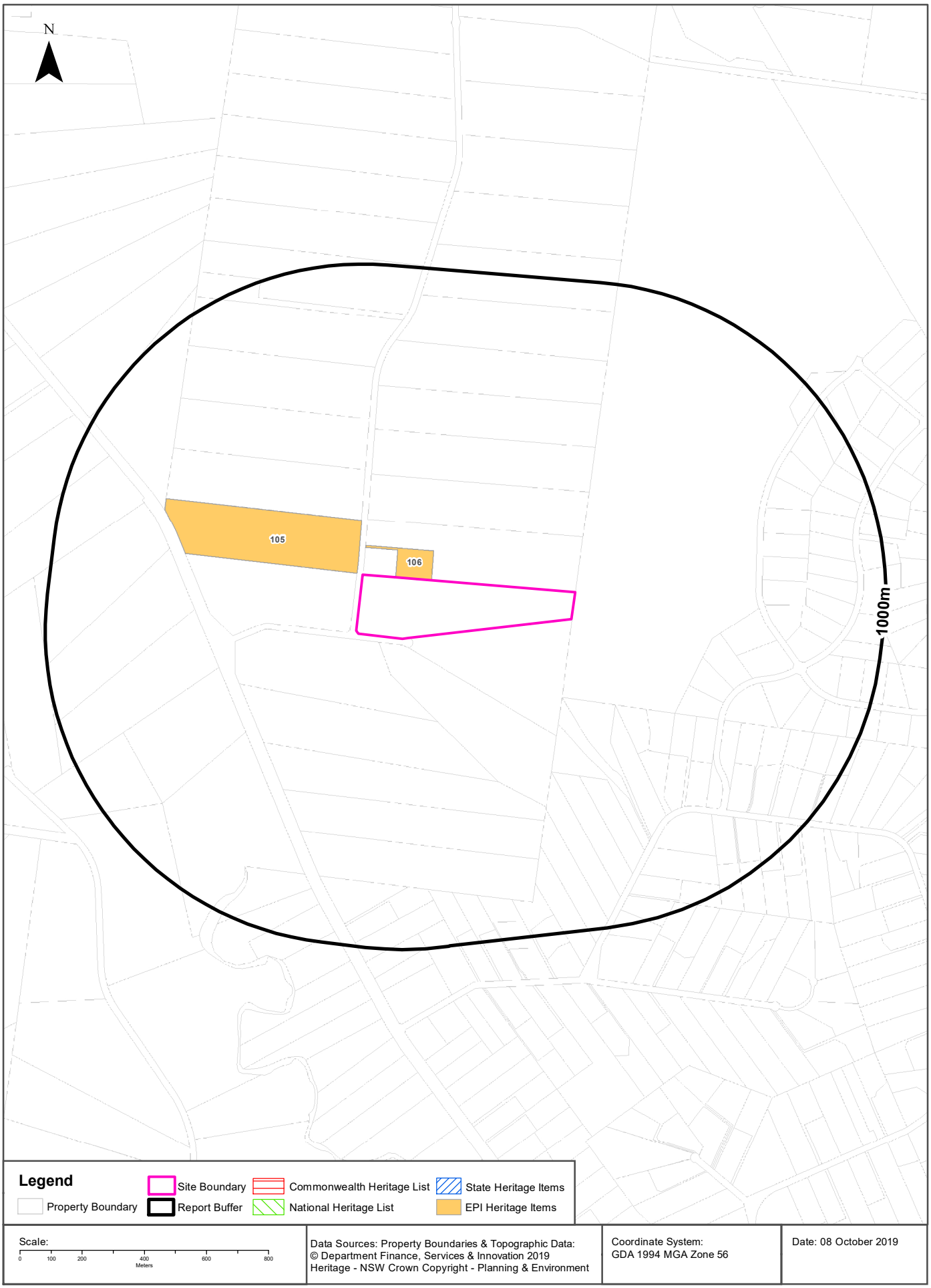
Land Zoning

What EPI Land Zones exist within the dataset buffer?

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RU2	Rural Landscape		Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	27/09/2019		0m	Onsite
E4	Environmental Living		Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	27/09/2019		0m	South East
SP2	Infrastructure	Classified Road	Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	27/09/2019		391m	West
RU2	Rural Landscape		Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	27/09/2019		453m	North West
E2	Environmental Conservation		Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	27/09/2019		598m	West
RU2	Rural Landscape		Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	27/09/2019		699m	South West
RU4	Primary Production Small Lots		Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	27/09/2019		793m	South

Heritage Items

290-308 Aldington Road, Kemps Creek, NSW 2178



Heritage

290-308 Aldington Road, Kemps Creek, NSW 2178

Commonwealth Heritage List

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

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

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

National Heritage List

What are the National Heritage List Items located within the dataset buffer?
Note. Please click on Place Id to activate a hyperlink to online website.

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

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

State Heritage Register - Curtilages

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

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
N/A	No records in buffer							

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

Environmental Planning Instrument - Heritage

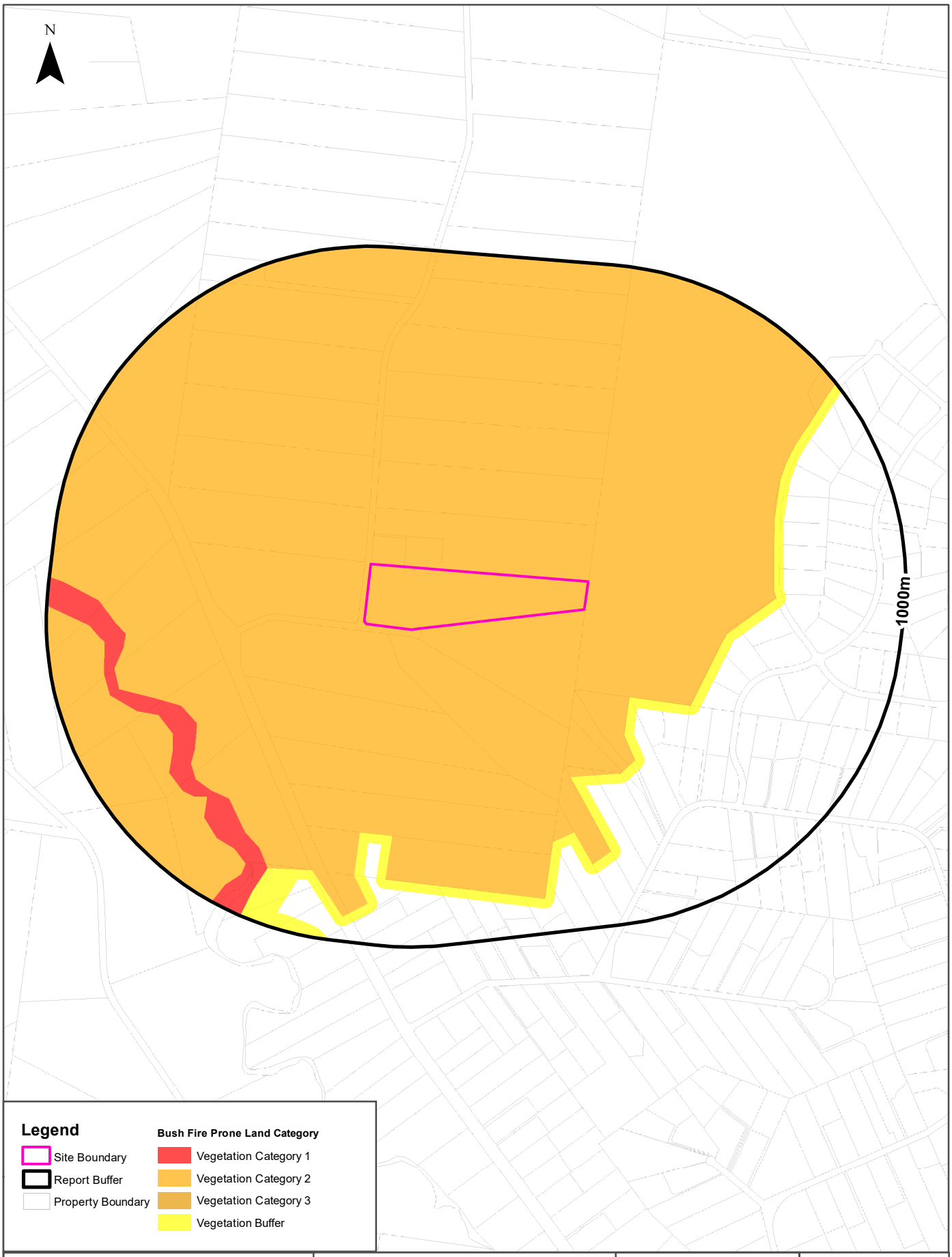
What are the EPI Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
106	Farmhouse	Item - General	Local	Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	27/09/2019	0m	North West
105	Gateposts to Colesbrook	Item - General	Local	Penrith Local Environmental Plan 2010	22/09/2010	22/09/2010	27/09/2019	20m	West

Heritage Data Source: NSW Crown Copyright - Planning & Environment

Natural Hazards - Bush Fire Prone Land

290-308 Aldington Road, Kemps Creek, NSW 2178



Data Sources: Bush Fire Prone Land: © NSW Rural Fire Service 2019. Property Boundaries: © Department Finance, Services & Innovation 2019

Coordinate System: GDA 1994 MGA Zone 56

Date: 08 October 2019

Natural Hazards

290-308 Aldington Road, Kemps Creek, NSW 2178

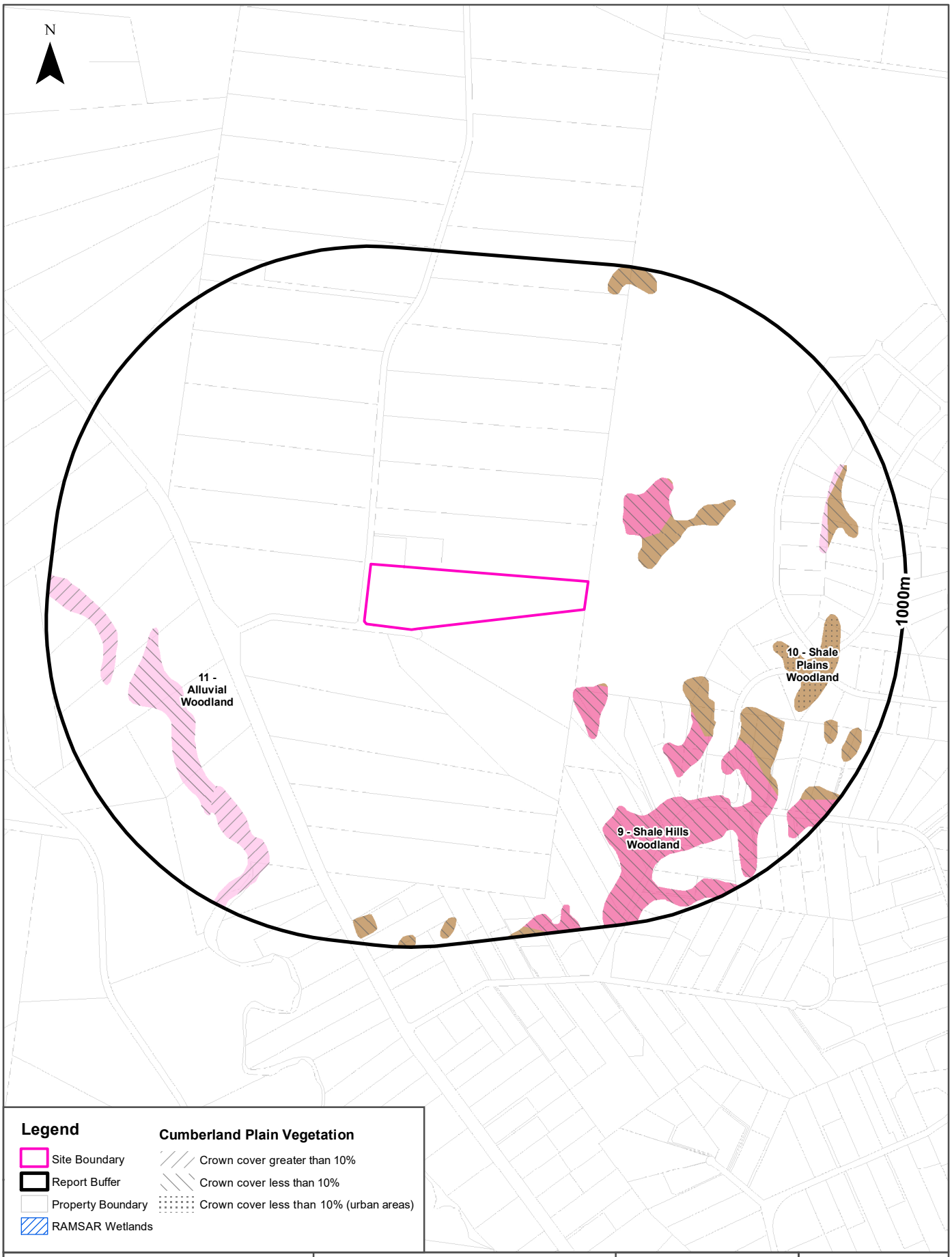
Bush Fire Prone Land

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

Bush Fire Prone Land Category	Distance	Direction
Vegetation Category 2	0m	Onsite
Vegetation Buffer	308m	South West
Vegetation Category 1	616m	South West

Ecological Constraints - Remnant Vegetation of the Cumberland Plain

290-308 Aldington Road, Kemps Creek, NSW 2178



Ecological Constraints

290-308 Aldington Road, Kemps Creek, NSW 2178

Remnant Vegetation of the Cumberland Plain

What remnant vegetation of the Cumberland Plain exists within the dataset buffer?

Description	Crown Cover	Distance	Direction
10 - Shale Plains Woodland	Crown cover less than 10%	170m	East
9 - Shale Hills Woodland	Crown cover less than 10%	192m	North East
10 - Shale Plains Woodland	Crown cover less than 10% (urban areas)	601m	East
11 - Alluvial Woodland	Crown cover less than 10%	610m	South West
11 - Alluvial Woodland	Crown cover greater than 10%	684m	South West

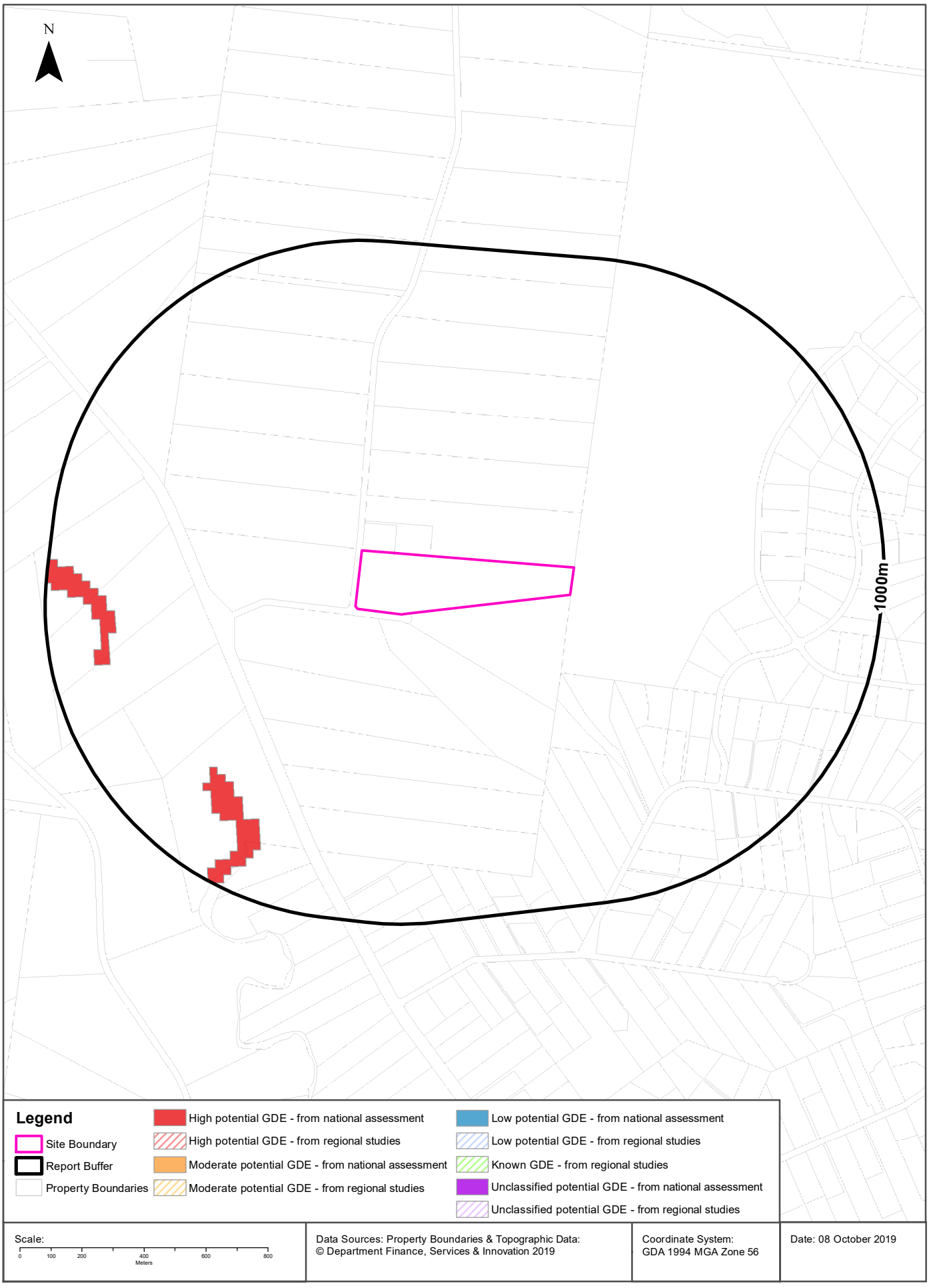
Ramsar Wetlands

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

290-308 Aldington Road, Kemps Creek, NSW 2178



Ecological Constraints

290-308 Aldington Road, Kemps Creek, NSW 2178

Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	High potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	680m

Ecological Constraints - Inflow Dependent Ecosystems Likelihood

290-308 Aldington Road, Kemps Creek, NSW 2178

Ecological Constraints

290-308 Aldington Road, Kemps Creek, NSW 2178

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	10	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	680m
Terrestrial	9	Undulating to low hilly country, mainly on shale.	Vegetation	Unconsolidated sedimentary	775m

Ecological Constraints

290-308 Aldington Road, Kemps Creek, NSW 2178

NSW BioNet Atlas

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

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Ardea ibis	Cattle Egret	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Burhinus grallarius	Bush Stone-curlew	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calyptorhynchus banksii samueli	Red-tailed Black-Cockatoo (inland subspecies)	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Certhionyx variegatus	Pied Honeyeater	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Chthonicola sagittata	Speckled Warbler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Circus assimilis	Spotted Harrier	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Falco subniger	Black Falcon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; 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	CAMBA
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Lophochroa leadbeateri	Major Mitchell's Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Merops ornatus	Rainbow Bee-eater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Neophema splendida	Scarlet-chested Parrot	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pezoporus wallicus wallicus	Eastern Ground Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Plegadis falcinellus	Glossy Ibis	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Rostratula australis	Australian Painted Snipe	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Todiramphus chloris	Collared Kingfisher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Gastropoda	Meridolum corneovirens	Cumberland Plain Land Snail	Endangered	Not Sensitive	Not Listed	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus australis	Little Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Reptilia	Lucasium stenodactylum	Crowned Gecko	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia pubescens	Downy Wattle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Argyrotegium nitidulum	Shining Cudweed	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Cynanchum elegans	White-flowered Wax Plant	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Dillwynia tenuifolia		Endangered Population, Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Dillwynia tenuifolia		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus leucoxylon subsp. pruinosa	Yellow Gum	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus scoparia	Wallangarra White Gum	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Grevillea juniperina subsp. juniperina	Juniper-leaved Grevillea	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Isotoma fluviatilis subsp. fluviatilis		Not Listed	Not Sensitive	Extinct	
Plantae	Flora	Macadamia integrifolia	Macadamia Nut	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Marsdenia viridiflora subsp. viridiflora	Native Pear	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Persoonia nutans	Nodding Geebung	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pimelea curviflora var. curviflora		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Pimelea spicata	Spiked Rice-flower	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pterostylis saxicola	Sydney Plains Greenhood	Endangered	Category 2	Endangered	
Plantae	Flora	Pultenaea parviflora		Endangered	Not Sensitive	Vulnerable	

Data does not include NSW category 1 sensitive species.

Data obtained 04/10/2019

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      (i) content provided to Lotsearch by third party content suppliers with whom Lotsearch has contractual arrangements or content which is freely available or methodologies licensed to Lotsearch by third parties with whom Lotsearch has contractual arrangements (**Third Party Content Suppliers**); and
      (ii) content which is derived from content described in paragraph (i);
   (b) Neither Lotsearch nor Third Party Content Suppliers takes any responsibility for or give any warranty in relation to the accuracy or completeness of any Third Party Content included in the Report including any contaminated land assessment or other assessment included as part of a Report;
   (c) the Third Party Content Suppliers do not constitute an exhaustive set of all repositories or sources of information available in relation to the property which is the subject of the Report (**Property**) and accordingly neither Lotsearch nor Third Party Content Suppliers gives any warranty in relation to the accuracy or completeness of the Third Party Content incorporated into the report including any contaminated land assessment or other assessment included as part of a Report;
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   (e) Reports must be used or reproduced in their entirety and End User must not reproduce or make available to other persons only parts of the Report;
   (f) Lotsearch has not undertaken any physical inspection of the property;
   (g) neither Lotsearch nor Third Party Content Suppliers warrants that all land uses or features whether past or current are identified in the Report;
   (h) the Report does not include any information relating to the actual state or condition of the Property;
   (i) the Report should not be used or taken to indicate or exclude actual fitness or unfitness of Land or Property for any particular purpose
   (j) the Report should not be relied upon for determining saleability or value or making any other decisions in relation to the Property and in particular should not be taken to be a rating or assessment of the desirability or market value of the property or its features; and
   (k) the End User should undertake its own inspections of the Land or Property to satisfy itself that there are no defects or failures
2. The End User may not make the Report or any copies or extracts of the report or any part of it available to any other person. If End User wishes to provide the Report to any other person or make extracts or copies of the Report, it must contact the purchaser of the Report before doing so to ensure the proposed use is consistent with the contract terms between Lotsearch and the purchaser.
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4. The End User hereby to the maximum extent permitted by law:
   (a) acknowledges that the Lotsearch (nor any of its officers, employees or agents), nor any of its Third Party Content Supplier have any liability to it under or in connection with the

Report or these Terms;

(b) waives any right it may have to claim against Third Party Content Supplier in connection with the Report, or the negotiation of, entry into, performance of, or termination of these Terms; and

(c) releases each Third Party Content Supplier from any claim it may have otherwise had in connection with the Report, or the negotiation of, entry into, performance of, or termination of these Terms.

5. The End User acknowledges that any Third Party Supplier shall be entitled to plead the benefits conferred on it under clause 4, despite not being a party to these terms.
6. End User must not remove any copyright notices, trade marks, digital rights management information, other embedded information, disclaimers or limitations from the Report or authorise any person to do so.
7. End User acknowledges and agrees that Lotsearch and Third Party Content Suppliers retain ownership of all copyright, patent, design right (registered or unregistered), trade marks (registered or unregistered), database right or other data right, moral right or know how or any other intellectual property right in any Report or any other item, information or data included in or provided as part of a Report.
8. To the extent permitted by law and subject to paragraph 9, all implied terms, representations and warranties whether statutory or otherwise relating to the subject matter of these Terms other than as expressly set out in these Terms are excluded.
9. Subject to paragraph 6, Lotsearch excludes liability to End User for loss or damage of any kind, however caused, due to Lotsearch's negligence, breach of contract, breach of any law, in equity, under indemnities or otherwise, arising out of all acts, omissions and events whenever occurring.
10. Lotsearch acknowledges that if, under applicable State, Territory or Commonwealth law, End User is a consumer certain rights may be conferred on End User which cannot be excluded, restricted or modified. If so, and if that law applies to Lotsearch, then, Lotsearch's liability is limited to the greater of an amount equal to the cost of resupplying the Report and the maximum extent permitted under applicable laws.
11. Subject to paragraph 9, neither Lotsearch nor the End User is liable to the other for:

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

    (b) any loss of profit, loss of revenue, loss of interest, loss of data, loss of goodwill or loss of business opportunities, business interruption arising directly or indirectly out of or in relation to the Report or these Terms,

    irrespective of how that liability arises including in contract or tort, liability under indemnity or for any other common law, equitable or statutory cause of action or otherwise.
12. These Terms are subject to New South Wales law.

APPENDIX E

PLANNING CERTIFICATE

PENRITH CITY COUNCIL

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PO Box 60 Penrith NSW 2751

Telephone: 02 4732 7777
Facsimile: 02 4732 7958

Email: pencit@penrithcity.nsw.gov.au

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

Property No: 104899
Your Reference:
Contact No:

Issue Date: 02 October 2019
Certificate No: 19/03963

Issued to: Alliance Geotechnical
10 Welder Road
SEVEN HILLS

PRECINCT 2010

DESCRIPTION OF LAND

County: CUMBERLAND **Parish: MELVILLE**

Location: 290-308 Aldington Road KEMPS CREEK NSW 2178
Land Description: Lot 13 DP 253503

- PART 1 PRESCRIBED MATTERS –

In accordance with the provisions of Section 10.7(2) of the Act the following information is furnished in respect of the abovementioned land:

1 *NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs*

1(1) The name of each environmental planning instrument that applies to the carrying out of development on the land:

Penrith Local Environmental Plan 2010, published 22nd September 2010, as amended, applies to the land.

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, as amended, applies to the local government area of Penrith (except land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies).

The following State environmental planning policies apply to the land (subject to the exclusions noted below):

State Environmental Planning Policy No.1 - Development Standards. (Note: This policy does not apply to the land to which Penrith Local Environmental Plan 2010 or State Environmental Planning Policy (Western Sydney Employment Area) 2009 apply.)
State Environmental Planning Policy No.19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916.)
State Environmental Planning Policy No.21 - Caravan Parks.
State Environmental Planning Policy No.33 - Hazardous and Offensive Development.

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State Environmental Planning Policy No.50 - Canal Estate Development. (Note: This policy does not apply to the land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies.
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 (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4 of the policy.)
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.
State Environmental Planning Policy (State Significant Precincts) 2005.
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2013.
State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007.
State Environmental Planning Policy (Infrastructure) 2007.
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
State Environmental Planning Policy (Affordable Rental Housing) 2009.
State Environmental Planning Policy (State and Regional Development) 2011.
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017.
State Environmental Planning Policy (Education Establishments and Child Care Centre Facilities) 2017.
State Environmental Planning Policy (Primary Production and Rural Development) 2019.
State Environmental Planning Policy (Western Sydney Employment Area) 2009 applies to the land.

1(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:

An Annual Update Amendment Planning Proposal applies to this land.

The Planning Proposal seeks to resolve several policy changes, contemporise certain elements and undertake "housekeeping" changes which are minor in nature. (See www.penrithcity.nsw.gov.au for details).

Draft State Environmental Planning Policy (Western Sydney Corridors) may apply to the land. Further information is available here: https://www.transport.nsw.gov.au/corridors.

On 22 June 2018, the NSW Government announced changes to the recommended alignments for the Western Sydney corridors, including continuing with the previously gazetted 1951 corridor for the Bells Line of Road Castlereagh Connection.

Draft State Environmental Planning Policy (Primary Production & Rural Development) applies to the land.

Draft State Environmental Planning Policy (Environment) applies to the land.

Draft State Environmental Planning Policy (Remediation of Land) applies to the land.

Draft Standard Instrument (Local Environmental Plans) Order 2006 applies to the land.

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Draft State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 applies to the land.

1(3) The name of each development control plan that applies to the carrying out of development on the land:

Penrith Development Control Plan 2014 applies to the land.

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):

2(a)-(d) the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. Any zone(s) applying to the land is/are listed below and/or in annexures.

(Note: If no zoning appears in this section see section 1(1) for zoning and land use details (under the Sydney Regional Environmental Plan or State Environmental Planning Policy that zones this property).)

Zone RU2 Rural Landscape
(Penrith Local Environmental Plan 2010)

1 Objectives of zone

To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
To maintain the rural landscape character of the land.
To provide for a range of compatible land uses, including extensive agriculture.
To minimise conflict between land uses within the zone and land uses within adjoining zones.
To preserve and improve natural resources through appropriate land management practices.
To ensure development is compatible with the environmental capabilities of the land and does not unreasonably increase the demand for public services or public facilities.

2 Permitted without consent

Extensive agriculture; Home occupations

3 Permitted with consent

Agricultural produce industries; Agriculture; Animal boarding or training establishments; Aquaculture; Building identification signs; Business identification signs; Cellar door premises; Cemeteries; Community facilities; Crematoria; Dual occupancies; Dwelling houses; Environmental facilities; Environmental protection works; Farm buildings; Flood mitigation works; Forestry; Funeral homes; Helipads; Home-based child care; Home businesses; Home industries; Information and education facilities; Places of public worship; Public administration buildings; Recreation areas; Recreation facilities (outdoor); Roads; Roadside stalls; Rural supplies; Schools; Secondary dwellings; Stock and sale yards; Tourist and visitor accommodation; Veterinary hospitals

4 Prohibited

Hotel or motel accommodation; Serviced apartments; Any other development not specified in item 2 or 3

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Flood planning

All or part of the subject land is identified in Penrith Local Environmental Plan 2010 (PLEP 2010) Clause 7.2 Flood Planning. Development consent is required for any development on land to which Clause 7.2 of PLEP 2010 applies.

Rural subdivision

Under the terms of Clause 4.2 of Penrith Local Environmental Plan 2010 land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU4 Primary Production Small Lots or Zone RU6 Transition may, with development consent, be subdivided for the purpose of primary production to create a lot of a size that is less than the minimum size shown on the Penrith Local Environmental Plan 2010 Lot Size Map in relation to that land. Such a lot cannot be created if an existing dwelling would, as a result of the subdivision, be situated on the lot; and a dwelling cannot be erected on such a lot.

Residential development and subdivision prohibited in certain rural, residential and environment protection zones

Under the terms of Clause 4.2A of Penrith Local Environmental Plan 2010 (PLEP 2010) on land within Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU4 Primary Production Small Lots, Zone RU5 Village, Zone R5 Large Lot Residential, Zone E3 Environmental Management or Zone E4 Environmental Living development consent must not be granted for the erection of a dwelling house on a lot resulting from the closure of part or all of a road, whether before or after the commencement of this Plan. This requirement does not apply to a lot created by the consolidation of a lot resulting from a road closure with an adjoining lot that did not result from a road closure.

Additional information relating to Penrith Local Environmental Plan 2010

Note 1: Under the terms of Clause 2.4 of Penrith Local Environmental Plan 2010 development may be carried out on unzoned land only with development consent.

Note 2: Under the terms of Clause 2.6 of Penrith Local Environmental Plan 2010 land may be subdivided but only with development consent, except for the exclusions detailed in the clause.

Note 3: Under the terms of Clause 2.7 of Penrith Local Environmental Plan 2010 the demolition of a building or work may be carried out only with development consent.

Note 4: A temporary use may be permitted with development consent subject to the requirements of Clause 2.8 of Penrith Local Environmental Plan 2010.

Note 5: Under the terms of Clause 4.1A of Penrith Local Environmental Plan 2010, despite any other provision of this plan, development consent must not be granted for dual occupancy on an internal lot in Zone R2 Low Density Residential.

Note 6: Under the terms of Clause 5.1 of Penrith Local Environmental Plan 2010 development on land acquired by an authority of the State under the owner-initiated acquisition provisions may, before it is used for the purpose for which it is reserved, be carried out, with development consent, for any purpose.

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

Note 7: Under the terms of Clause 5.3 of Penrith Local Environmental Plan 2010 development consent may be granted to development of certain land for any purpose that may be carried out in an adjoining zone.

Note 8: Clause 5.10 of Penrith Local Environmental Plan 2010 details when development consent is required/not required in relation to heritage conservation.

Note 9: Under the terms of Clause 5.11 of Penrith Local Environmental Plan 2010 bush fire hazard reduction work authorised by the *Rural Fires Act 1997* may be carried out on any land without development consent.

Note 10: Under the terms of Clause 7.1 of Penrith Local Environmental Plan 2010 (PLEP 2010) development consent is required for earthworks unless the work is exempt development under PLEP 2010 or another applicable environmental planning instrument, or the work is ancillary to other development for which development consent has been given.

Note 11: Sex services premises and restricted premises may only be permitted subject to the requirements of Clause 7.23 of Penrith Local Environmental Plan 2010.

2(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:

(Information is provided in this section only if 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.)

2(f) whether the land includes or comprises critical habitat:

(Information is provided in this section only if the land includes or comprises critical habitat.)

2(g) whether the land is in a conservation area (however described):

(Information is provided in this section only if the land is in a conservation area (however described).)

2(h) whether an item of environmental heritage (however described) is situated on the land:

(Information is provided in this section only if an item of environmental heritage (however described) is situated on the land.)

2A ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY (SYDNEY REGION GROWTH CENTRES) 2006

(Information is provided in this section only if the land is within any zone under State Environmental Planning Policy (Sydney Region Growth Centres) 2006.)

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3 COMPLYING DEVELOPMENT

HOUSING CODE

(The Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

RURAL HOUSING CODE

(The Rural Housing Code only applies if the land is within Zones RU1, RU2, RU3, RU4, RU6 or R5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Rural Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

LOW RISE MEDIUM DENSITY HOUSING CODE

(The Low Rise Medium Density Housing Code only applies if the land is within Zones R1, R2, R3 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Low Rise Medium Density Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

Please note that Council has been deferred from the application of Part 3B of the Low Rise Medium Density Housing Code until 1 July 2020. That Part will not apply to Penrith Local Government Area during this time.

GREENFIELD HOUSING CODE

(The Greenfield Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.)

Complying development under the Greenfield Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.

HOUSING ALTERATIONS CODE

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

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GENERAL DEVELOPMENT CODE

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

COMMERCIAL AND INDUSTRIAL ALTERATIONS CODE

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

SUBDIVISIONS CODE

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

DEMOLITION CODE

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

COMMERCIAL AND INDUSTRIAL (NEW BUILDINGS AND ADDITIONS) CODE

(The Commercial and Industrial (New Buildings and Additions) Code only applies if the land is within Zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Commercial and Industrial (New Buildings and Alterations) Code **may** be carried out on the land if the land is within one of the abovementioned zones.

FIRE SAFETY CODE

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

(NOTE: (1) Council has relied on Planning and Infrastructure Circulars and Fact Sheets in the preparation of this information. Applicants should seek their own legal advice in relation to this matter with particular reference to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) Penrith Local Environmental Plan 2010 (if it applies to the land) contains additional complying development not specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.)

4 COASTAL PROTECTION

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

5 MINE SUBSIDENCE

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 ROAD WIDENING AND ROAD REALIGNMENT

The land is not affected by any road widening or road realignment under:
(a) Division 2 of Part 3 of the Roads Act 1993, or

(b) an environmental planning instrument, or
(c) a resolution of council.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(a) Council Policies
The land is affected by the Asbestos Policy adopted by Council.
The land is not affected by any other policy adopted by the council 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).

(b) Other Public Authority Policies
The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.
The land is not affected by a policy 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, that restricts the development of the land because of the likelihood of land slip, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) Development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) (if such uses are permissible on the land) is subject to flood related development controls.

(2) Development on the land or part of the land for industrial or commercial purposes (if such uses are permissible on the land) is subject to flood related development controls.
Development on the land or part of the land for purposes other than industrial or commercial, or for purposes other than those referred to in (1) above, will be considered on a merits based approach and flood related development controls may apply.

Note: The land is subject to Penrith Development Control Plan 2014 Section C3.5 Flood Planning. On application and payment of the prescribed fee Council may be able to provide in writing a range of advice in regard to the extent of flooding affecting the property.

8 LAND RESERVED FOR ACQUISITION

No 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.

9 CONTRIBUTIONS PLANS

The Cultural Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith.

The Penrith City Local Open Space Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, excluding industrial areas and the release areas identified in Appendix B of the Plan (Penrith Lakes, Cranebrook, Sydney Regional Environmental Plan No. 30 - St Marys, Waterside, Thornton, the WELL Precinct, Glenmore Park and Erskine Park).

The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

9A BIODIVERSITY CERTIFIED LAND

(Information is provided in this section only if the land is biodiversity certified land under Part 8 of the *Biodiversity Conservation Act 2016*. (Note. biodiversity certified land includes land certified under Part 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

(Information is provided in this section only if Council has been notified by the Chief Executive of the Office of Environment and Heritage that the land is land to which a biobanking stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* relates. Note. Biodiversity stewardship agreements include biobanking agreements under Part 7A of the *Threatened Species Conservation Act 1995* that are taken to be biodiversity stewardships agreements under Part 5 of the *Biodiversity Conservation Act 2016*)

10A NATIVE VEGETATION CLEARING SET ASIDES

(Information is provided in this section only if Council has been notified of the existence of a set aside area by Local Land Services or it is registered in the public register under which section 60ZC of the *Local Land Services Act 2013* relates).

11 BUSH FIRE PRONE LAND

All of the land is identified as bush fire prone land according to Council records. Guidance as to restrictions that may be placed on the land as a result of the land being bush fire prone can be obtained by contacting Council. Such advice would be subject to further requirements of the NSW Rural Fire Services.

12 PROPERTY VEGETATION PLANS

(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan approved under the *Native Vegetation Act 2003* applies and continues in force.)

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13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that 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.)

14 DIRECTIONS UNDER PART 3A

(Information is provided in this section only if there is a direction by the Minister in force under section 75P(2)(c1) of the Act (repealed on 1st October 2011) 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.)

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS HOUSING

(Information is provided in this section only if:

(a) there is a current site compatibility certificate (seniors housing), of which the council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or

(b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (infrastructure), of which council is aware, in respect of proposed development on the land.)

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

(Information is provided in this section only if:

(a) there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land; and/or

(b) any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as a condition of consent to a development application in respect of the land.)

18 PAPER SUBDIVISION INFORMATION

(Information is provided in this section only if a development plan adopted by a relevant authority applies to the land or is proposed to be subject to a consent ballot, or a subdivision order applies to the land.)

19 SITE VERIFICATION CERTIFICATES

(Information is provided in this section only if there is a current site verification certificate, of which council is aware, in respect of the land.)

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PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

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) (Information is provided in this section only if, as at the date of this certificate, the land (or part of the land) is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.)

(b) (Information is provided in this section only if, as at the date of this certificate, the land is subject to a management order within the meaning of the Contaminated Land Management Act 1997.)

(c) (Information is provided in this section only if, as at the date of this certificate, the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.)

(d) (Information is provided in this section only if, at the date of this certificate, the land subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.)

(e) (Information is provided in this section only if the land is the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 - a copy of which has been provided to Council.)

Note: Section 10.7(5) information for this property may contain additional information regarding contamination issues.

20 LOOSE FILL ASBESTOS INSULATION

(Information is provided in this section only if there is a residential premises listed on the register of residential premises that contain or have contained loose-fill asbestos insulation (as required by Division 1A of Part 8 of the Home Building Act 1989))

21 AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS

(Information is provided in this section only if Council is aware of any "affected building notice" and/or a "building product rectification order" in force for the land).

Note: The Environmental Planning and Assessment Amendment Act 2017 commenced operation on the 1 March 2018. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, and Environmental Planning and Assessment Regulation 2000.

Information is provided only to the extent that Council has been notified by relevant government departments.

PENRITH CITY COUNCIL

Civic Centre
601 High Street, Penrith

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Telephone: 02 4732 7777
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PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

10.7(5) Certificate
This Certificate is directed to the following relevant matters affecting the land

When information pursuant to section 10.7(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. Council draws your attention to section 10.7(6) which states that a council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate.

Note:

- Council's 10.7(5) information does not include development consent or easement information. Details of development consents may be obtained by making enquiries with Council's Development Services Department pursuant to section 12 of the Local Government Act 1993 or (for development applications lodged after January 2007) by viewing the Online Services area at www.penrithcity.nsw.gov.au . Details of any easements may be obtained from a Title Search at Land and Property Information New South Wales.
- This certificate does not contain information relating to Complying Development Certificates.
- This certificate may not provide full details of development rights over the land.

* Threatened Species Conservation Act 1995

When considering any development application Council must have regard to the Threatened Species Conservation Act 1995. Please note that this legislation may have application to any land throughout the city. Interested persons should make their own enquiries in regard to the impact that this legislation could have on this land.

* Agricultural Activities Within Rural Areas

This property is located in a rural area and there may be certain agricultural activities occurring that some people may find offensive (for example noise, dust and odours). This should be considered if you purchase the subject property or build a dwelling thereon.
If you do purchase the subject property or build a dwelling, the potential impact that your activities (for example pets, inadequate fencing, drainage, litter and poor weed control) might have on the agricultural activities in the area should also be considered.

* Scenic and Landscape Values

The land is identified as "Land with Scenic and Landscape Values" on the Penrith Local Environmental Plan 2010 Scenic and Landscape Values Map. See Clause 7.5 of Penrith Local Environmental Plan 2010 and Chapter C1 Site Planning and Design of Penrith Development Control Plan 2014.

* Preservation of Trees and Vegetation

See Chapter C2 of Penrith Development Control Plan 2014 for specific controls relating to the preservation of trees and vegetation.

* Dual Occupancy and Secondary Dwellings Controls

See Clause 7.10 of Penrith Local Environmental Plan 2010 for specific controls relating to dual occupancy and secondary dwellings in Zones RU1, RU2, RU4, E3 and E4.

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PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

* Development Control Plan General Information

Penrith Development Control Plan 2014 which applies to the land, sets out requirements for a range of issues that apply across the Penrith Local Government Area, including:

- Site Planning and Design Principles
- Vegetation Management
- Water Management
- Land Management
- Waste Management
- Landscape Design
- Culture and Heritage
- Public Domain
- Advertising and Signage
- Transport, Access and Parking
- Subdivision
- Noise and Vibration, and
- Infrastructure and Services.

The Development Control Plan also specifies requirements relating to various types of land uses including:

- Rural Land Uses
- Residential Development
- Commercial and Retail Development, and
- Industrial Development

as well as for a number of specific activities, including child care centres; health consulting rooms; educational establishments; parent friendly amenities; places of public worship; vehicle repair stations; cemeteries, crematoria and funeral homes; extractive industries; and telecommunication facilities.

The Development Control Plan also details requirements relating to key precincts within the Penrith Local Government Area, including:

- Caddens
- Claremont Meadows Stage 2
- Cranebrook
- Emu Heights
- Emu Plains
- Erskine Business Park
- Glenmore Park
- Kingswood
- Mulgoa Valley
- Orchard Hills
- Penrith
- Penrith Health and Education Precinct
- Riverlink Precinct
- St Clair,
- St Marys / St Marys North, and
- Sydney Science Park.

Penrith Development Control Plan 2014 may be accessed at https://www.penrithcity.nsw.gov.au/Building-and-Development/Planning-and-Zoning/Planning-Controls/Development-Control-Plans/

*** Western Sydney Airport**

The land the subject of this certificate is in the vicinity of the proposed Badgery's Creek airport site and is located within the Australian Noise Exposure Forecast (ANEF) shown on the map in Appendix U of the 1985 draft environmental impact statement for the second Sydney Airport.
The land is affected by the **20 - 25 ANEF**.
In regard to land affected by the ANEF Clause 7.9 of Penrith Local Environmental Plan No.2010 states:

"**7.9 Development of land in the flight paths of the site reserved for the proposed Second Sydney Airport**

(1) The objective of this clause is to ensure that development in the vicinity of the proposed Badgery's Creek airport site:
  (a) has regard to the use or potential future use of the site as an airport, and
  (b) does not hinder or have any other adverse impact on the development or operation of an airport on that site.

(2) This clause applies to development that:
  (a) is on land that:
    (i) is near the proposed Badgery's Creek airport site, and
    (ii) is in an ANEF contour of 20 or greater, and
  (b) the consent authority considers is likely to be adversely affected by aircraft noise.

(3) Before determining a development application for development to which this clause applies, the consent authority:
  (a) must consider whether the development will result in an increase in the number of dwellings or people affected by aircraft noise, and
  (b) must consider the location of the development in relation to the criteria set out in Table 2.1 (Building Site Acceptability Based on ANEF Zones) in AS 2021-2000, and
  (c) must be satisfied that the development will meet AS 2021-2000 with respect to interior noise levels for the purposes of:
    (i) if the development will be in an ANEF contour or 20 or greater - child care centres, educational establishments, entertainment facilities, hospitals, places of public worship, public administration buildings or residential accommodation, and
    (ii) if the development will be in an ANEF contour of 25 or greater - commercial premises, hostels or hotel or motel accommodation.

(4) In this clause:
  ANEF contour means a noise exposure contour shown as an ANEF contour on the map in Appendix U of the draft environmental impact statement for the Second Sydney Airport, copies of which are deposited in the Office of the Council and of the Commonwealth Department of Infrastructure, Transport, Regional Development and Local Government.
  AS 2021-2000 means AS 2021-2000, *Acoustics-Aircraft noise intrusion-Building siting and construction."*

(Note: The Australian Government announced on 15 April 2014 that Badgerys Creek will be the site for a new airport for Western Sydney. On 12 December 2016, the Government announced the approval of the Airport Plan, authorising Stage 1 of the Western Sydney Airport. Stage 1 comprises a single runway and facilities to cater for up to 10 million passengers a year. This approval follows an assessment of the Airport Plan and its Environmental Impact Statement by the Environment Minister. Enquiries regarding the Western Sydney

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PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

Airport should be made with the Department of Infrastructure and Regional Development. (Website: <http://westernsydneyairport.gov.au>)).

Warwick Winn
General Manager

PER

Please note:
Certain amendments to the Environmental Planning and Assessment Act 1979 No 203 (Act) commenced on 1 March 2018.
The Environmental Planning and Assessment (Amendment) Act 2017 No 60 makes structural changes to the Act and, as a consequence, the Act has been renumbered in a decimal format. For example, Section 149 Planning Certificates have become Section 10.7 Certificates. Some of the information in this certificate may refer to the previous version of the Act.
Council is committed to updating all relevant documents in a timely manner. This will include planning instruments, applications, approvals, orders, certificates, forms and other associated documents in both printed and electronic versions. Council is required to implement these changes and regrets any inconvenience caused to the local business, industry and the community.

APPENDIX F

BOREHOLE LOGS

Alliance Geotechnical
Manage the earth, eliminate the risk

Alliance Geotechnical Pty Ltd
T: 1800 288 188
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BH No: BH 01
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 110mm

Rig Type: Hanjin 8D | **Hole Location:** Refer Drawing 9687-GR-1-A | **Driller:** CB | **Logged:** MS
RL Surface: | **Contractor:** BG Drilling Pty Ltd | **Bearing:** --- | **Checked:** LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Groundwater Not Encountered		0		--	FILL: Clay, medium to high plasticity, MC<PL, brown-grey, with silt (Appears moderately compacted).	DS	M	--	FILL
			1		CH	CLAY, high plasticity, orange-brown mottled grey, MC<PL, trace silt, trace fine gravel.		M	St - VSt	RESIDUAL
			2		--	SHALE, extremely to highly weathered, very low strength, brown, with frequent clay layers.	DS	--	--	BEDROCK
			3			Borehole BH 01 terminated at 3m				
			4							
			5							
			6							

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Alliance Geotechnical Pty Ltd
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BH No: BH 02
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 110mm

Rig Type: Hanjin 8D
Hole Location: Refer Drawing 9687-GR-1-A
Driller: CB
Logged: MS

RL Surface:
Contractor: BG Drilling Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Groundwater Not Encountered				--	TOPSOIL/FILL: Silty Clay, low to medium plasticity, MC~PL, grey-brown, with rootlets	DS	M	--	TOPSOIL/FILL
					CI-CH	CLAY, medium to high plasticity, MC>PL, red-brown mottled grey, trace fine gravel.	DS	M - W	F	RESIDUAL
			1							
						- As above, but MC<PL	SPT 4, 5, 7 N=12	M	St	
			2							
					CI-CH	Silty CLAY, medium to high plasticity, MC<PL, orange-grey, with shale layers.		M	H	
			3				SPT 7, 15, 15 N=30			
						Borehole BH 02 terminated at 3.5m				
			4							
			5							
			6							

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BH No: BH 03
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 110mm

Rig Type: Hanjin 8D
Hole Location: Refer Drawing 9687-GR-1-A
Driller: CB
Logged: MS
RL Surface:
Contractor: BG Drilling Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Groundwater Not Encountered				--	TOPSOIL/FILL: Silty Clay, low plasticity, grey, trace fine gravel.	DS	D	--	TOPSOIL/FILL
			1		CI-CH	Silty CLAY, medium to high plasticity, MC~PL, orange-brown mottled grey.		M	St	RESIDUAL
						- As above, but MC<PL, with shale layers.	SPT 7, 25/120mm		H	
			2		--	SHALE, extremely to highly weathered, very low strength, grey-brown, with frequent clay layers.		D	--	BEDROCK
			3		--	SHALE, highly weathered, very low to low strength, grey.		D	--	
						Borehole BH 03 terminated at 3.1m				TC Bit Refusal
			4							
			5							
			6							

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BH No: BH 04
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 110mm

Rig Type: Hanjin 8D | **Hole Location:** Refer Drawing 9687-GR-1-A | **Driller:** CB | **Logged:** MS
RL Surface: | **Contractor:** BG Drilling Pty Ltd | **Bearing:** --- | **Checked:** LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Groundwater Not Encountered				--	FILL: Sandy Gravel, medium to coarse grained, well graded, fine to medium grained sand, grey-brown, with clay (Appears well compacted).	DS	D	--	FILL
					CI	Silty CLAY, medium plasticity, orange-brown-grey, MC<PL, with shale gravel.	DS	D	H	RESIDUAL
			1		CI	Silty CLAY, medium plasticity, orange-brown, MC<PL, with shale layers.		D	H	
			2		--	SHALE, extremely weathered, very low strength, grey-brown, with clay layers.		D	--	BEDROCK
			3			Borehole BH 04 terminated at 3m				
			4							
			5							
			6							

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BH No: BH 05
Sheet: 1 of 2
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 110mm

Rig Type: Hanjin 8D | **Hole Location:** Refer Drawing 9687-GR-1-A | **Driller:** CB | **Logged:** MS
RL Surface: | **Contractor:** BG Drilling Pty Ltd | **Bearing:** --- | **Checked:** LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Groundwater Not Encountered				--	TOPSOIL/FILL: Silty Clay, low plasticity, trace fine sand, trace roots.	DS	D	--	TOPSOIL/FILL
					CI-CH	Silty CLAY, medium plasticity, MC>PL, orange-brown mottled grey.		M	St	RESIDUAL
			1			- As above but dry, hard.		D	H	
						- As above with shale layers.	SPT 10, 12, 18 N=30	D	H	
			2		--	SHALE, highly weathered, very low to low strength, grey, with clay bands.		D	--	BEDROCK
			3				SPT 17, 25/5mm Hammer Bounce			
			4							
			5							
					--	SHALE, highly weathered, low strength, dark grey.		D	--	
			6							

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Alliance Geotechnical Pty Ltd
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BH No: BH 05
Sheet: 2 of 2
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 110mm

Rig Type: Hanjin 8D
Hole Location: Refer Drawing 9687-GR-1-A
Driller: CB
Logged: MS

RL Surface:
Contractor: BG Drilling Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT					--	SHALE, highly weathered, low strength, dark grey. *(continued)*		D	--	
			7			Borehole BH 05 terminated at 6.7m				TC bit refusal
			8							
			9							
			10							
			11							
			12							

BOREHOLE (NO COORD/RL) 9687 - 290-308 ALDINGTON ROAD, KEMPS CREEK LOGS.GPJ GINT STD AUSTRALIA.GDT 18/10/19

Alliance Geotechnical
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Alliance Geotechnical Pty Ltd
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BH No: BH 06
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 110mm

Rig Type: Hanjin 8D
Hole Location: Refer Drawing 9687-GR-1-A
Driller: CB
Logged: MS
RL Surface:
Contractor: BG Drilling Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Groundwater Not Encountered				--	TOPSOIL/FILL: Silty Clay, low plasticity, MC>PL, dark grey, trace fine sand, trace rootlets.	DS	M	--	TOPSOIL/FILL
					CH	CLAY, high plasticity, MC~PL, orange-brown mottled grey.		M	St	RESIDUAL
			1		--	SHALE, extremely to highly weathered, very low to low strength, grey-brown, with clay bands.		D	--	BEDROCK
			2				SPT 4, 12, 23 N=35			
			3							
			4							
			5		--	SHALE, highly weathered, very low to low strength, dark grey.		D	--	
			6			Borehole BH 06 terminated at 5.7m				TC bit refusal

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Alliance Geotechnical Pty Ltd
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BH No: BH 07
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 110mm

Rig Type: Hanjin 8D
Hole Location: Refer Drawing 9687-GR-1-A
Driller: CB
Logged: MS

RL Surface:
Contractor: BG Drilling Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
ADT	Groundwater Not Encountered				--	TOPSOIL/FILL: Silty Clay, low plasticity, grey, with rootlets.		M	--	TOPSOIL/FILL
					CH	CLAY, high plasticity, MC~PL, pale grey mottled red, with silt.	DS DS	M	St	RESIDUAL
			1		CI	Silty CLAY, medium plasticity, MC<PL, orange-brown mottled grey.		D	St - VSt	
			2		--	SHALE, extremely to highly weathered, very low strength, grey-brown, with clay bands.	SPT 3, 25/140mm Hammer Bounce	D	--	BEDROCK
			3		--	SHALE, highly weathered, very low to low strength, dark grey.		D	--	
			4			Borehole BH 07 terminated at 3.5m				TC bit refusal
			5							
			6							

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BH No: BH 08
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 60mm

Rig Type: Hand Held Push Tube
Hole Location: Refer Drawing 9687-GR-1-A
Driller: JW
Logged: JW
RL Surface:
Contractor: Alliance Geotechnical Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
HA	Groundwater Not Encountered				-	FILL: Silty CLAY, brown.	DS	M	S	FILL
			0.5		CH	CLAY, pale brown and orange.	DS	M	St	RESIDUAL
			1.0							
			1.5			Borehole BH 08 terminated at 1.1m				
			2.0							

Alliance Geotechnical
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Alliance Geotechnical Pty Ltd
T: 1800 288 188
E: office@allgeo.com.au
W: www.allgeo.com.au

BH No: BH 09
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 60mm

Rig Type: Hand Held Push Tube
Hole Location: Refer Drawing 9687-GR-1-A
Driller: JW
Logged: JW

RL Surface:
Contractor: Alliance Geotechnical Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
HA	Groundwater Not Encountered				-	FILL: Silty CLAY, brown.	DS	M	S	FILL
			0.5		CH	CLAY, brown and orange.	DS	M	St	RESIDUAL
			1.0							
			1.5			Borehole BH 09 terminated at 1.1m				
			2.0							

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Alliance Geotechnical Pty Ltd
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BH No: BH 10
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 60mm

Rig Type: Hand Held Push Tube
Hole Location: Refer Drawing 9687-GR-1-A
Driller: JW
Logged: JW
RL Surface:
Contractor: Alliance Geotechnical Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
HA	Groundwater Not Encountered		0.5		-	FILL: Silty CLAY, brown, friable.	DS	D	St	FILL
			1.0		CH	CLAY, brown.	DS	M	St	RESIDUAL
			1.5			Borehole BH 10 terminated at 1.1m				
			2.0							

Alliance Geotechnical
Manage the earth, eliminate the risk

Alliance Geotechnical Pty Ltd
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BH No: SS01
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 500mm

Rig Type: Hand Excavated
Hole Location: Refer Drawing 9687-GR-1-A
Driller: JW
Logged: JW
RL Surface:
Contractor: Alliance Geotechnical Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
HA	Not Encountered				ML	SILT, brown, trace organics.	DS	W	S	ALLUVIUM
			0.5			Borehole SS01 terminated at 0.3m				
			1.0							
			1.5							
			2.0							

BOREHOLE (NO COORD/RL) 9687 - 290-308 ALDINGTON ROAD, KEMPS CREEK LOGS.GPJ GINT STD AUSTRALIA.GDT 18/10/19

Alliance Geotechnical
Manage the earth, eliminate the risk

Alliance Geotechnical Pty Ltd
T: 1800 288 188
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BH No: SS02
Sheet: 1 of 1
Job No: 9687

Borehole Log

Client: ESR Group
Project: Proposed Industrial Subdivision
Location: 290-308 Allington Road, Kemps Creek NSW 2178

Started: 4/10/19
Finished: 4/10/19
Borehole Size 500mm

Rig Type: Hand Excavated
Hole Location: Refer Drawing 9687-GR-1-A
Driller: JW
Logged: JW
RL Surface:
Contractor: Alliance Geotechnical Pty Ltd
Bearing: ---
Checked: LM

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture Condition	Consistency/ Density Index	Additional Observations
HA	Not Encountered				-	FILL: Silty CLAY, brown.	DS	M	S	FILL
			0.5			Borehole SS02 terminated at 0.3m				
			1.0							
			1.5							
			2.0							

BOREHOLE (NO COORD/RL) 9687 - 290-308 ALDINGTON ROAD, KEMPS CREEK LOGS.GPJ GINT STD AUSTRALIA.GDT 18/10/19

APPENDIX G

LABORATORY CERTIFICATES

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☒ Sydney Laboratory
Unit F3 Bld F, 16 Mars Rd, Lane Cove West, NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1, 21 Smallwood Pl, Murarrie, QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
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08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
2 Kingston Town Close, Oakleigh, VIC 3166
03 8564 5000 EnviroSampleVic@eurofins.com

Company	ALLIANCE GEOTECHNICAL
Address	10 WELDER ROAD, SEVEN HILLS NSW
Contact Name	
Phone №	0424066612
Special Directions	
Purchase Order	
Quote ID №	
Project №	9687
Project Name	KEMPS CREEK
Project Manager	AIDAN ROONEY
EDD Format (ESdat, EQuIS, Custom)	
Sampler(s)	JW
Handed over by	JW
Email for Invoice	Enviro@allgeo.com.au
Email for Results	Enviro@allgeo.com.au

Analyses (Note: Where metals are requested, please specify "Total" or "Filtered". If SUITE code must be used to attract SUITE pricing)

Containers: 1L Plastic, 250mL Plastic, 125mL Plastic, 200mL Amber Glass, 40mL VOA vial, 500mL PFAS Bottle, Jar (Glass or HDPE), Other (Asbestos AS4964, WA Guidelines)

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)
☐ Overnight (9am)*
☐ 1 Day* ☐ 2 Day*
☐ 3 Day* ☒ 5 Day
* Surcharges apply
☐ Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	TRH / BTEX	PAH	OCP/OPP	NUTRIENTS (B19A)	METALS (8)	ASBESTOS (0.001%)	BTEX	HOLD	Salinity Suite	Aggressivity	Ion Exchange Suite (B20)	Sample Comments / Dangerous Goods Hazard Warning
1	BH1-0.4-0.5	4/10/19	S	X	X	X	X	X	X					X	
2	BH1-1.3-1.4	4/10/19	S								X				
3	BH2-0.1-0.2	4/10/19	S	X	X	X	X	X	X					X	
4	BH2-0.5-0.6	4/10/19	S										X		
5	BH3-0.1-0.2	4/10/19	S	X	X	X	X	X	X						
6		4/10/19	S												
7	BH4-0.2-0.3	4/10/19	S	X	X	X	X	X	X					X	
8	BH4-0.5-0.6	4/10/19	S								X				
9	BH5-0.1-0.2	4/10/19	S	X	X	X	X	X	X					X	
10	BH5-1.5-1.6	4/10/19	S										X		
11	BH6-0.1-0.2	4/10/19	S	X	X	X	X	X	X						
12	BH6-1.5-1.6	4/10/19	S								X				
13	BH7-0.1-0.3	4/10/19	S	X	X	X	X	X	X					X	
14	BH7-0.3-0.7	4/10/19	S								X				
15	BH8-0.0-0.2	4/10/19	S	X	X	X	X	X	X					X	
16	BH8-0.4-0.6	4/10/19	S								X				
17	BH9-0.0-0.2	4/10/19	S	X	X	X	X	X	X					X	
18	BH9-0.3-0.5	4/10/19	S								X				
19	BH10-0.0-0.2	4/10/19	S	X	X	X	X	X	X					X	
20	BH10-0.5-0.7	4/10/19	S								X				
		Total Counts		10	10	10	10	10	10		7			8	

Method of Shipment: ☒ Courier (#) ☐ Hand Delivered ☐ Postal — Name: Jacob Walker — Signature: [signature] — Date — Time

Eurofins | mgt Laboratory Use Only						
Received By: Grace Turkell	(SYD) | BNE | MEL | PER | ADL | NTL | DRW	Signature: [signature]	Date: 4/10	Time: 5:23	Temperature	18.8
Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date: / /	Time: :	Report №	680974

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CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ **Sydney Laboratory** Unit F3 Bld F, 16 Mars Rd, Lane Cove West, NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1, 21 Smallwood Pl, Murarrie, QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2, 91 Leach Highway, Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 2 Kingston Town Close, Oakleigh, VIC 3166 03 8564 5000 EnviroSampleVic@eurofins.com

Company	ALLIANCE GEOTECHNICAL	Project №	9687	Project Manager	AIDAN ROONEY	Sampler(s)	JW
Address	10 WELDER ROAD, SEVEN HILLS NSW	Project Name	KEMPS CREEK	EDD Format (ESdat, EQuIS, Custom)		Handed over by	JW
						Email for Invoice	Enviro@allgeo.com.au
Contact Name						Email for Results	Enviro@allgeo.com.au
Phone №	0424066612						
Special Directions							
Purchase Order							
Quote ID №							

Analyses (Note: Where metals are requested, please specify "Total" or "Filtered" | SUITE code must be used to attract SUITE pricing)

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)

☐ Overnight (9am)*
☐ 1 Day* ☐ 2 Day*
☐ 3 Day* ☑ 5 Day
☐ Other ( )
* Surcharges apply

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	TRH / BTEX	PAH	OCP/OPP	NUTRIENTS (B19A)	METALS (8)	ASBESTOS (0.001%)	BTEX	HOLD	Aggressivity	ASBESTOS	Ion Exchange Suite (B20)	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	SS01	4/10/19	S/W				X	X															
2	SS02	4/10/19	S	X	X	X	X	X	X														
3	TRIP SPIKE									X													
4	TRIP BLANK									X													
5	FRAG-1	4/10/19	FRAG										X										
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							
16																							
17																							
18																							
19																							
20																							
	Total Counts			1	1	1	2	2	1	2													

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Jacob Walker	Signature		Date	Time	
Eurofins | mgt Laboratory Use Only	Received By	Grace Tunkwell	(SYD) | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date 14/10	Time 5:23	Temperature	18.8	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date / /	Time :	Report №	680974	

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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Alliance Geotechnical
10 Welder Road
Seven Hills
NSW 2147

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Aidan Rooney**

Report **680974-S**
Project name KEMPS CREEK
Project ID 9687
Received Date Oct 04, 2019

Client Sample ID			**BH1-0.4-0.5**	**BH2-0.1-0.2**	**BH3-0.1-0.2**	**BH4-0.2-0.3**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S19-Oc08933**	**S19-Oc08934**	**S19-Oc08935**	**S19-Oc08936**
Date Sampled			**Oct 04, 2019**	**Oct 04, 2019**	**Oct 04, 2019**	**Oct 04, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	51	< 50	55
TRH C29-C36	50	mg/kg	< 50	51	< 50	57
TRH C10-C36 (Total)	50	mg/kg	< 50	102	< 50	112
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	99	77	135	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH1-0.4-0.5	BH2-0.1-0.2	BH3-0.1-0.2	BH4-0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc08933	S19-Oc08934	S19-Oc08935	S19-Oc08936
Date Sampled			Oct 04, 2019	Oct 04, 2019	Oct 04, 2019	Oct 04, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	77	82	81	71
p-Terphenyl-d14 (surr.)	1	%	104	126	102	118
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	82	110	87	99
Tetrachloro-m-xylene (surr.)	1	%	99	114	101	103
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	82	110	87	99
Tetrachloro-m-xylene (surr.)	1	%	99	114	101	103

Client Sample ID			BH1-0.4-0.5	BH2-0.1-0.2	BH3-0.1-0.2	BH4-0.2-0.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc08933	S19-Oc08934	S19-Oc08935	S19-Oc08936
Date Sampled			Oct 04, 2019	Oct 04, 2019	Oct 04, 2019	Oct 04, 2019
Test/Reference	LOR	Unit				
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	45	33	-	240
Nitrate & Nitrite (as N)	5	mg/kg	< 5	< 5	< 5	< 5
Total Kjeldahl Nitrogen (as N)	10	mg/kg	710	1300	930	1500
Total Nitrogen (as N)	10	mg/kg	710	1300	930	1500
Exchangeable Sodium Percentage (ESP)	0.1	%	2.2	4.5	-	7.0
Magnesium (exchangeable)	0.1	meq/100g	12	12	-	7.0
Phosphorus	5	mg/kg	340	320	340	1700
Potassium (exchangeable)	0.1	meq/100g	0.4	0.5	-	1.5
Sodium (exchangeable)	0.1	meq/100g	0.6	1.4	-	2.9
% Moisture	1	%	16	23	18	9.3
Heavy Metals						
Arsenic	2	mg/kg	11	7.3	10	9.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	17	16	27	21
Copper	5	mg/kg	27	21	44	61
Lead	5	mg/kg	21	20	28	18
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	24	13	24	27
Zinc	5	mg/kg	75	40	77	110
Cation Exchange Capacity						
Calcium (exchangeable)	0.1	meq/100g	13	16	-	29
Cation Exchange Capacity	0.05	meq/100g	26	30	-	41

Client Sample ID			BH5-0.1-0.2	BH6-0.1-0.2	BH7-0.1-0.3	BH8-0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc08937	S19-Oc08938	S19-Oc08939	S19-Oc08940
Date Sampled			Oct 04, 2019	Oct 04, 2019	Oct 04, 2019	Oct 04, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	122	111	117	115
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			BH5-0.1-0.2	BH6-0.1-0.2	BH7-0.1-0.3	BH8-0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc08937	S19-Oc08938	S19-Oc08939	S19-Oc08940
Date Sampled			Oct 04, 2019	Oct 04, 2019	Oct 04, 2019	Oct 04, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	59	59	56	59
p-Terphenyl-d14 (surr.)	1	%	107	100	105	100
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			BH5-0.1-0.2	BH6-0.1-0.2	BH7-0.1-0.3	BH8-0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc08937	S19-Oc08938	S19-Oc08939	S19-Oc08940
Date Sampled			Oct 04, 2019	Oct 04, 2019	Oct 04, 2019	Oct 04, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	94	85	83	80
Tetrachloro-m-xylene (surr.)	1	%	89	89	92	93
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	94	85	83	80
Tetrachloro-m-xylene (surr.)	1	%	89	89	92	93
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	63	-	55	45
Nitrate & Nitrite (as N)	5	mg/kg	7.6	6.5	< 5	< 5
Total Kjeldahl Nitrogen (as N)	10	mg/kg	3500	2400	980	2200
Total Nitrogen (as N)	10	mg/kg	3507.6	2406.5	980	2200
Exchangeable Sodium Percentage (ESP)	0.1	%	1.4	-	11	3.6
Magnesium (exchangeable)	0.1	meq/100g	6.6	-	16	6.1
Phosphorus	5	mg/kg	1000	610	340	920
Potassium (exchangeable)	0.1	meq/100g	3.1	-	0.6	2.9
Sodium (exchangeable)	0.1	meq/100g	0.3	-	2.5	0.7
% Moisture	1	%	17	15	18	14
Heavy Metals						
Arsenic	2	mg/kg	10	9.2	17	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	20	17	23	21
Copper	5	mg/kg	37	28	39	26
Lead	5	mg/kg	26	18	16	35
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	23	21	11	15
Zinc	5	mg/kg	100	63	50	70
Cation Exchange Capacity						
Calcium (exchangeable)	0.1	meq/100g	10	-	3.5	9.4
Cation Exchange Capacity	0.05	meq/100g	20	-	23	19

Client Sample ID			BH9-0.0-0.2	BH10-0.0-0.2	SS01	SS02
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc08941	S19-Oc08942	S19-Oc08943	S19-Oc08944
Date Sampled			Oct 04, 2019	Oct 04, 2019	Oct 04, 2019	Oct 04, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	27
TRH C15-C28	50	mg/kg	< 50	< 50	-	82
TRH C29-C36	50	mg/kg	< 50	< 50	-	140
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	249
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	0.4	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total	0.3	mg/kg	0.4	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	127	112	-	122
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	180
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	180
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	69	74	-	56
p-Terphenyl-d14 (surr.)	1	%	106	106	-	106

Client Sample ID			BH9-0.0-0.2	BH10-0.0-0.2	SS01	SS02
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc08941	S19-Oc08942	S19-Oc08943	S19-Oc08944
Date Sampled			Oct 04, 2019	Oct 04, 2019	Oct 04, 2019	Oct 04, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	77	75	-	93
Tetrachloro-m-xylene (surr.)	1	%	91	96	-	91
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibutylchlorendate (surr.)	1	%	77	75	-	93
Tetrachloro-m-xylene (surr.)	1	%	91	96	-	91
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	13	970	-	-
Nitrate & Nitrite (as N)	5	mg/kg	< 5	270	< 5	56
Total Kjeldahl Nitrogen (as N)	10	mg/kg	1100	1800	2400	5900
Total Nitrogen (as N)	10	mg/kg	1100	2070	2400	5956
Exchangeable Sodium Percentage (ESP)	0.1	%	5.0	5.4	-	-
Magnesium (exchangeable)	0.1	meq/100g	6.6	2.7	-	-
Phosphorus	5	mg/kg	460	580	890	1600
Potassium (exchangeable)	0.1	meq/100g	0.4	2.7	-	-
Sodium (exchangeable)	0.1	meq/100g	0.7	0.4	-	-
% Moisture	1	%	15	13	35	26

Client Sample ID			BH9-0.0-0.2	BH10-0.0-0.2	SS01	SS02
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc08941	S19-Oc08942	S19-Oc08943	S19-Oc08944
Date Sampled			Oct 04, 2019	Oct 04, 2019	Oct 04, 2019	Oct 04, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	12	13	6.7	15
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	23	25	21	25
Copper	5	mg/kg	26	66	36	41
Lead	5	mg/kg	35	56	20	28
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	16	36	12	23
Zinc	5	mg/kg	68	150	61	140
Cation Exchange Capacity						
Calcium (exchangeable)	0.1	meq/100g	5.4	0.9	-	-
Cation Exchange Capacity	0.05	meq/100g	13	6.7	-	-

Client Sample ID			TRIP SPIKE	TRIP BLANK	BH2-0.5-0.6	BH5-1.5-1.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc08945	S19-Oc08946	S19-Oc08949	S19-Oc08950
Date Sampled			Oct 04, 2019	Oct 04, 2019	Oct 04, 2019	Oct 04, 2019
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	97	< 0.1	-	-
Toluene	0.1	mg/kg	97	< 0.1	-	-
Ethylbenzene	0.1	mg/kg	130	< 0.1	-	-
m&p-Xylenes	0.2	mg/kg	96	< 0.2	-	-
o-Xylene	0.1	mg/kg	96	< 0.1	-	-
Xylenes - Total	0.3	mg/kg	96	< 0.3	-	-
4-Bromofluorobenzene (surr.)	1	%	105	95	-	-
Chloride	10	mg/kg	-	-	230	490
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	-	90	130
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	-	7.1	5.6
Resistivity*	0.5	ohm.m	-	-	560	380
Sulphate (as SO4)	10	mg/kg	-	-	43	< 10
% Moisture	1	%	-	-	17	9.9

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Oct 10, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Oct 10, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 10, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 10, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Oct 10, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Oct 10, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Oct 10, 2019	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Oct 10, 2019	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Chloride	Sydney	Oct 10, 2019	28 Days
- Method: E045 /E047 Chloride			
pH (1:5 Aqueous extract at 25°C as rec.)	Sydney	Oct 10, 2019	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
Sulphate (as SO4)	Sydney	Oct 10, 2019	28 Days
- Method: E045 Anions by Ion Chromatography			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Sydney	Oct 10, 2019	7 Days
- Method: LTM-INO-4030 Conductivity			
Magnesium (exchangeable)	Melbourne	Oct 09, 2019	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity and ESP			
Potassium (exchangeable)	Melbourne	Oct 09, 2019	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity and ESP			
Sodium (exchangeable)	Melbourne	Oct 09, 2019	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity and ESP			
Cation Exchange Capacity	Melbourne	Oct 09, 2019	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
Total Nitrogen Set (as N)			
Nitrate & Nitrite (as N)	Melbourne	Oct 09, 2019	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Total Kjeldahl Nitrogen (as N)	Melbourne	Oct 09, 2019	28 Days
- Method: LTM-INO-4310 TKN in Waters & Soils by FIA			
Exchangeable Sodium Percentage (ESP)	Melbourne	Oct 09, 2019	28 Days
- Method: LTM-MET-3060 - Cation Exchange Capacity (CEC) & Exchangeable Sodium Percentage (ESP)			
Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P			
Phosphorus	Melbourne	Oct 09, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Oct 04, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 9687

Order No.:
Report #: 680974
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 4, 2019 5:23 PM
Due: Oct 14, 2019
Priority: 5 Day
Contact Name: Aidan Rooney

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Aggressivity Soil Set	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271												X	X	X		X
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X		X	X	
Brisbane Laboratory - NATA Site # 20794																
Perth Laboratory - NATA Site # 23736																
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	BH1-0.4-0.5	Oct 04, 2019		Soil	S19-Oc08933	X					X		X	X	X	X
2	BH2-0.1-0.2	Oct 04, 2019		Soil	S19-Oc08934	X					X		X	X	X	X
3	BH3-0.1-0.2	Oct 04, 2019		Soil	S19-Oc08935	X					X			X	X	X
4	BH4-0.2-0.3	Oct 04, 2019		Soil	S19-Oc08936	X					X		X	X	X	X
5	BH5-0.1-0.2	Oct 04, 2019		Soil	S19-Oc08937	X					X		X	X	X	X
6	BH6-0.1-0.2	Oct 04, 2019		Soil	S19-Oc08938	X					X			X	X	X
7	BH7-0.1-0.3	Oct 04, 2019		Soil	S19-Oc08939	X					X		X	X	X	X
8	BH8-0.0-0.2	Oct 04, 2019		Soil	S19-Oc08940	X					X		X	X	X	X
9	BH9-0.0-0.2	Oct 04, 2019		Soil	S19-Oc08941	X					X		X	X	X	X

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NATA # 1261
Site # 1254 & 14271

Sydney
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NATA # 1261 Site # 18217

Brisbane
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NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 9687

Order No.:
Report #: 680974
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 4, 2019 5:23 PM
Due: Oct 14, 2019
Priority: 5 Day
Contact Name: Aidan Rooney

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Aggressivity Soil Set	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271												X	X	X		X
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X		X	X	
Brisbane Laboratory - NATA Site # 20794																
Perth Laboratory - NATA Site # 23736																
10	BH10-0.0-0.2	Oct 04, 2019		Soil	S19-Oc08942	X					X		X	X	X	X
11	SS01	Oct 04, 2019		Soil	S19-Oc08943				X					X		X
12	SS02	Oct 04, 2019		Soil	S19-Oc08944	X					X			X	X	X
13	TRIP SPIKE	Oct 04, 2019		Soil	S19-Oc08945					X						
14	TRIP BLANK	Oct 04, 2019		Soil	S19-Oc08946					X						
15	TRIP SPIKE LAB	Oct 04, 2019		Soil	S19-Oc08947					X						
16	FRAG-1	Oct 04, 2019		Building Materials	S19-Oc08948		X									
17	BH2-0.5-0.6	Oct 04, 2019		Soil	S19-Oc08949							X		X		
18	BH5-1.5-1.6	Oct 04, 2019		Soil	S19-Oc08950							X		X		
19	BH1-1.3-1.4	Oct 04, 2019		Soil	S19-Oc08951			X								
20	BH4-0.5-0.6	Oct 04, 2019		Soil	S19-Oc08952			X								

eurofins | Environment Testing

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Melbourne Laboratory - NATA Site # 1254 & 14271												X	X	X		X
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X		X	X	
Brisbane Laboratory - NATA Site # 20794																
Perth Laboratory - NATA Site # 23736																
21	BH6-1.5-1.6	Oct 04, 2019		Soil	S19-Oc08953			X								
22	BH7-0.3-0.7	Oct 04, 2019		Soil	S19-Oc08954			X								
23	BH8-0.4-0.6	Oct 04, 2019		Soil	S19-Oc08955			X								
24	BH9-0.3-0.5	Oct 04, 2019		Soil	S19-Oc08956			X								
25	BH10-0.5-0.7	Oct 04, 2019		Soil	S19-Oc08957			X								
Test Counts						11	1	7	1	3	11	2	8	14	11	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Nitrate & Nitrite (as N)	mg/kg	< 5			5	Pass	
Total Kjeldahl Nitrogen (as N)	mg/kg	< 10			10	Pass	
Exchangeable Sodium Percentage (ESP)	%	< 0.1			0.1	Pass	
Magnesium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Potassium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Sodium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Cation Exchange Capacity							
Calcium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	80			70-130	Pass	
TRH C10-C14	%	72			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	101			70-130	Pass	
Toluene	%	90			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	90			70-130	Pass	
o-Xylene	%	91			70-130	Pass	
Xylenes - Total	%	90			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	98			70-130	Pass	
TRH C6-C10	%	73			70-130	Pass	
TRH >C10-C16	%	70			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	73			70-130	Pass	
Acenaphthylene	%	72			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	73			70-130	Pass	
Benzo(a)pyrene	%	75			70-130	Pass	
Benzo(b&j)fluoranthene	%	72			70-130	Pass	
Benzo(g.h.i)perylene	%	71			70-130	Pass	
Benzo(k)fluoranthene	%	80			70-130	Pass	
Chrysene	%	73			70-130	Pass	
Dibenz(a.h)anthracene	%	77			70-130	Pass	
Fluoranthene	%	74			70-130	Pass	
Fluorene	%	73			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	74			70-130	Pass	
Naphthalene	%	74			70-130	Pass	
Phenanthrene	%	74			70-130	Pass	
Pyrene	%	76			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	102			70-130	Pass	
4.4'-DDD	%	88			70-130	Pass	
4.4'-DDE	%	110			70-130	Pass	
4.4'-DDT	%	100			70-130	Pass	
a-BHC	%	87			70-130	Pass	
Aldrin	%	103			70-130	Pass	
b-BHC	%	93			70-130	Pass	
d-BHC	%	105			70-130	Pass	
Dieldrin	%	110			70-130	Pass	
Endosulfan I	%	101			70-130	Pass	
Endosulfan II	%	107			70-130	Pass	
Endosulfan sulphate	%	103			70-130	Pass	
Endrin	%	122			70-130	Pass	
Endrin aldehyde	%	91			70-130	Pass	
Endrin ketone	%	116			70-130	Pass	
g-BHC (Lindane)	%	102			70-130	Pass	
Heptachlor	%	108			70-130	Pass	
Heptachlor epoxide	%	95			70-130	Pass	
Hexachlorobenzene	%	101			70-130	Pass	
Methoxychlor	%	87			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	116			70-130	Pass	
LCS - % Recovery							
Conductivity (1:5 aqueous extract at 25°C as rec.)	%	95			70-130	Pass	
Resistivity*	%	95			70-130	Pass	
Total Kjeldahl Nitrogen (as N)	%	85			70-130	Pass	
LCS - % Recovery							
Heavy Metals							

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic			%	92			70-130	Pass	
Cadmium			%	91			70-130	Pass	
Chromium			%	91			70-130	Pass	
Copper			%	94			70-130	Pass	
Lead			%	94			70-130	Pass	
Mercury			%	99			70-130	Pass	
Nickel			%	99			70-130	Pass	
Zinc			%	94			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Oc08933	CP	%	71			70-130	Pass	
TRH C10-C14	S19-Oc06522	NCP	%	97			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Oc08933	CP	%	80			70-130	Pass	
Toluene	S19-Oc08933	CP	%	77			70-130	Pass	
Ethylbenzene	S19-Oc08933	CP	%	75			70-130	Pass	
m&p-Xylenes	S19-Oc08933	CP	%	79			70-130	Pass	
o-Xylene	S19-Oc08933	CP	%	78			70-130	Pass	
Xylenes - Total	S19-Oc08933	CP	%	78			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Oc08933	CP	%	85			70-130	Pass	
TRH C6-C10	S19-Oc16930	NCP	%	79			70-130	Pass	
TRH >C10-C16	S19-Oc06522	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-Oc08960	NCP	%	77			70-130	Pass	
Acenaphthylene	S19-Oc08960	NCP	%	77			70-130	Pass	
Anthracene	S19-Oc08960	NCP	%	78			70-130	Pass	
Benz(a)anthracene	S19-Oc08960	NCP	%	75			70-130	Pass	
Benzo(a)pyrene	S19-Oc08960	NCP	%	83			70-130	Pass	
Benzo(b&j)fluoranthene	S19-Oc08960	NCP	%	75			70-130	Pass	
Benzo(g.h.i)perylene	S19-Oc08960	NCP	%	88			70-130	Pass	
Benzo(k)fluoranthene	S19-Oc08960	NCP	%	78			70-130	Pass	
Chrysene	S19-Oc08960	NCP	%	76			70-130	Pass	
Dibenz(a.h)anthracene	S19-Oc08960	NCP	%	88			70-130	Pass	
Fluoranthene	S19-Oc08960	NCP	%	78			70-130	Pass	
Fluorene	S19-Oc08960	NCP	%	77			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S19-Oc08960	NCP	%	90			70-130	Pass	
Naphthalene	S19-Oc08960	NCP	%	78			70-130	Pass	
Phenanthrene	S19-Oc08960	NCP	%	79			70-130	Pass	
Pyrene	S19-Oc08960	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S19-Oc08960	NCP	%	105			70-130	Pass	
4.4'-DDD	S19-Oc08960	NCP	%	115			70-130	Pass	
4.4'-DDE	S19-Oc08960	NCP	%	110			70-130	Pass	
4.4'-DDT	S19-Oc08960	NCP	%	72			70-130	Pass	
a-BHC	S19-Oc08960	NCP	%	93			70-130	Pass	
Aldrin	S19-Oc08960	NCP	%	98			70-130	Pass	
b-BHC	S19-Oc08960	NCP	%	97			70-130	Pass	
d-BHC	S19-Oc08960	NCP	%	104			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dieldrin	S19-Oc08960	NCP	%	111			70-130	Pass	
Endosulfan I	S19-Oc08960	NCP	%	105			70-130	Pass	
Endosulfan II	S19-Oc08960	NCP	%	111			70-130	Pass	
Endosulfan sulphate	S19-Oc08960	NCP	%	115			70-130	Pass	
Endrin	S19-Oc08865	NCP	%	101			70-130	Pass	
Endrin aldehyde	S19-Oc08960	NCP	%	105			70-130	Pass	
Endrin ketone	S19-Oc08960	NCP	%	109			70-130	Pass	
g-BHC (Lindane)	S19-Oc08960	NCP	%	104			70-130	Pass	
Heptachlor	S19-Oc08960	NCP	%	102			70-130	Pass	
Heptachlor epoxide	S19-Oc08960	NCP	%	99			70-130	Pass	
Hexachlorobenzene	S19-Oc08960	NCP	%	99			70-130	Pass	
Methoxychlor	S19-Oc08960	NCP	%	70			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	S19-Oc08960	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Zinc	S19-Oc08865	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Oc08942	CP	%	90			70-130	Pass	
Cadmium	S19-Oc08942	CP	%	115			70-130	Pass	
Chromium	S19-Oc08942	CP	%	107			70-130	Pass	
Copper	S19-Oc08942	CP	%	123			70-130	Pass	
Lead	S19-Oc08942	CP	%	81			70-130	Pass	
Mercury	S19-Oc08942	CP	%	121			70-130	Pass	
Nickel	S19-Oc08942	CP	%	117			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S19-Oc14309	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S19-Oc14309	NCP	mg/kg	60	51	15	30%	Pass	
TRH C29-C36	S19-Oc14309	NCP	mg/kg	120	110	13	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S19-Oc14309	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S19-Oc14309	NCP	mg/kg	150		14	30%	Pass	
TRH >C34-C40	S19-Oc14309	NCP	mg/kg	< 100		23	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Phenanthrene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S19-Oc08959	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S19-Oc08959	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S19-Oc08959	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S19-Oc08959	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Total PCB*	S19-Oc08959	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Phosphorus	S19-Oc08936	CP	mg/kg	1700	1700	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Oc08937	CP	%	17	17	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Oc08941	CP	mg/kg	12	11	8.0	30%	Pass	
Cadmium	S19-Oc08941	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Oc08941	CP	mg/kg	23	25	10	30%	Pass	
Copper	S19-Oc08941	CP	mg/kg	26	28	6.0	30%	Pass	
Lead	S19-Oc08941	CP	mg/kg	35	31	12	30%	Pass	
Mercury	S19-Oc08941	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Oc08941	CP	mg/kg	16	15	2.0	30%	Pass	
Zinc	S19-Oc08941	CP	mg/kg	68	75	9.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Oc08942	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Oc08942	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Oc08942	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Oc08942	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Oc08942	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Oc08942	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Oc08942	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Oc08942	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Oc08942	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	S19-Oc08944	CP	mg/kg	56	58	5.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S19-Oc08809	NCP	mg/kg	12	11	10	30%	Pass	
Sulphate (as SO4)	S19-Oc08809	NCP	mg/kg	180	190	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	S19-Oc08950	CP	uS/cm	130	140	9.0	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S19-Oc08950	CP	pH Units	5.6	5.5	Pass	30%	Pass	
Resistivity*	S19-Oc08950	CP	ohm.m	380	350	9.2	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Gabriele Cordero	Senior Analyst-Inorganic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
Julie Kay	Senior Analyst-Inorganic (VIC)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Certificate of Analysis

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NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Alliance Geotechnical
10 Welder Road
Seven Hills
NSW 2147

Attention:	Aidan Rooney
Report	680974-AID
Project Name	KEMPS CREEK
Project ID	9687
Received Date	Oct 04, 2019
Date Reported	Oct 14, 2019

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name KEMPS CREEK
Project ID 9687
Date Sampled Oct 04, 2019
Report 680974-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH1-0.4-0.5	19-Oc08933	Oct 04, 2019	Approximate Sample 512g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH2-0.1-0.2	19-Oc08934	Oct 04, 2019	Approximate Sample 458g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH3-0.1-0.2	19-Oc08935	Oct 04, 2019	Approximate Sample 316g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH4-0.2-0.3	19-Oc08936	Oct 04, 2019	Approximate Sample 441g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH5-0.1-0.2	19-Oc08937	Oct 04, 2019	Approximate Sample 359g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH6-0.1-0.2	19-Oc08938	Oct 04, 2019	Approximate Sample 424g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH7-0.1-0.3	19-Oc08939	Oct 04, 2019	Approximate Sample 537g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH8-0.0-0.2	19-Oc08940	Oct 04, 2019	Approximate Sample 427g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH9-0.0-0.2	19-Oc08941	Oct 04, 2019	Approximate Sample 410g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH10-0.0-0.2	19-Oc08942	Oct 04, 2019	Approximate Sample 492g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
SS02	19-Oc08944	Oct 04, 2019	Approximate Sample 379g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
FRAG-1	19-Oc08948	Oct 04, 2019	Approximate Sample 19g / 60x30x5mm Sample consisted of: Grey compressed fibre cement	No asbestos detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Oct 11, 2019	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Oct 11, 2019	Indefinite

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NATA # 1261
Site # 23736

Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 9687

Order No.:
Report #: 680974
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 4, 2019 5:23 PM
Due: Oct 14, 2019
Priority: 5 Day
Contact Name: Aidan Rooney

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Aggressivity Soil Set	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271												X	X	X		X
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X		X	X	
Brisbane Laboratory - NATA Site # 20794																
Perth Laboratory - NATA Site # 23736																
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	BH1-0.4-0.5	Oct 04, 2019		Soil	S19-Oc08933	X					X		X	X	X	X
2	BH2-0.1-0.2	Oct 04, 2019		Soil	S19-Oc08934	X					X		X	X	X	X
3	BH3-0.1-0.2	Oct 04, 2019		Soil	S19-Oc08935	X					X			X	X	X
4	BH4-0.2-0.3	Oct 04, 2019		Soil	S19-Oc08936	X					X		X	X	X	X
5	BH5-0.1-0.2	Oct 04, 2019		Soil	S19-Oc08937	X					X		X	X	X	X
6	BH6-0.1-0.2	Oct 04, 2019		Soil	S19-Oc08938	X					X			X	X	X
7	BH7-0.1-0.3	Oct 04, 2019		Soil	S19-Oc08939	X					X		X	X	X	X
8	BH8-0.0-0.2	Oct 04, 2019		Soil	S19-Oc08940	X					X		X	X	X	X
9	BH9-0.0-0.2	Oct 04, 2019		Soil	S19-Oc08941	X					X		X	X	X	X

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Received: Oct 4, 2019 5:23 PM
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Contact Name: Aidan Rooney

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Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Aggressivity Soil Set	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271												X	X	X		X
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X		X	X	
Brisbane Laboratory - NATA Site # 20794																
Perth Laboratory - NATA Site # 23736																
10	BH10-0.0-0.2	Oct 04, 2019		Soil	S19-Oc08942	X					X		X	X	X	X
11	SS01	Oct 04, 2019		Soil	S19-Oc08943				X					X		X
12	SS02	Oct 04, 2019		Soil	S19-Oc08944	X					X			X	X	X
13	TRIP SPIKE	Oct 04, 2019		Soil	S19-Oc08945					X						
14	TRIP BLANK	Oct 04, 2019		Soil	S19-Oc08946					X						
15	FRAG-1	Oct 04, 2019		Building Materials	S19-Oc08948		X									
16	BH2-0.5-0.6	Oct 04, 2019		Soil	S19-Oc08949							X		X		
17	BH5-1.5-1.6	Oct 04, 2019		Soil	S19-Oc08950							X		X		
18	BH1-1.3-1.4	Oct 04, 2019		Soil	S19-Oc08951			X								
19	BH4-0.5-0.6	Oct 04, 2019		Soil	S19-Oc08952			X								
20	BH6-1.5-1.6	Oct 04, 2019		Soil	S19-Oc08953			X								

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NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: Alliance Geotechnical
Address: 10 Welder Road
Seven Hills
NSW 2147

Project Name: KEMPS CREEK
Project ID: 9687

Order No.:
Report #: 680974
Phone: 1800 288 188
Fax: 02 9675 1888

Received: Oct 4, 2019 5:23 PM
Due: Oct 14, 2019
Priority: 5 Day
Contact Name: Aidan Rooney

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Aggressivity Soil Set	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271												X	X	X		X
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X		X	X	
Brisbane Laboratory - NATA Site # 20794																
Perth Laboratory - NATA Site # 23736																
21	BH7-0.3-0.7	Oct 04, 2019		Soil	S19-Oc08954			X								
22	BH8-0.4-0.6	Oct 04, 2019		Soil	S19-Oc08955			X								
23	BH9-0.3-0.5	Oct 04, 2019		Soil	S19-Oc08956			X								
24	BH10-0.5-0.7	Oct 04, 2019		Soil	S19-Oc08957			X								
Test Counts						11	1	7	1	2	11	2	8	14	11	12

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

S19-Oc08934, S19-Oc08935, S19-Oc08936, S19-Oc08937, S19-Oc08938, S19-Oc08940, S19-Oc08941, S19-Oc08942, S19-Oc08944: Samples received were less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.