Douglas Partners
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Report on
Preliminary Site Investigation for Contamination

Proposed Commercial Development
Tuckombil Quarry, Alstonville, NSW

Prepared for
Ballina Shire Council

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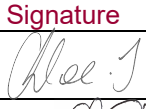
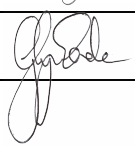
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Report on Preliminary Site Investigation for Contamination
Proposed Commercial Development
Tuckombil Quarry, Alstonville, NSW

1. Introduction

Douglas Partners Pty Ltd (DP) was engaged by Ballina Shire Council to conduct a preliminary site investigation for contamination (PSI) at the former Tuckombil Quarry, Alstonville, NSW (hereinafter referred to as 'the site').

The site is proposed to be rezoned to allow for a proposed high technology industrial development (i.e., film studios) and community recreation. It is understood that the assessment is required to establish any potential contamination risks prior to the proposed rezoning.

The PSI was conducted in general accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) (the 'NEPM').

The objectives of this PSI were to identify:

- Potential sources of contamination and evaluate the associated contaminants of potential concern (CoPC);
- Areas of potential contamination;
- Potential human and ecological receptors; and
- Potentially affected media (such as soil and groundwater).

This report must be read in conjunction with the notes entitled *'About this Report'* in Appendix A, and the report should be kept in its entirety without separation of individual pages or sections.

2. Scope of Works

The investigation was completed in general accordance with the scope of services described in our proposal 216829.00.P.001.Rev0 dated 25 July 2022. It comprised a desktop review of the site history, including the purchase of an independent Lotsearch Environmental Report (the 'Lotsearch Report'), a visual site walkover inspection, soil sampling from 23 boreholes, surface water sampling from seven locations and laboratory analysis of selected soil and surface water samples.

Stockpiled soil at the site and the Boral Asphalt lease and Ron Southon lease areas were not investigated as part of this investigation.

3. Site Information

The site identification details are presented in Table 1 below. The site location and approximate site boundary are shown in Drawing 1, Appendix B.

Table 1: Site Identification Details

Item	Description
Site Address	Tuckombil Quarry, Alstonville, NSW
Real Property Description	Lot 22 DP 1243105
Area	Investigation area: approximately 18.3 ha
Local Council Area	Ballina Shire Council (BSC)
Current Use	Commercial/Industrial
Surrounding Uses	North – Rural/Agricultural; East – Teven Road beyond which is residential; South – Vacant land then residential; and West – Agricultural.

3.1 Background

The site covers an area of approximately 23 ha and operated as a full-time hard rock quarry until 2016. All quarrying activities ceased at the site in mid-2020. Upon cessation of quarrying, the void has become filled with water. The depth of water in the base of the void is estimated to be approximately 8 m to 10 m. It is understood that the contamination assessment does not include the two areas tenanted by Bitupave Limited (Boral) and Ron Southon Pty Ltd located within the site as shown in Figure 1. The remnant site area that is available for this contamination assessment covers approximately 18.3 ha.



Figure 1: Approximate Site Boundary (shown in red)

4. Environmental Setting

4.1 Topography

Reference to the Contour Plan provided in the BSC interactive mapping website indicates that the site undulates with an approximate elevation of between relative level (RL) 120 m and 150 m relative to Australian Height Datum (AHD). The site generally slopes from each boundary into the centre of the site.

4.2 Site Geology

Reference to the Lotsearch Report presented in Appendix C indicates that most of the site is underlain by Chattian (base) to Aquitanian (top) aged Lismore Basalt. The lithology of this unit comprises of "*predominantly tholeiitic with occasional alkaline types of formations*".

4.3 Acid Sulfate Soils

Acid Sulfate Soils (ASS) are naturally occurring sediments and soils containing iron sulfides or sulfidic materials, often located over extensive low-lying coastal areas, predominately below 5 m relative to the AHD. Published ASS risk mapping indicates that the site is classified as having an extremely low probability of occurrence with 1 to 5% chance of occurrence. Furthermore, site elevations are generally greater than 5 m relative to the Australian Height Datum (AHD).

4.4 Heritage

Reference to the Lotsearch Report indicated that the site or any adjacent sites were not listed on the Commonwealth Heritage List or National Heritage List.

4.5 Bushfire Prone Areas

Reference to the Lotsearch Report indicated that the north-western part of the site has the potential to be prone to bushfires.

4.6 Surface Water and Groundwater

Three surface water bodies are located within the site boundaries, namely, the quarry void, which is located in the centre of the site, Branch Creek, which flows south to north through the site, and an area of ponded water in the western part of the site.

A search of the publicly available registered groundwater bore database indicated that there are 14 registered groundwater bores within a 500 m radius of the site. The closest five have been summarised in Table 2 below.

Table 2: Summary of Available Information from Nearby Registered Groundwater Bores

Bore ID Authorised Purpose Completion Year Status	Location Relative to Site	Final Depth (m)	Standing Water Level (m bgl)
10131732/GW305159 Monitoring 2005 Unknown	Onsite	30	18.5
10136396/GW305162 Monitoring 2005 Unknown	Onsite	50	23.5
10142173/GW303444 Water Supply 2002 Unknown	30 m west	12	Not recorded
10121532/GW039383 Water Supply 1987 Proposed	133 m south	137	Not recorded
10139664/GW039382 Water Supply 1987 Proposed	145 m south-west	37.1	Not recorded

m bgl – metres below ground level

5. Site History

5.1 Historical Aerial Photography

Several historical aerial photographs were obtained from the Lotsearch Report presented in Appendix C. A summary of key features observed for the site and surrounding land is presented in Table 3.

Table 3: Summary of Historical Aerial Photographs

Year	Site	Surrounding Land Use
1942	The site appeared predominantly vacant and vegetated with ground cover (i.e., grasses). Some areas of the site appeared to be used for cropping purposes. Several structures appeared to be present near the north-western corner of the site. A steep embankment appeared to be present in the area currently occupied by Boral, as shown in Figure 1. A creek line also appeared to run through the centre of the site.	The surrounding areas appeared to be used for rural residential/agricultural purposes. A creek line was observed north and north-west of the site.
1958	The site appeared similar in use and appearance to the 1942 image.	The surrounding areas appeared similar in use and appearance to the 1942 image.
1967	The site appeared similar in use and appearance to the 1958 image.	The surrounding areas appeared similar in use and appearance to the 1958 image.
1971	The site appeared similar in use and appearance to the 1967 image.	The surrounding areas appeared similar in use and appearance to the 1967 image.
1979	A dark rectangle, considered to be a body of water, appeared in the centre of the site to the north of the Boral area. The embankment within the Boral area appeared to have disappeared and miscellaneous objects were observed in this area. Several vehicular tracks appeared to the east of the Boral area.	The surrounding areas appeared similar in use and appearance to the 1979 image.
1987	A large embankment appeared in the centre of the site and surrounding the water body, which also appeared to have slightly extended. The area appeared to have been significantly excavated and is considered to be an extraction pit in association with the former quarry activities (as outlined in Section 3.1).	The surrounding areas appeared similar in use and appearance to the 1987 image.

Year	Site	Surrounding Land Use
1997	Further excavations appeared to have occurred across the site. Exposed soil was also observed surrounding the excavated area, in the south-western and north-eastern corners the site. Several structures appeared to have been constructed in the Boral area. Structures in the north-western corner of the site appeared to have been removed.	A new residential suburban development appeared to have been constructed south of the site.
2007	Further excavations appeared to have occurred across the site. Several stockpiles were present in various locations across the site. Several structures appeared to have been constructed in the area currently occupied by Ron Southon.	Several large structures appeared to the north of the site. Additional residential buildings also appeared to have been constructed to the south of the site.
2014	Further excavations appeared to have occurred to the northern side of the embankment.	Several large structures appeared to the north-east of the site.
2021	The embankment/former quarry appeared to be filled with water.	The surrounding areas appeared similar in use and appearance to the 2014 image.

5.1 Title Deeds

A historical title deeds search was used to obtain ownership and occupancy information including company names and the occupations of individuals. The title information can assist in the identification of previous land uses by the company names or the site owners and can, therefore, assist in establishing whether there were potentially contaminating activities occurring at the site.

Records indicate that the site was privately owned by farmers until purchased by Ballina Shire Council from 1936. These names did not indicate any obvious potential for contamination.

Copies of the titles are attached in Appendix D.

5.2 Public Registers and Planning Records

EPA Notices available under Section 58 of the Contaminated Lands Management Act (CLM Act) Database searched 1 September 2022	There were no records of notices for the site or adjacent sites.
Sites notified to EPA under Section 60 of the CLM Act Database searched 1 September 2022	The site and adjacent sites were not listed as a notified contaminated site.
Licences listed under Section 308 of the Protection of the Environment Operations Act 1997 (POEO Act) Database searched 1 September 2022	There were two records issued to the site or adjacent sites as following: • Ballina Shire Council – Tuckombil Quarry: located on-site, licensed for land-based extractive activities; and • Ballina Shire Council – Alstonville Sewage Treatment Works: located 745 m north-east of the site, licensed for sewage treatment processing by small plants.

5.3 Site History Integrity Assessment

The information used to establish the history of the site was sourced from reputable and reliable reference documents, many of which were official records held by Government departments/agencies. The databases maintained by various Government agencies potentially can contain high quality information, but some of these do not contain any data.

In particular, aerial photographs provide high quality information that is generally independent of memory or documentation. They are only available at intervals of several years, so some gaps exist in the information from this source. The observed site features are open to different interpretations and can be affected by the time of day and/or year at which they were taken, as well as specific events, such as flooding. Care has been taken to consider different possible interpretations of aerial photographs and to consider them in conjunction with other lines of evidence.

5.4 Summary of Site History

The site history information suggests that the site was acquired by the current owner from 1936. Information on historical aerial photographs and historical leases suggest that the site was a former quarry since sometime between 1979 and 1987 and until sometime between 2014 and 2021.

6. Site Walkover

6.1 Observations

A site walkover was conducted by DP Environmental Scientist, Jesse Wotton, on 12 and 13 September 2022. The general site topography was consistent with that described in Section 4.1. The site layout appears to have remained unchanged from the 2022 aerial photograph. The following key site features pertinent to the PSI were observed (refer to photographs presented in Appendix E):

- At the time of the investigation the site appeared to be vacant. The centre of the site contained a large body of water within the quarry void. An access road was present from the Boral Asphalt Plant to the void;
- Branch Creek was observed entering the site from the south and flowing north and exiting the northern boundary of the site adjacent to the Ron Southon lease area. The Creek flowed along the Boral Asphalt Plant lease area, behind an above ground diesel storage area. The Creek did not appear to be linked with the quarry void;
- A small-ponded area of water was observed in the western part of the site. An overflow creek bed was present and appeared to flow from the ponded water to the main creek. At the time of the investigation the creek bed was dry;
- Most of the site was covered with thick grass, bush (Lantana) and tree vegetation. Access to most of the site was inaccessible due to terrain and vegetation. Several gravel tracks were present with large gravel construction pads observed in the north-eastern, south-eastern and south-western parts of the site;
- The site undulated with areas of excavated flat gravel and rock pads, deep cuts of up to 5 m with exposed rock walls, steep slopes and overgrown soil and gravel stockpiles. The southern and northern parts of the site were covered with a gravel road base material;
- Areas of protruding rocks and exposed rock walls were exposed around the quarry void;
- Areas of deep cuts were observed around the dam with areas of landslips observed along the excavations;
- Scattered waste products (i.e., plastics, metal fragments, glass/plastic bottles and ceramics) were observed in the north-eastern and south-western parts of the site. Presumed windblown waste products were observed along the eastern and southern boundaries;
- Two groundwater monitoring wells were located in the north-eastern part of the site. The wells were located adjacent to borehole 17 and were locked at the time of investigation;
- No obvious potential asbestos containing material (PACM) was observed across the surface of the site; and
- There were no signs of vegetation stress or obvious signs of potential contamination observed during the site inspection.

6.2 Adjacent Leases Observations

At the time of the investigation, two lease areas were present and occupied by Boral (Asphalt Plant) and Ron Southon (Drilling and Blasting). The site encompassed both of these lease areas. The following key site features pertinent to the PSI were observed:

Boral Asphalt Plant Lease Area

- The Boral Asphalt Plant contained several bunded above ground diesel storage tanks, hot bitumen tanks, and chemical storage areas. Areas of stained surfaces were observed around the diesel and bitumen storage tanks;
- Three above ground Liquid Petroleum Gas (LPG) tanks were observed in the western area of the Boral lease site;
- Stockpiled gravel was observed around the Boral Asphalt Plant lease area and across areas of the site adjacent to the lease presumed to be owned and used as part of the Boral operations;
- Various machinery was left at the lease presumed to be used in asphalt production; and
- At the time of the investigation the site was not regularly being used by Boral. According to the Boral website the plant operated from 1978 to July 2020. With operations since then only occurring in support of any major customer projects (Boral 2022).

Ron Southon Lease Area

- The Ron Southon lease area was encompassed by a large perimeter fence. The site appeared to store fuel storage equipment and infrastructure, and drilling equipment. Multiple sheds, shipping containers and warehouse office areas were present across the lease area.

7. Conceptual Site Model

A conceptual site model (CSM) is a theoretical representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The CSM provides the framework for identifying how the site may become contaminated and how potential receptors may be exposed to contamination either in the present or the future, i.e. it enables an assessment of the potential source – pathway – receptor linkages (complete pathways).

Potential Sources (S)

Based on the current investigation, the following potential sources of contamination and associated contaminants of potential concern (CoPC) have been identified.

- S1: Fill.
  - Various CoPC and may include metals/metalloids, total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, xylene (BTEX), polycyclic aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB), organochlorine pesticides (OCP), organophosphate pesticides (OPP), phenols and asbestos.
- S2: Existing and former buildings.
  - CoPC include asbestos, synthetic mineral fibres (SMF), lead (in paint) and PCB.

- S3: Historical and current site use.
  - CoPC include metals/metalloids, TRH, BTEX, PAH, PCB, OCP, OPP, phenols and asbestos.
- S4: Above ground fuel and chemical storage (Ron Southon and Boral Asphalt Please areas)
  - CoPC include Lead, TRH, BTEX and PAH.?

Potential Receptors (R)

The following potential human receptors have been identified:

- R1: Construction and maintenance workers;
- R2: End site users [Industrial]; and
- R3: Adjacent site users [Residential].

The following potential environmental receptors have been identified:

- R4: Surface water [dams and Branch Creek];
- R5: Groundwater; and
- R6: Terrestrial ecology.

Potential Pathways (P)

The following potential pathways have been identified:

- P1: Ingestion and dermal contact;
- P2: Inhalation of dust and/or vapours;
- P3: Surface water run-off;
- P4: Lateral migration of groundwater providing base flow to water bodies;
- P5: Leaching of contaminants and vertical migration into groundwater; and
- P6: Contact with terrestrial ecology.

Summary of Potentially Complete Exposure Pathways

A ‘source–pathway–receptor’ approach has been used to assess the potential risks of harm being caused to human or environmental receptors from contamination sources on or in the vicinity of the site, via exposure pathways (potential complete pathways). The possible pathways (P1 to P6) between the above sources (S1 to S3) and receptors (R1 to R6) are provided in below Table 4.

Table 4: Summary of Potentially Complete Exposure Pathways

Source and CoPC	Transport Pathway	Receptor
S1: Fill - Metals, TRH, BTEX, PAH, PCB, OCP, phenols and asbestos S2: Existing and former buildings - asbestos, SMF, lead (in paint) and PCB S3: Site use - Metals, TRH, BTEX, PAH, PCB, OCP, phenols and asbestos S4: Above ground fuel and chemical storage – Lead, TRH, BTEX and PAH	P1: Ingestion and dermal contact P2: Inhalation of dust and/or vapours P3: Surface water run-off P4: Lateral migration of groundwater providing base flow to water bodies P5: Leaching of contaminants and vertical migration into groundwater P6: Contact with terrestrial ecology	R1: Construction and maintenance workers R2: End users R3: Adjacent site users R4: Surface water R5: Groundwater R6: Terrestrial ecology

8. Sampling and Analysis Quality Plan and Methodology

8.1 Data Quality Objectives

Data qualitative objectives (DQOs) are qualitative and quantitative statements that specify the type of data required for the assessment and have been derived from the CSM (Section 7). The DQO process is a seven-step iterative planning approach that is specified in the NEPM (Schedule B2, Appendix B) used to define the type, quantity and quality of data needed to inform decisions relating to the environmental condition of a site. DQOs for this assessment were developed in accordance with this seven-step DQO process and are summarised in Appendix F.

Table 5: DQOs for the project

Problem	Uncertainty exists as to whether contamination is present at the site.
Identify the Decision/ Goal	• Are there any apparent signs of elevated soil or groundwater contamination within the site? • Does the site, or is the site likely to, present a risk of harm to human health or the environment? • Does the site require further investigation, remediation and/or validation to render the site suitable for the proposed use?
Information Inputs	• Historical information regarding past land uses and features; • Site operations and observation details; • Soil profile information obtained through the sampling phase; • Chemical analysis data for soil samples analysed; and • Assessment of analytical data against applicable site assessment criteria (SAC).

Study Boundaries	The physical site boundary is shown on Drawing 1, Appendix B and forms the boundary of this investigation. The temporal boundary of this assessment is limited to the time at which the assessment was conducted.
Decision Rules	Information obtained in this investigation is to be used to assess contamination issues likely to impact on the proposed development. In assessing analytical data against screening levels for ecological and/or human health risk, site conditions can be stated to be acceptable if either: • All results are below the relevant screening level; OR • Individual concentrations of analytes (non-volatile) are less than 250% of the relevant screening level; • The 95% upper confidence limit (UCL) of mean concentrations of a data set for samples of like material is below the relevant screening level; and • The standard deviation of the population is <50% of the relevant screening level. Statistical analysis needs only be conducted where analytical results for a contaminant of concern are recorded above, but less than 250% of the relevant screening level. Laboratory results are accepted and considered suitable for this assessment under the following conditions: • All laboratories are accredited by National Association of Testing Authorities (NATA) for all analyses to be performed; • All practical quantitation limits (PQLs), or laboratory limits of reporting (LORs) set by the laboratories fall below the adopted assessment criteria; • Reported concentrations of analytes in the replicate and/or split sample pairs are within accepted limits; and • Quality assurance/quality control (QA/QC) protocols and results reported by the laboratories comply with the requirements of the NEPM (Schedule B3).
Performance Criteria	Analyte selection is based on available site history information, observed site activities, site features, and field observations during sampling. The potential for contaminants to be present other than those analysed is considered to be low. Assessment criteria adopted from the guidelines stated in Section 10 incorporate risk probabilities. Acceptable limits for replicate/split comparisons are described in Appendix F. Acceptable limits for laboratory QA/QC parameters are based on those stated by the laboratory and those stated in the NEPM (Schedule B3).
Optimise design	Locate sampling points to target potential sources of contamination as described in Section 8.3 Procedures for collection of environmental samples, as described in Sections 8.3 and 8.4 were developed prior to conducting the assessment phase of works with reference to the NEPM, NSW EPA 2022, AS5667.1, AS5667.11, and current good industry practice. Use of NATA accredited analytical laboratories to conduct sample analyses.

8.2 Summary of Field Methodologies

The field investigation was conducted by DP environmental scientist, Jesse Wotton on 12 and 13 September 2022 and comprised the following activities:

- Drilling of 23 boreholes (1 to 23) with a motorised soil sampler to depths ranging between 0.2 m and 1.0 m bgl;
- Collection of soil samples from each borehole at various depth intervals;
- Collection of seven surface water samples from the quarry void (SW 1 2 and 6), Branch Creek (SW 4, 5 and 7 and pond water (SW3) and;
- Collection of additional soil samples for quality control (QC) purposes (as discussed in Appendix F).

8.3 Soil Sampling

8.3.1 Sampling Strategy

The sampling strategy was based on a grid sampling strategy to provide general site coverage. Some locations were adjusted due to accessibility issues. The sampling locations are shown on Drawing 1, Appendix B. The sampling density (i.e. 23 test locations) is less than the recommended density presented in Table 2 of the NSW Environment Protection Authority (EPA) sampling design guidelines for contaminated land for characterisation of a site covering an area of 18.3 ha(i.e., 202 sampling locations). However, this sampling density is considered suitable for preliminary investigation purposes.

8.3.2 Sampling Methodology

To obtain representative samples and to maintain their integrity soil was sampled with reference to the National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) (the 'NEPM') and standard operating procedures described in DP's Field Procedures Manual.

8.3.3 Sample Handling

All samples were recorded on DP chain of custody sheets, and the general sampling procedure comprised:

- Collection of samples from soil in push tubes that had been opened immediately after extraction;
- Sampler wearing disposable gloves that were changed prior to the collection of each sample;
- Transfer of samples into laboratory-prepared glass jars with Teflon-lined lids and capping immediately;
- Various sampling for QC purposes (see Appendix F);
- Labelling of sample containers with individual and unique identification details, including project number and sample location; and
- Placement of the sample jars into ice-cooled, insulated and sealed containers and transferred to the DP office and refrigerated overnight, then transferred in sealed ice cooled insulated containers to the laboratory on 14 September 2022.

Sample integrity was maintained by keeping all samples sealed in appropriate jars and in ice-cooled, insulated containers immediately after sampling. Samples were sent to the laboratory on the day after sampling with ice present. Samples were all received by the laboratory in good condition, in the correct containers without headspace, and within the laboratory's recommended holding times outlined in the NEPM (2013).

It is considered that the integrity of samples was preserved during temporary storage and transportation to the laboratory. Chain of custody and sample receipt documentation is provided in Appendix H.

8.4 Surface Water Sampling

In order to assess the current contamination status of the quarry void, Branch Creek and ponded water located on the site, sampling of surface water was conducted by DP Environmental Scientist, Jesse Wotton on 13 September 2022. Sampling was carried out with reference to the standard operating procedures described in DP's Field Procedures Manual to ensure that the samples are representative and to maintain their integrity.

Samples were recorded on a DP chain of custody sheet, and the general sampling procedure comprised:

- Inserting a bottle into the sampling pole and collecting water samples or collection of samples using a disposable bailer due to access restrictions;
- Measuring of surface water field parameters using a calibrated multi-parameter water quality meter and calibrated turbidity meter;
- Transfer of the samples directly into appropriate laboratory prepared containers;
- Labelling of sample containers with individual and unique identification details, including project number and sample location; and
- Placement of the sample bottles into an ice-cooled, insulated and sealed containers for transport to the laboratory.

Sample integrity was maintained by keeping all samples in sealed glass jars and in ice-cooled, insulated containers immediately after sampling. Samples were sent to laboratory the day after sampling with ice present.

8.5 Rationale for Selection of Laboratory Analyses

A total of 46 primary soil samples and seven primary surface water samples were collected during the field investigation and sent to Eurofins laboratory, located at 26 Smallwood Place, Murarrie, QLD. Of these, 23 primary soil samples and all seven surface water samples were selected for analysis.

Soil samples were analysed for various CoPC including metals/metalloids, TRH, BTEXN, PAH, phenols, OCP, OPP and PCBs

Surface water samples were analysed for various CoPC including metals/metalloids, OCP, OPP and nutrients.
In addition, two blind intra-laboratory replicate soil samples (R1 and R4), one trip blank and one trip spike were analysed by Eurofins for QC purposes. One inter-laboratory soil sample (S1) was also analysed by Australian Laboratory Services Pty Ltd (ALS), at 2 Byth Street, Stafford, Brisbane for QC purposes. Both laboratories are accredited by NATA for all analyses undertaken.

9. Quality Assurance and Quality Control

QA and QC measures were implemented throughout the investigation. This was achieved by defining the data quality objectives (DQOs, Table 5) for the project based on the CSM prior to the commencement of field investigations. All QA/QC information was then evaluated against the DQOs and is summarised in Appendix F.

10. Site Assessment Criteria

10.1 Soil investigation Levels

The site assessment criteria (SAC) applied in the current investigation are informed by the CSM (Section 7) which identified human and ecological receptors to potential contamination on the site. Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising primarily the investigation and screening levels presented in Schedule B1 of NEPM (NEPC, 2013).

The NEPM guidelines are applicable to generic land use settings and include consideration of the soil type and depth of parameters for some analytes. They are broadly divided into two groups, health-based investigation or screening levels (HIL/HSLs) representing risks to human receptors, and ecological investigation or screening levels (EIL/ESLs) representing risks to ecological and/or environmental receptors. Guidelines are not intended to be used as clean-up levels, rather, they establish concentrations above which further investigation (e.g. Tier 2 Investigation) should be conducted.

Given the proposed redevelopment the following criteria were adopted for this investigation:

- HIL/HSL – D Commercial/Industrial
- ESL/EIL – D: Commercial/Industrial.

10.2 Surface Water Investigation Levels

The following guidelines were applied to assess water analytical data from the site in the following order of priority: ANZG (2018: Table 3.4.1, trigger values for 95% protection of slightly-moderately disturbed freshwater ecosystems), NEPC (2013: Schedule B1, Table 1C Groundwater Investigation Levels (GILs) for freshwater aquatic ecosystems) and Table 10.6 of the 2011 Australian Drinking Water Guidelines (ADWG) (NRMMC 2022).

Laboratory results have been compared against the adopted threshold levels and are summarised in Appendix I.

11. Ground Conditions

Details of the subsurface conditions encountered in the boreholes are given on the borehole logs attached in Appendix G. The logs should be read in conjunction with the notes 'About this Report' and other explanatory notes in Appendix G, which comment on the sampling methods, soil descriptions, and symbols and abbreviations used in their preparation.

In summary, the subsurface conditions generally comprise fill underlain by residual soils to the limit of the investigation. The subsurface conditions are further summarised below:

- Fill **–** sandy clay, sandy gravel, gravelly clay or clayey gravel fill was encountered at the surface of boreholes 3 to 10, 13 and 15 to 23. Most of these boreholes were underlain by fill to their termination depths (i.e., between 0.2 and 1.0 m bgl).
- **Residual soils** – sandy clay was encountered underneath the fill material in borehole 3, 8, 9 and 10 and from the surface in boreholes 1, 2, 11, 12 and 14 to their termination depths.

Groundwater was encountered within borehole 11 at an approximate depth of 0.2m bgl. It should be noted however, that groundwater depths and ground moisture conditions are affected by climatic conditions, surface and subsurface drainage conditions, and human influence, and will therefore vary spatially, and with time.

12. Discussion of Results

12.1 Soil Investigation Results

With reference to Tables 1 to 2, within Appendix I, the analytical soil results for the CoPC in all samples were below the adopted SAC except for EIL/ESL exceedances of the following:

- Zinc in sample 10/0.1;
- TRH (>C_{10}-C_{16}), TRH Fraction F3 and Benzo(a)pyrene in samples 22/0.1 and 23/0.1. However, it appears that the laboratory has raised the limit of reporting (LOR) due to matrix inference for these samples, and as the adjusted LOR is above the SAC this then shows an exceedance.

The laboratory report and associated chain of custody documentation is attached in Appendix H, and a summary of the laboratory results is attached in Appendix I.

12.2 Surface Water Investigation Results

The field measurements are summarised in Table 3, Appendix I. A review of the results compared against the adopted SAC indicated that:

- The pH for samples SW1, SW3, SW4, SW5 and SW7 either exceeded or were below the adopted ANZECC criterion (6.5 to 8.5);
- The electrical conductivity (EC) for all samples was below the adopted ANZECC criterion (125 to 2,200 µS/cm);
- The turbidity of samples SW2, SW3 and SW5 exceeded the adopted ADWG criterion (5 NTU);
- The dissolved oxygen of samples SW1, SW2, SW3 and SW6 either exceeded or were below the adopted ANZECC criterion (85 to 110 %Sat)

Surface water onsite is considered to comprise of freshwater with field EC concentrations recorded between 75.2 µS/cm and 116 µS/cm.

The analytical results are summarised in Tables 4 to 7, Appendix I. Review of the site investigation results indicated that there were no exceedances of the adopted SAC, except for:

- Exceedances of the GIL and ANZG criteria for copper (1.4 µg/L) were reported for samples SW1, SW2, SW3, SW5 and SW7. However, these samples were below the adopted ADWG criterion of 2,000 µg/L;
- Exceedances of the GIL and ANZG criteria for zinc (8 µg/L) was reported for Sample SW5; and
- Concentrations of ammonia in Sample SW7 was equal to the adopted ANZG criterion of 0.02 mg/L.

13. Conclusions and Recommendations

Based on the investigations described in this report, the following conclusions are made:

- The site originally appeared to be developed for agricultural use until it was redeveloped as a hard rock quarry;
- The intrusive soil investigation indicated that broadscale contamination has not been detected at concentrations that are considered to present a risk of harm to potential human and ecological receptors;
- No obvious potential asbestos containing material was encountered during the site walkover or intrusive works;
- Exceedances were detected above the adopted SAC for metals and nutrients in the surface water samples. pH, EC, turbidity and dissolved oxygen values in the surface water samples were also above/below the adopted SAC. Therefore, if discharge of the quarry water to a watercourse is proposed, then treatment would be required due to those results. Onsite use of the dam water as a dust suppressant is considered to be acceptable, however, any excess runoff water cannot directly drain or flow into a stormwater system;
- Potential for offsite contamination is present at the site from the fuel storage of both the Boral Asphalt Plant lease area and the Ron Southon lease area;
- A preliminary waste classification of the soils investigated at the site places the soil as general solid waste (non-putrescible). If soil is to be disposed offsite then a waste classification assessment would be required prior to disposal; and
- Based on the results of the sampling and analysis conducted, the site is considered suitable for the proposed rezoning for high technology industrial use.

Notwithstanding the above conclusions, some potential may exist for isolated pockets of contamination being present in other parts of the site not investigated. Therefore, DP recommends the preparation and implementation of an Unexpected Finds Protocol (UFP). The UFP should be included in early works/bulk earthworks environmental management plans (or similar) at the site.

Unexpected finds would typically be able to be identified by visual or olfactory indicators and could include, inter alia:

- Waste materials in fill, including building and demolition waste;
- Fibrous cement fragments (e.g. asbestos-containing materials);
- Stained or malodorous fill or soil; and
- Ash and/or slag.

In the event of an unexpected find, a suitably qualified contaminated land consultant should be engaged to inspect the find and provide advice on the appropriate course of action.

14. References

Australian and New Zealand Guidelines (ANZG) (2022) Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at www.waterquality.gov.au/anz-guidelines.

Boral (2022). Boral Asphalt Alstonville. Available at https://www.boral.com.au/locations/boral-asphalt-alstonville. Last accessed on 6 October 2022.

ANZG. (2018). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Canberra, ACT: Australian and New Zealand Governments and Australian state and territory governments.

Balina Shire Council (2022). *Geographical information system*. Retrieved September 26, 2022 from https://maps.ballina.nsw.gov.au/intramaps90/default.htm?project=BallinaPublic

NEPC. (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]. Australian Government Publishing Services Canberra: National Environment Protection Council.

NSW EPA. (2022). Sampling Design Part 1 – Application, Contaminated Land Guidelines. NSW Environment Protection Authority.

NSW EPA. (2014). Waste Classification Guidelines, Part 1: Classifying Waste. NSW Environment Protection Authority.

NSW EPA. (2016). Addendum to the Waste Classification Guidelines (2014) - Part 1: Classifying Waste. NSW Environment Protection Authority.

NSW EPA. (2020). Guidelines for Consultants Reporting on Contaminated Land. Contaminated Land Guidelines: NSW Environment Protection Authority.

15. Limitations

Douglas Partners (DP) has prepared this report for this project at Tuckombil Quarry, Alstonville in accordance with DP's proposal dated 25 July 2022 and acceptance received from Rob Van Iersel. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of Ballina Shire Council for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions

across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

The assessment of atypical safety hazards arising from this advice is restricted to the environmental components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

Douglas Partners Pty Ltd

Appendix A

About this report

About this Report

Douglas Partners

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Appendix B

Drawing 1





Location Plan

N

0 25 50 75 100

SCALE 1: 2,500 (A3)

LEGEND:-

- Borehole Location and Number
- Surface waterSampling Locations
- Boral Site Boundary
- Ron Southon Pty Ltd
- Approximate Site Boundary

NOTE:-

1. Test locations are approximate only and are shown with reference to existing site features.
2. Image obtained from Metromap. Date of imagery 06-06-2022.

Douglas Partners
Geotechnics | Environment | Groundwater

CLIENT: Ballina Shire Council		
OFFICE: Brisbane	DRAWN BY: JST	
SCALE: As shown	DATE: 26 September 2022	

TITLE: **Site and Test Location Plan**
Contamination Assessment
Gap Road, Alstonville

PROJECT No:	216829.00
DRAWING No:	1
REVISION:	0

P:\216829.00 - ALSTONVILLE, Gap Road, Contamination Ass\7.0 Drawings\7.2 Out\216829.00.D.001.Rev0.dwg

Appendix C

Lotsearch Report

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 01 Sep 2022 17:29:04

Reference: LS035884 EP

Address: 540 Gap Road, Alstonville, NSW 2477

Disclaimer:
The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.
You should obtain independent advice before you make any decision based on the information within the report.
The detailed terms applicable to use of this report are set out at the end of this report.

Dataset Listing

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

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Customer Service - Spatial Services	17/06/2022	17/06/2022	Quarterly	-	-	-	-
Topographic Data	NSW Department of Customer Service - Spatial Services	22/08/2022	22/08/2022	Annually	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	01/08/2022	07/07/2022	Monthly	1000m	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	19/08/2022	19/08/2022	Monthly	1000m	0	0	0
Former Gasworks	Environment Protection Authority	03/06/2022	14/07/2021	Quarterly	1000m	0	0	0
National Waste Management Facilities Database	Geoscience Australia	26/05/2022	07/03/2017	Annually	1000m	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	23/08/2022	13/07/2012	Annually	1000m	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	01/08/2022	14/07/2021	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	01/08/2022	01/08/2022	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	01/08/2022	01/08/2022	Monthly	2000m	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	01/08/2022	01/08/2022	Monthly	2000m	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	06/06/2022	06/06/2022	Quarterly	2000m	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	16/02/2022	13/12/2018	Annually	1000m	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	19/08/2022	19/08/2022	Monthly	1000m	1	1	2
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	19/08/2022	19/08/2022	Monthly	1000m	0	1	1
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	19/08/2022	19/08/2022	Monthly	1000m	4	4	4
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150m	0	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150m	-	5	5
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500m	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500m	-	0	0
Cattle dips of the Northern Rivers region	NSW Dept. of Primary Industries	09/08/2022	09/08/2022	Annually	1000m	0	0	2
Points of Interest	NSW Department of Customer Service - Spatial Services	18/08/2022	18/08/2022	Quarterly	1000m	0	1	17
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	18/08/2022	18/08/2022	Quarterly	1000m	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	18/08/2022	18/08/2022	Quarterly	1000m	0	0	1
Major Easements	NSW Department of Customer Service - Spatial Services	29/08/2022	29/08/2022	Quarterly	1000m	1	1	2
State Forest	Forestry Corporation of NSW	16/08/2022	14/08/2022	Annually	1000m	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	10/02/2022	31/12/2021	Annually	1000m	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	29/08/2022	19/08/2019	Annually	1000m	1	1	1
Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018	NSW Department of Planning, Industry and Environment	28/03/2022	23/02/2018	Annually	1000m	0	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
National Groundwater Information System (NGIS) Boreholes	Bureau of Meteorology; Water NSW	24/01/2022	24/01/2022	Annually	2000m	2	3	96
NSW Seamless Geology Single Layer: Rock Units	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	1	1	1
NSW Seamless Geology – Single Layer: Trendlines	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	0	0	0
NSW Seamless Geology – Single Layer: Geological Boundaries and Faults	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	0	0	0
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000m	0	0	0
Atlas of Australian Soils	Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES)	19/05/2017	17/02/2011	As required	1000m	1	1	1
Soil Landscapes of Central and Eastern NSW	NSW Department of Planning, Industry and Environment	18/08/2022	27/07/2020	Annually	1000m	1	1	2
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	26/05/2022	06/05/2022	Monthly	500m	0	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000m	1	1	1
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000m	0	0	0
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	19/08/2021	05/08/2021	Quarterly	1000m	0	0	0
Current Mining Titles	NSW Department of Industry	01/08/2022	01/08/2022	Monthly	1000m	0	0	0
Mining Title Applications	NSW Department of Industry	01/08/2022	01/08/2022	Monthly	1000m	0	0	0
Historic Mining Titles	NSW Department of Industry	01/08/2022	01/08/2022	Monthly	1000m	9	12	12
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	15/11/2021	07/12/2018	Monthly	1000m	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	15/11/2021	05/11/2021	Monthly	1000m	1	2	53
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000m	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000m	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	17/08/2022	11/02/2022	Quarterly	1000m	0	0	0
Environmental Planning Instrument Local Heritage	NSW Department of Planning, Industry and Environment	26/05/2022	01/04/2022	Monthly	1000m	0	0	3
Bush Fire Prone Land	NSW Rural Fire Service	29/08/2022	08/08/2022	Weekly	1000m	2	2	3
Eastern Bushland Database (North Region)	NSW Office of Environment & Heritage	24/07/2016	01/01/1991	None planned	1000m	1	1	2
Ramsar Wetlands of Australia	Australian Government Department of Agriculture, Water and the Environment	28/03/2022	19/03/2020	Annually	1000m	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Annually	1000m	3	3	10
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000m	3	3	19
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	29/08/2022	29/08/2022	Weekly	10000m	-	-	-

Site Diagram

540 Gap Road, Alstonville, NSW 2477



Legend

- Site Boundary
- Internal Parcel Boundaries

Total Area: 229682m²

Total Perimeter: 3.15km

Scale: 0 25 50 100 150 200 Meters

Data Source Aerial Imagery:
© Aerometrex Pty Ltd

Disclaimers:

Measurements are approximate only and may have been simplified or smaller lengths removed for readability.

Parcels that make up a small percentage of the total site area have not been labelled for increased legibility.

Coordinate System:
GDA 1994 MGA Zone 56

Date: 01 September 2022

Contaminated Land

540 Gap Road, Alstonville, NSW 2477

List of NSW contaminated sites notified to EPA

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

Map Id	Site	Address	Suburb	Activity	Management Class	Status	Location Confidence	Dist	Direction
N/A	No records in buffer								

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

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

NSW EPA Contaminated Land List Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Contaminated Land

540 Gap Road, Alstonville, NSW 2477

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

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

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

Former Gasworks

Former Gasworks within the dataset buffer:

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

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

Waste Management & Liquid Fuel Facilities

540 Gap Road, Alstonville, NSW 2477

National Waste Management Site Database

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

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

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

National Liquid Fuel Facilities

National Liquid Fuel Facilties within the dataset buffer:

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

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

PFAS Investigation & Management Programs

540 Gap Road, Alstonville, NSW 2477

EPA PFAS Investigation Program

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

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

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

Defence PFAS Investigation Program

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

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

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

Defence PFAS Management Program

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

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

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

Airservices Australia National PFAS Management Program

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

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

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

540 Gap Road, Alstonville, NSW 2477

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

540 Gap Road, Alstonville, NSW 2477

EPA Other Sites with Contamination Issues

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

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

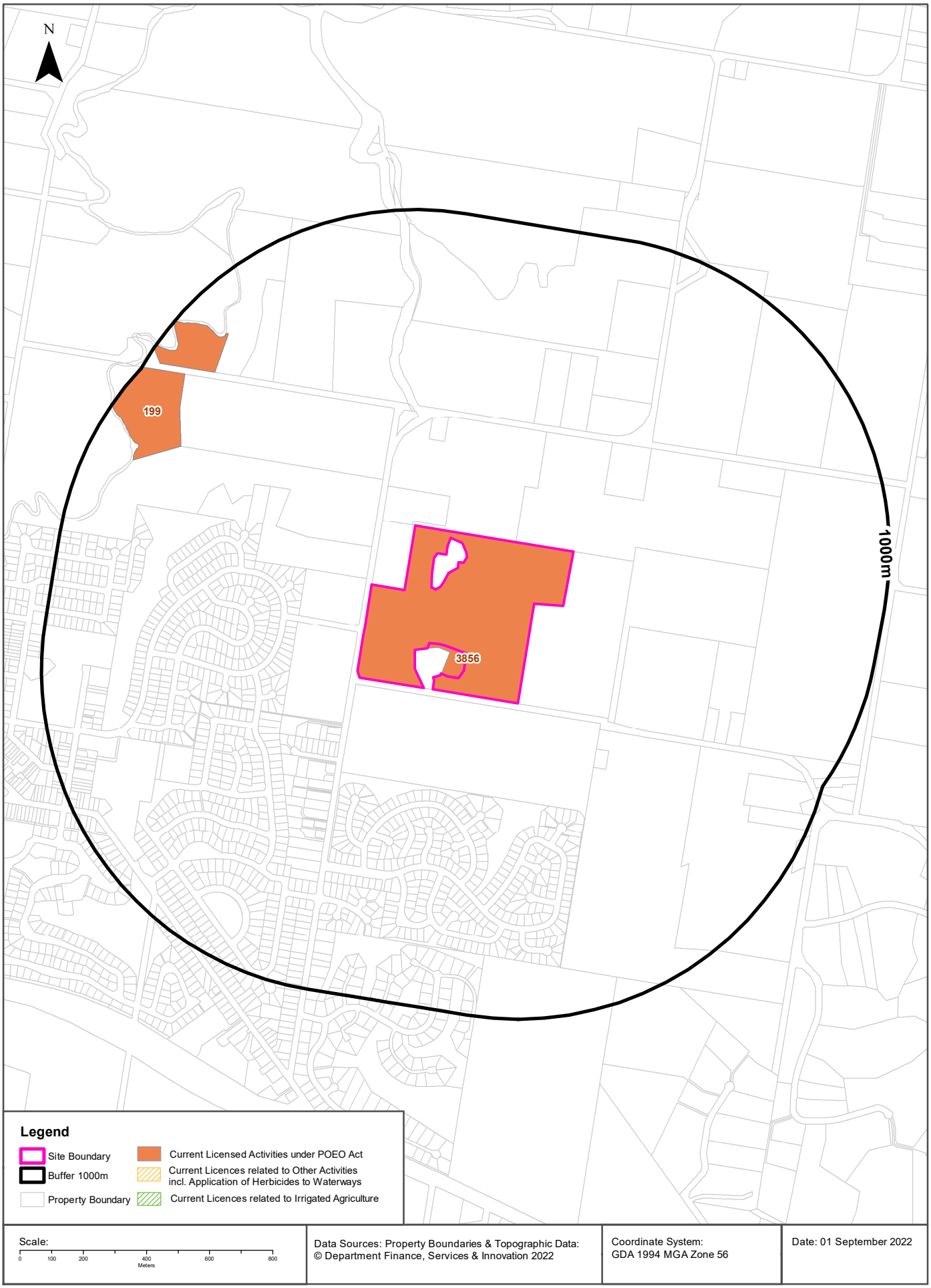
Sites within the dataset buffer:

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

EPA Other Sites with Contamination Issues: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Current EPA Licensed Activities

540 Gap Road, Alstonville, NSW 2477



EPA Activities

540 Gap Road, Alstonville, NSW 2477

Licensed Activities under the POEO Act 1997

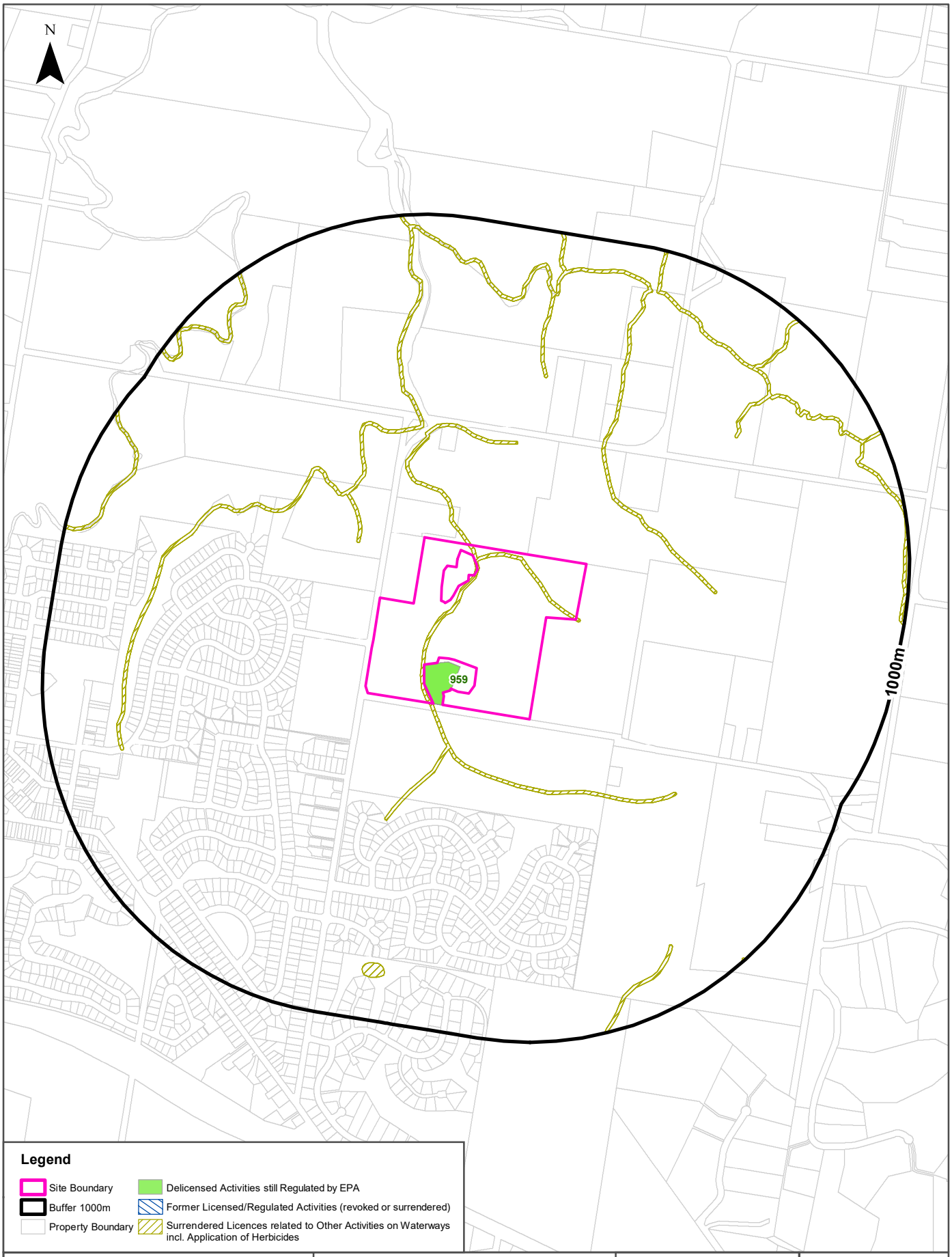
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
3856	BALLINA SHIRE COUNCIL	TUCKOMBIL QUARRY	486 GAP ROAD	ALSTONVILLE	Land-based extractive activity	Premise Match	0m	On-site
199	BALLINA SHIRE COUNCIL	ALSTONVILLE SEWAGE TREATMENT WORKS	JOHNSTONS ROAD	ALSTONVILLE	Sewage treatment processing by small plants	Premise Match	745m	North West

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

Delicensed & Former Licensed EPA Activities

540 Gap Road, Alstonville, NSW 2477



EPA Activities

540 Gap Road, Alstonville, NSW 2477

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
959	BITUPAVE LTD	BITUPAVE LTD	GAP ROAD	ALSTONVILLE	Bitumen mixing	Premise Match	0m	South West

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

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

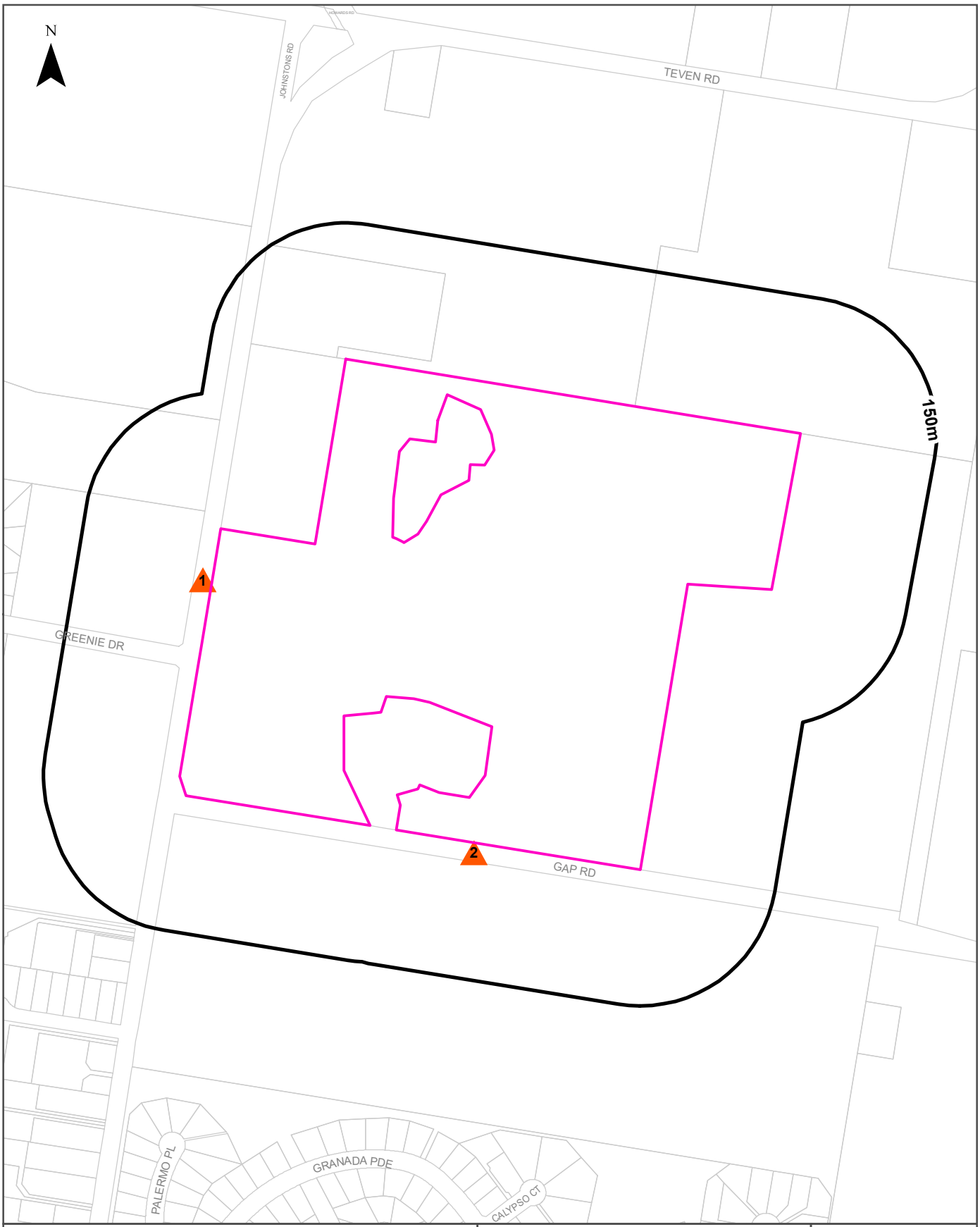
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
4292	FAR NORTH COAST COUNTY COUNCIL	COUNTY DISTRICT - LISMORE NSW 2480	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered	07/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered	09/11/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site

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

Historical Business Directories

540 Gap Road, Alstonville, NSW 2477



Legend

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

Scale: 0 80 160 240 320 Meters

Coordinate System: GDA 1994 MGA Zone 56

Date: 01 September 2022

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

Historical Business Directories

540 Gap Road, Alstonville, NSW 2477

Business Directory Records 1950-1991
Premise or Road Intersection Matches

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

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

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

Business Directory Records 1950-1991
Road or Area Matches

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

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
1	Not Listed	Alstonville Ready Mix Concrete., Teven Rd. Alstonville. 2477	187275	1991	Road Match	0m
	Not Listed	Crass. R., Teven Rd. Alstonville. 2477	187298	1991	Road Match	0m
	CONCRETE - READY MIXED - SUPPLIERS.	Alstonville Ready Mix Concrete. Teven Rd., Alstonville 2477	85634	1982	Road Match	0m
	BUILDERS &/OR BUILDING CONTRACTORS.	Crase, R., Teven Rd., Alstonville 2477	85604	1982	Road Match	0m
2	Not Listed	Bitupave Ltd., Gap Rd. Alstonville. 2477	187290	1991	Road Match	0m

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Historical Business Directories

540 Gap Road, Alstonville, NSW 2477

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

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

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

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

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

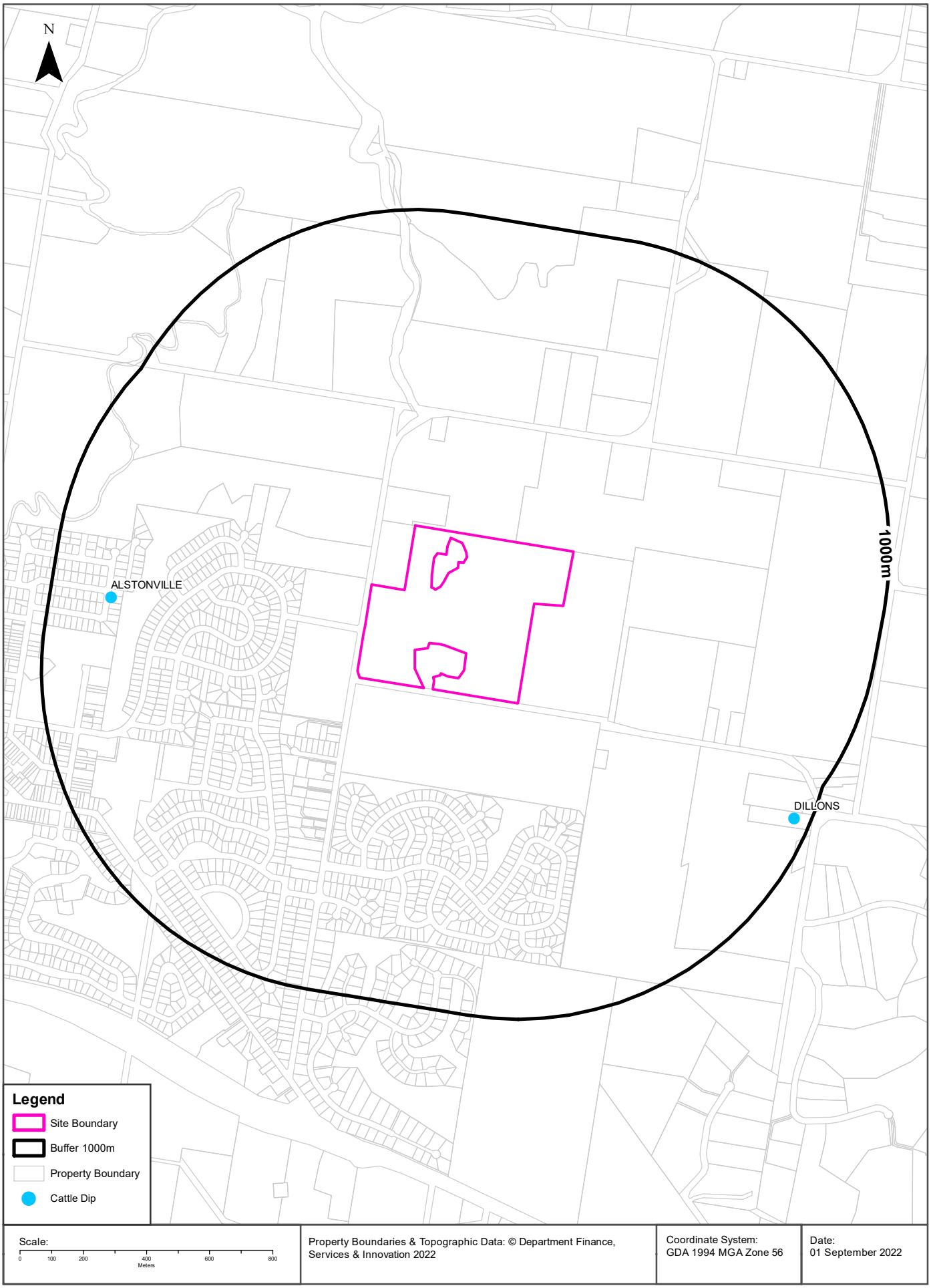
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

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

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Cattle Dips of the Northern Rivers Region

540 Gap Road, Alstonville, NSW 2477



Cattle Dips

540 Gap Road, Alstonville, NSW 2477

Cattle Dips of the Northern Rivers Region

Cattle dip sites within the dataset buffer:

Dip Name	Road	Town	Dip Status	Licence / Lease Status	Licence / Lease Expiry Date	Distance	Direction
ALSTONVILLE	SHOWGROUND	ALSTONVILLE	DEMOLISHED	LAPSED		806m	West
DILLONS	DILLONS LANE/GAP ROAD	ALSTONVILLE	DECOMMISSION	LAPSED	31/10/2000	948m	South East

Cattle dip site data provided by the NSW Department of Primary Industries.

Aerial Imagery 2021

540 Gap Road, Alstonville, NSW 2477



Aerial Imagery 2014

540 Gap Road, Alstonville, NSW 2477



Scale:
0 70 140 210 280
Meters

Data Source Aerial Imagery: © 2022 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System:
GDA 1994 MGA Zone 56

Date: 01 September 2022

Aerial Imagery 2007

540 Gap Road, Alstonville, NSW 2477



Scale:
0 70 140 210 280
Meters

Data Source Aerial Imagery: © 2022 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System:
GDA 1994 MGA Zone 56

Date: 01 September 2022

Aerial Imagery 1997

540 Gap Road, Alstonville, NSW 2477



Aerial Imagery 1987

540 Gap Road, Alstonville, NSW 2477



Aerial Imagery 1979

540 Gap Road, Alstonville, NSW 2477



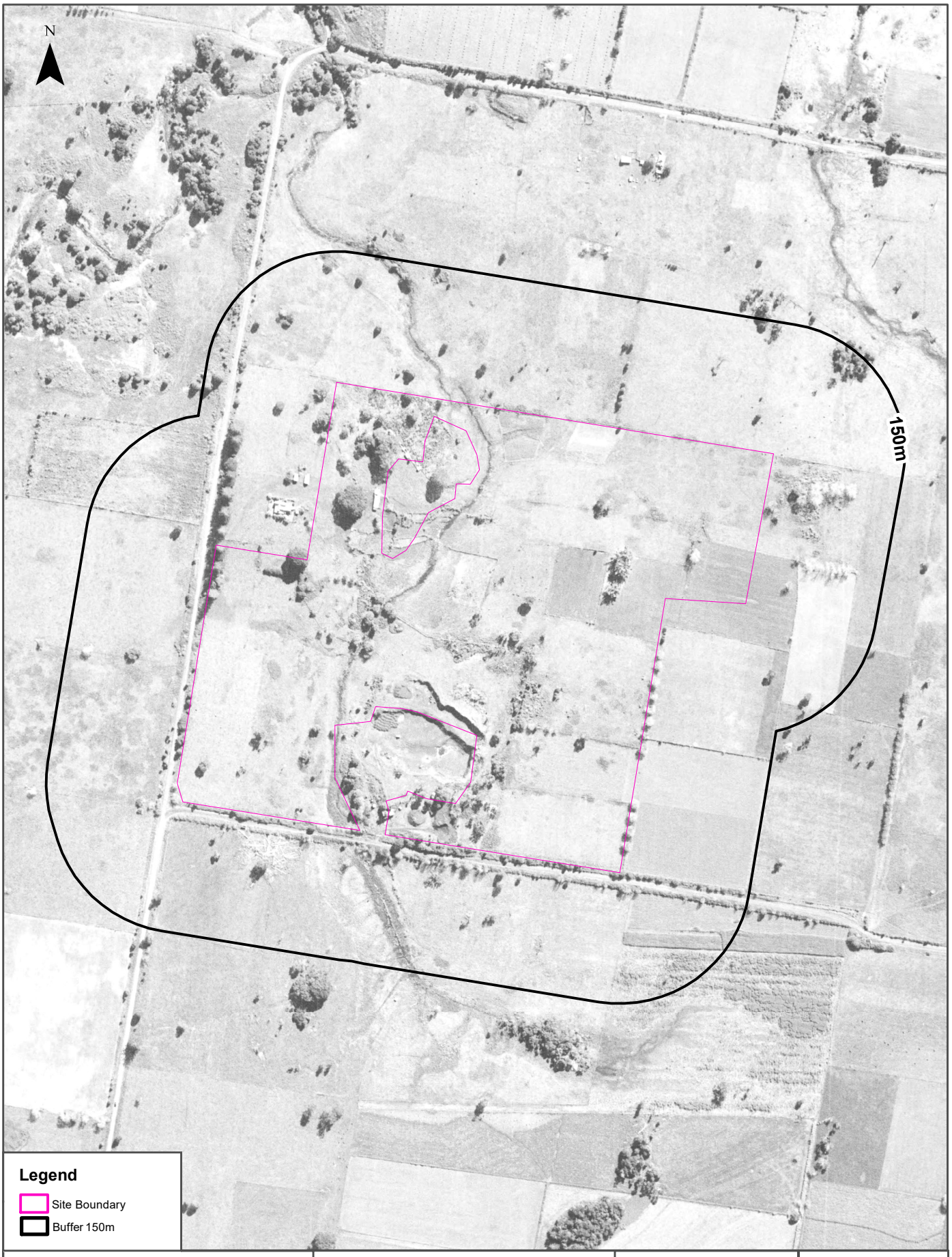
Aerial Imagery 1971

540 Gap Road, Alstonville, NSW 2477



Aerial Imagery 1967

540 Gap Road, Alstonville, NSW 2477



Aerial Imagery 1958

540 Gap Road, Alstonville, NSW 2477



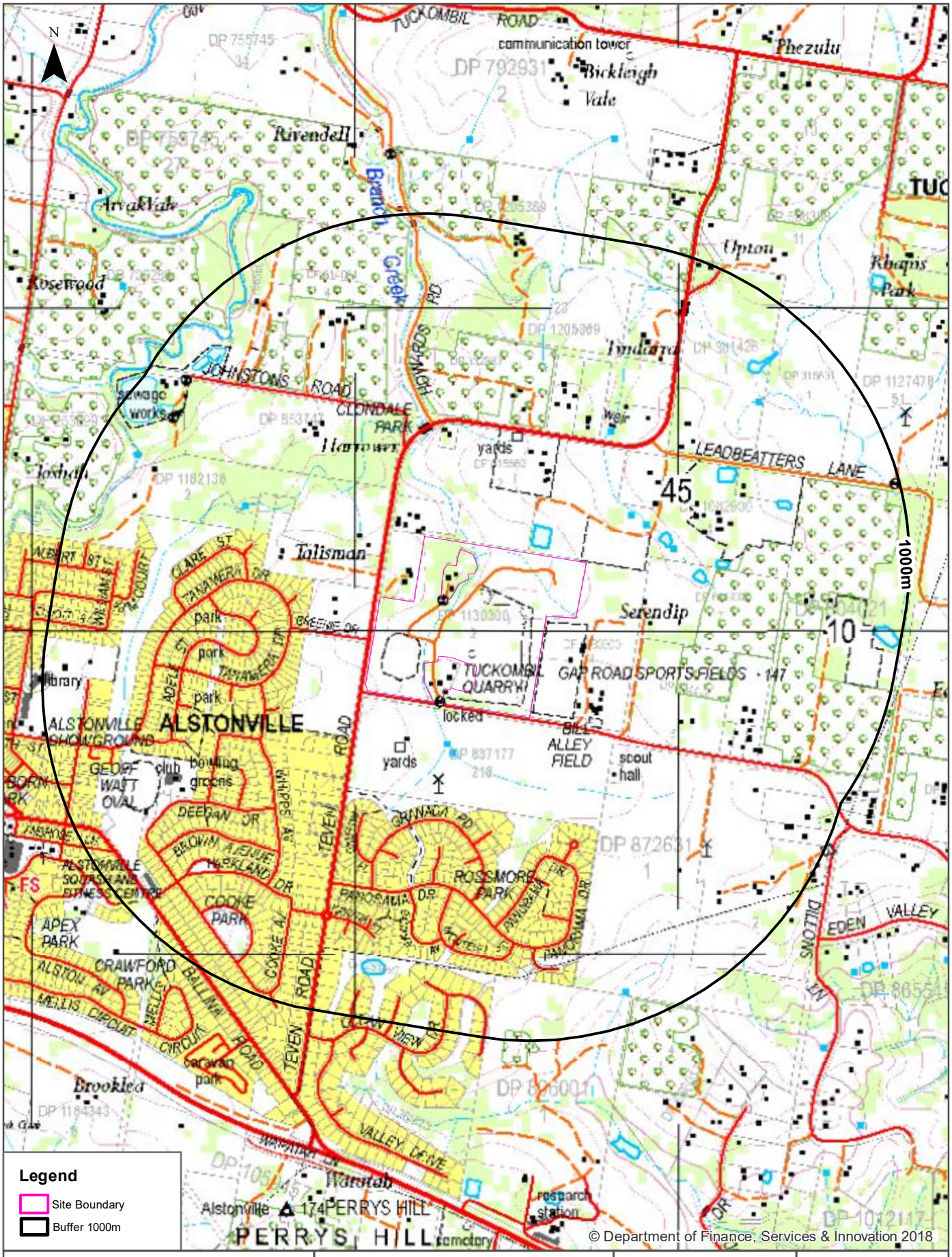
Aerial Imagery 1942

540 Gap Road, Alstonville, NSW 2477



Topographic Map 2015

540 Gap Road, Alstonville, NSW 2477



Scale: 0 190 380 Meters 570 760

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

Coordinate System:
GDA 1994 MGA Zone 56

Date: 01 September 2022

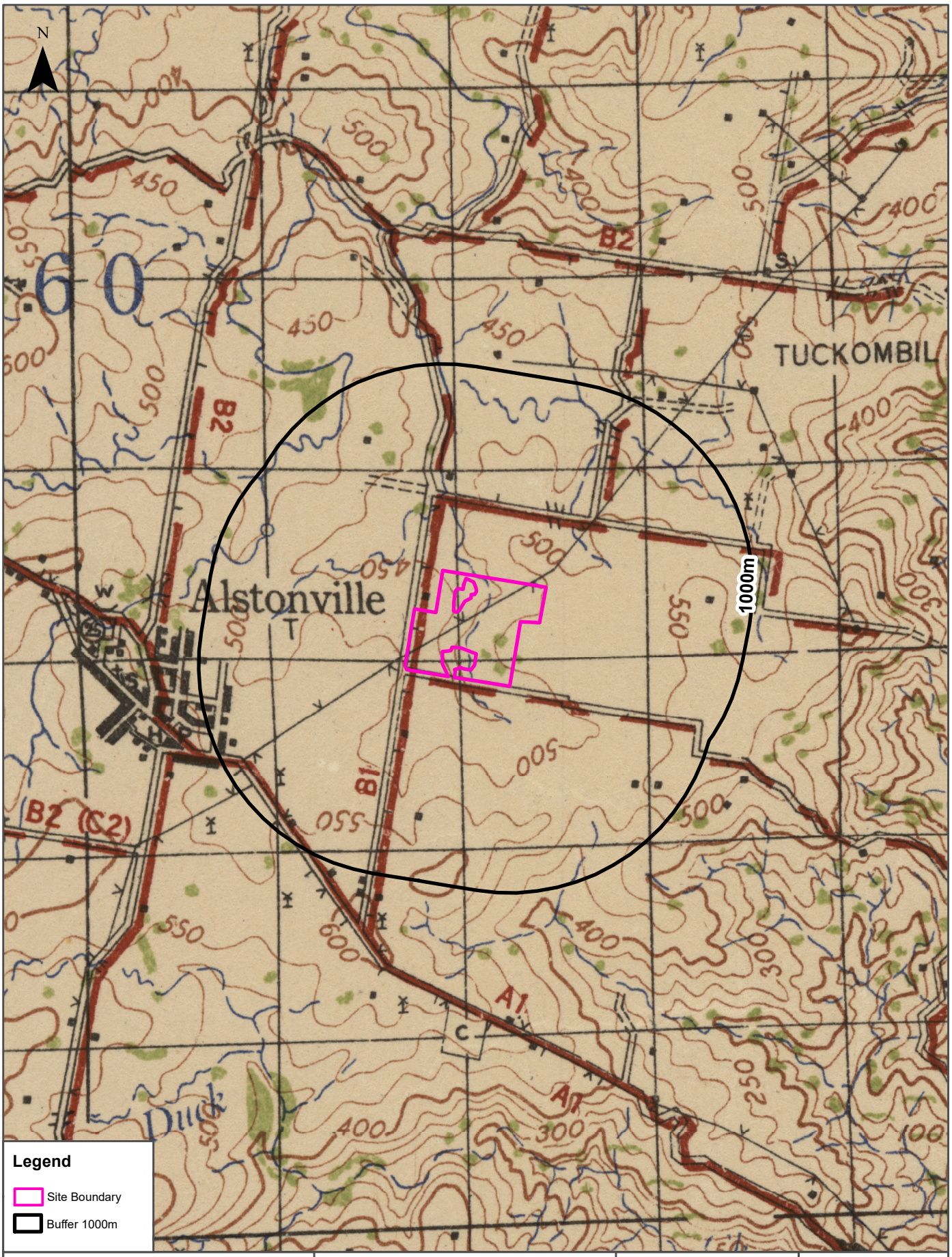
Historical Map 1974

540 Gap Road, Alstonville, NSW 2477



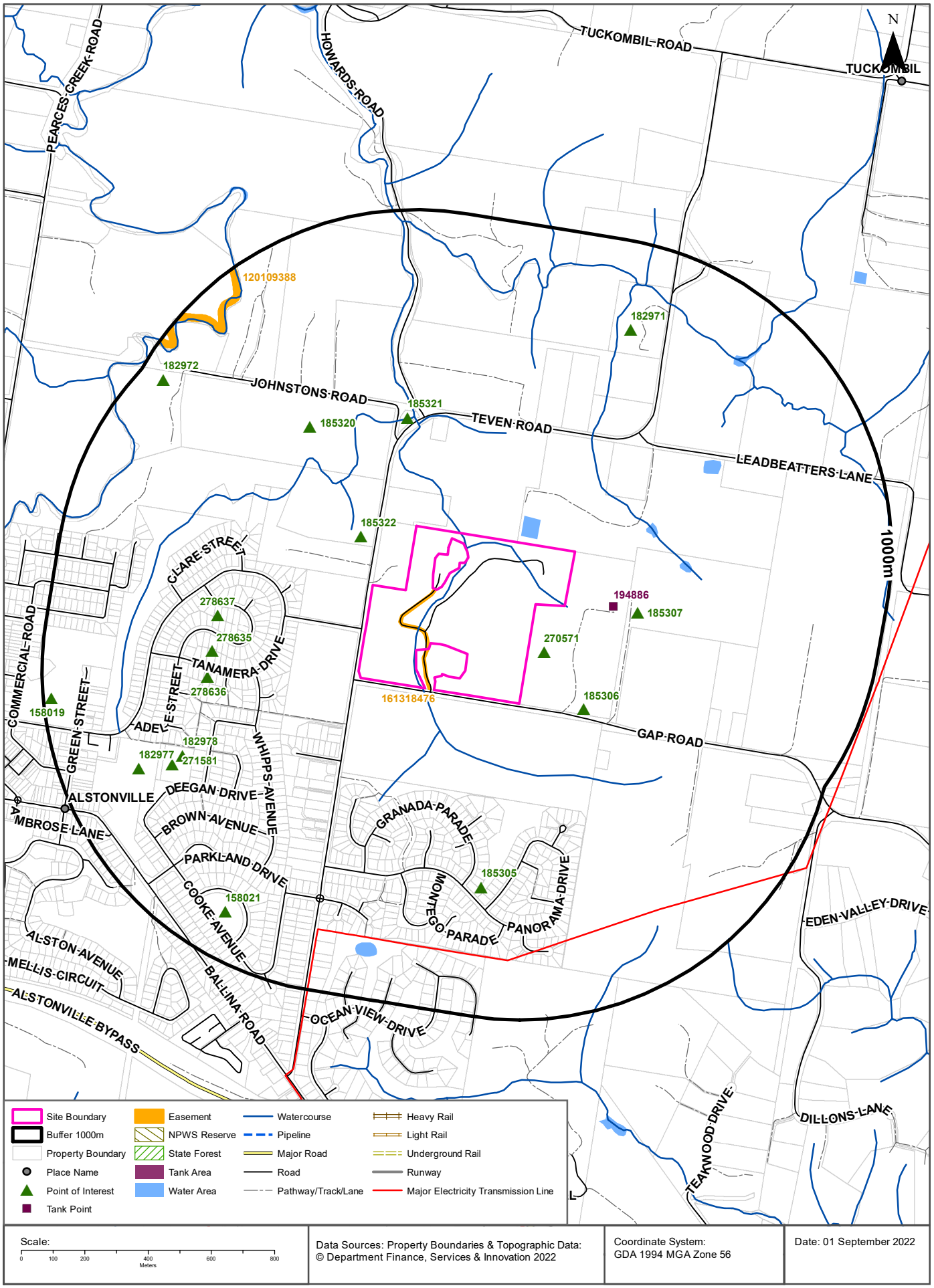
Historical Map c.1942

540 Gap Road, Alstonville, NSW 2477



Topographic Features

540 Gap Road, Alstonville, NSW 2477



Scale: 0 100 200 400 600 800 Meters

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

Coordinate System: GDA 1994 MGA Zone 56

Date: 01 September 2022

Topographic Features

540 Gap Road, Alstonville, NSW 2477

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
270571	Sports Field	GAP ROAD SPORTS FIELDS	51m	South East
185322	Homestead	TALISMAN	159m	North West
185306	Sports Field	BILL ALLEY FIELD	203m	South East
185307	Homestead	SERENDIP	229m	East
185321	Park	CLONDALE PARK	344m	North
185320	Homestead	HARROWER	461m	North West
278635	Park	Park	467m	West
278637	Park	Park	468m	West
278636	Park	Park	478m	West
185305	Park	ROSSMORE PARK	592m	South
182978	Sports Field	BOWLING GREENS	614m	South West
271581	Club	ALSTONVILLE PLATEAU BOWLS AND SPORTS CLUB	655m	South West
182971	Homestead	TINDARRA	723m	North East
182977	Sports Field	GEOFF WATT OVAL	757m	South West
158021	Park	COOKE PARK	854m	South West
182972	Sewage Works	ALSTONVILLE SEWERAGE TREATMENT PLANT	924m	North West
158019	Showground	ALSTONVILLE SHOWGROUND	975m	West

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

540 Gap Road, Alstonville, NSW 2477

Tanks (Areas)

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

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

Tanks (Points)

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

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
194886	Water	Operational		01/05/2020	151m	East

Tanks Data Source: © Land and Property Information (2015)
Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

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
161318476	Primary	Right of way	8m	0m	On-site
120109388	Primary	Undefined		864m	North West

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

540 Gap Road, Alstonville, NSW 2477

State Forest

What State Forest exist within the dataset buffer?

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

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

What NPWS Reserves exist within the dataset buffer?

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

NPWS Data Source: © NSW Department of Finance, Services & Innovation (2018)
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Elevation Contours (m AHD)

540 Gap Road, Alstonville, NSW 2477



Hydrogeology & Groundwater

540 Gap Road, Alstonville, NSW 2477

Hydrogeology

Description of aquifers within the dataset buffer:

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

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

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018

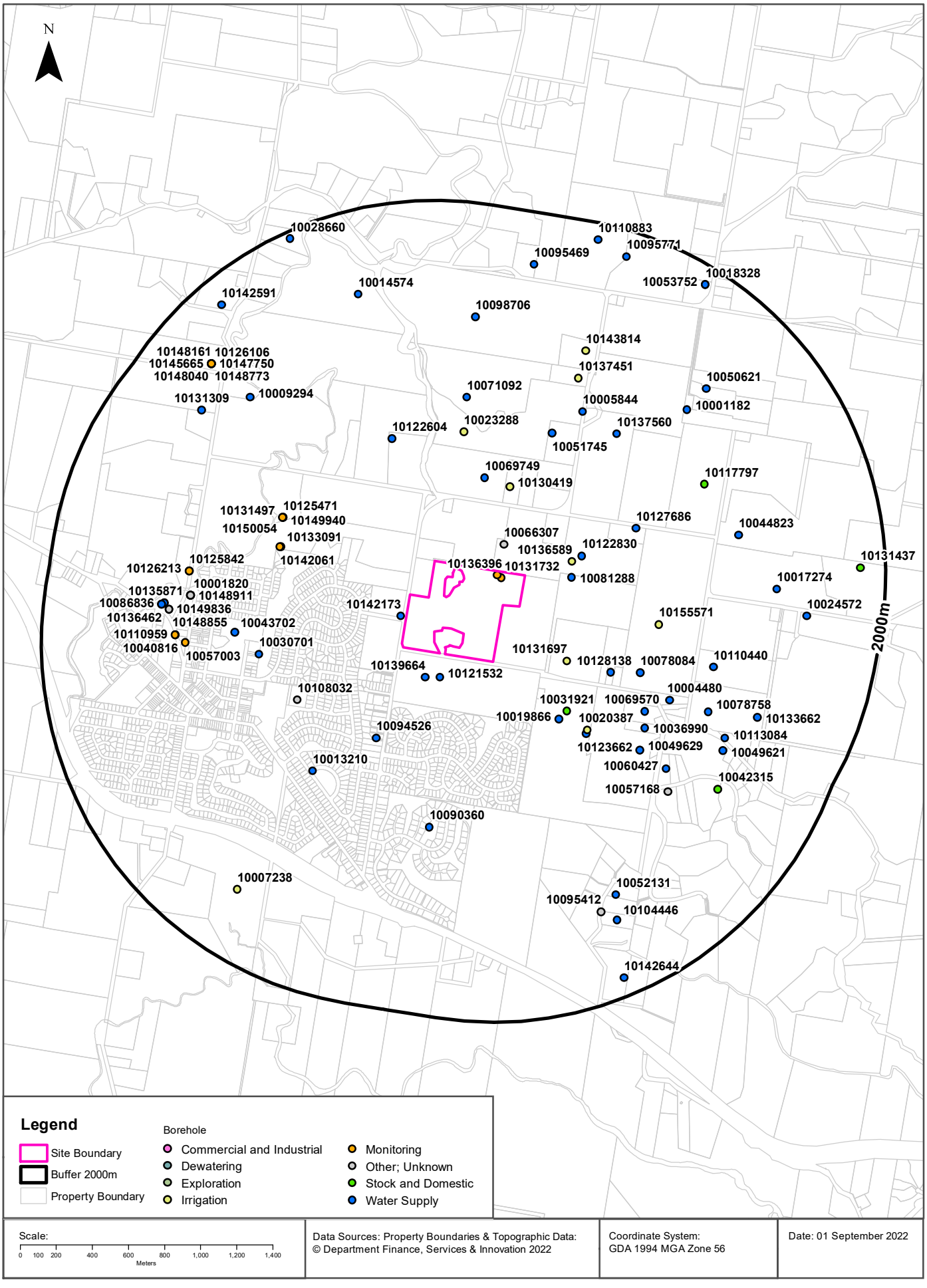
Temporary water restrictions relating to the Botany Sands aquifer within the dataset buffer:

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

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

Groundwater Boreholes

540 Gap Road, Alstonville, NSW 2477



Legend

Site Boundary
Buffer 2000m
Property Boundary

Borehole

- Commercial and Industrial
- Dewatering
- Exploration
- Irrigation
- Monitoring
- Other; Unknown
- Stock and Domestic
- Water Supply

Scale: 0 100 200 400 600 800 1,000 1,200 1,400 Meters

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

Coordinate System: GDA 1994 MGA Zone 56

Date: 01 September 2022

Hydrogeology & Groundwater

540 Gap Road, Alstonville, NSW 2477

Groundwater Boreholes

Boreholes within the dataset buffer:

NGIS Bore ID	NSW Bore ID	Bore Type	Status	Drill Date	Bore Depth (m)	Reference Elevation	Height Datum	Salinity (mg/L)	Yield (L/s)	SWL (mbgl)	Distance	Direction
10131732	GW305159	Monitoring	Unknown	21/01/2005	30.00		AHD		0.500	18.50	0m	On-site
10136396	GW305162	Monitoring	Unknown	18/01/2005	50.00		AHD		1.800	23.50	0m	On-site
10142173	GW303444	Water Supply	Unknown	24/09/2002	12.00		AHD				30m	West
10121532	GW039383	Water Supply	Proposed	01/07/1987	137.00		AHD				133m	South
10139664	GW039382	Water Supply	Proposed	01/07/1987	37.10		AHD				145m	South West
10066307	GW056159	Unknown	Functioning	01/01/1943	3.00		AHD	Soft			150m	North East
10081288	GW301861	Water Supply	Unknown				AHD				260m	East
10136589	GW047701	Irrigation	Unknown	01/06/1980	39.00		AHD	0-500 ppm			274m	North East
10122830	GW301549	Water Supply	Unknown	26/03/1998	114.00		AHD	Good			335m	North East
10131697	GW053278	Irrigation	Unknown	01/04/1981	27.40		AHD	0-500 ppm			404m	South East
10130419	GW302644	Irrigation	Unknown	05/09/2001	57.00		AHD		1.800	15.00	472m	North
10019866	GW300487	Water Supply	Unknown	31/12/1985	10.00		AHD				484m	South East
10031921	GW054198	Stock and Domestic	Unknown	01/01/1981	26.50		AHD	Good			492m	South East
10069749	GW067091	Water Supply	Functioning	19/04/1991	39.00	138.50	AHD		4.000	14.00	498m	North
10094526	GW064352	Water Supply	Unknown	01/08/1987	37.00		AHD	Good			526m	South West
10128138	GW058990	Water Supply	Unknown	01/08/1984	25.00		AHD				628m	South East
10020387	GW300586	Irrigation	Unknown	31/12/1987			AHD				645m	South East
10123662	GW037209	Water Supply	Unknown	01/01/1900	14.60		AHD	Domestic			652m	South East
10108032	GW300036	Unknown	Unknown	27/11/1995	24.00		AHD	Good	5.600	6.00	655m	South West
10127686	GW052730	Water Supply	Unknown	01/05/1981	14.60		AHD				669m	North East
10122604	GW059570	Water Supply	Unknown	01/08/1984	31.00		AHD				716m	North
10023288	GW302058	Irrigation	Unknown	09/08/1999	76.00		AHD	0.14	10.400	47.00	731m	North
10133091	GW305161	Monitoring	Unknown	19/01/2005	26.00		AHD		0.500	19.00	761m	West
10078084	GW067071	Water Supply	Functioning	18/10/1990	39.00	149.00	AHD		2.000	9.60	766m	East
10142061	GW305160	Monitoring	Unknown	20/01/2005	54.00		AHD		0.700	37.50	767m	West
10155571	GW308632	Irrigation	Functioning	20/02/2019	137.00		AHD				782m	East
10030701	GW042930	Water Supply	Unknown	01/12/1976	4.00		AHD				793m	West
10051745	GW300617	Water Supply	Unknown		5.00		AHD			3.00	804m	North East
10125471	GW304427	Monitoring	Unknown	18/10/2003	70.00	26.26	AHD		4.400	45.70	823m	North West
10149940	GW304427	Unknown	Unknown			26.26	AHD		4.400	45.70	823m	North West

NGIS Bore ID	NSW Bore ID	Bore Type	Status	Drill Date	Bore Depth (m)	Reference Elevation	Height Datum	Salinity (mg/L)	Yield (L/s)	SWL (mbgl)	Distance	Direction
10150054	GW304427	Unknown	Unknown			26.26	AHD		4.400	45.70	823m	North West
10131497	GW304426	Monitoring	Unknown	15/10/2003	20.00		AHD	118	0.800		826m	North West
10013210	GW063526	Water Supply	Unknown	01/02/1988	76.00		AHD	Good			851m	South West
10069570	GW067051	Water Supply	Functioning	14/11/1990	85.00	151.00	AHD		1.000	12.00	886m	South East
10036990	GW054775	Water Supply	Unknown	01/05/1980	22.00		AHD	Good			919m	South East
10071092	GW302263	Water Supply	Unknown		2.40		AHD			1.50	923m	North
10043702	GW018637	Water Supply	Unknown		2.10		AHD				927m	West
10137560	GW071364	Water Supply	Unknown	25/03/1993	27.00		AHD	Good			935m	North East
10049629	GW064350	Water Supply	Unknown	01/07/1987	13.00		AHD	Good			951m	South East
10090360	GW058640	Water Supply	Unknown	01/12/1982	42.00		AHD				962m	South
10005844	GW049661	Water Supply	Unknown	01/02/1979	9.00		AHD				963m	North East
10004480	GW063623	Water Supply	Unknown	01/10/1986	33.00		AHD				984m	South East
10117797	GW046016	Stock and Domestic	Functioning	01/01/1900	11.00		AHD	Good			1117m	North East
10060427	GW301579	Water Supply	Unknown	18/01/1999	48.70		AHD		1.000	25.00	1130m	South East
10110440	GW067079	Water Supply	Functioning	19/10/1990	41.00	151.00	AHD		2.800	26.50	1130m	East
10137451	GW303398	Irrigation	Unknown	27/06/2002	62.00		AHD				1134m	North East
10001820	GW041001	Unknown	Unknown			137.00	AHD		3.700	0.00	1200m	West
10148911	GW041001	Unknown	Unknown			137.00	AHD		3.700	0.00	1200m	West
10149836	GW041001	Unknown	Unknown			137.00	AHD		3.700	0.00	1200m	West
10057003	GW307160	Monitoring	Functional	17/10/2012	3.70		AHD				1201m	West
10078758	GW063911	Water Supply	Unknown	01/12/1986	39.00		AHD				1202m	East
10044823	GW307802	Water Supply	Functioning	02/02/2015	42.00		AHD		1.100	13.20	1205m	East
10057168	GW305087	Unknown	Unknown	18/06/2004	102.00		AHD				1209m	South East
10125842	GW041001	Unknown	Unknown	13/11/2005		124.83	AHD		3.700	0.00	1228m	West
10126213	GW041001	Monitoring	Unknown	13/11/2005	91.00	124.83	AHD		3.700	0.00	1228m	West
10040816	GW307161	Monitoring	Functional	17/10/2012	3.70		AHD				1255m	West
10110959	GW307162	Monitoring	Functional	17/10/2012	3.70		AHD				1257m	West
10001182	GW305876	Water Supply	Unknown	10/02/2004	96.00		AHD		3.000	74.70	1287m	North East
10143814	GW304122	Irrigation	Unknown	25/05/2003	60.00		AHD		5.500	26.00	1291m	North East
10148855	GW041001	Unknown	Unknown			140.00	AHD		3.700	0.00	1303m	West
10149094	GW041001	Unknown	Unknown			140.00	AHD		3.700	0.00	1303m	West
10135871	GW039384	Water Supply	Unknown	01/08/1987	73.00	26.24	AHD		7.000	8.50	1334m	West
10148836	GW039384	Unknown	Unknown			26.24	AHD		7.000	8.50	1334m	West
10149225	GW039384	Unknown	Unknown			26.24	AHD		7.000	8.50	1334m	West
10086836	GW039386	Water Supply	Unknown	01/08/1987	27.00		AHD				1349m	West
10136462	GW039387	Water Supply	Unknown	01/08/1987	82.00		AHD	Good			1349m	West

NGIS Bore ID	NSW Bore ID	Bore Type	Status	Drill Date	Bore Depth (m)	Reference Elevation	Height Datum	Salinity (mg/L)	Yield (L/s)	SWL (mbgl)	Distance	Direction
10113084	GW300851	Water Supply	Unknown		50.00		AHD				1355m	South East
10049621	GW067070	Water Supply	Functioning	11/01/1990	37.00	141.00	AHD		0.500	30.00	1367m	South East
10009294	GW302162	Water Supply	Unknown	21/10/1982	12.00		AHD		1.000	7.00	1368m	North West
10098706	GW044255	Water Supply	Unknown	01/01/1928	8.50		AHD	Good			1370m	North
10017274	GW301212	Water Supply	Unknown	31/03/1998	54.00		AHD		3.800	24.00	1399m	East
10042315	GW046361	Stock and Domestic	Unknown		3.00		AHD	Domestic			1434m	South East
10050621	GW304811	Water Supply	Unknown	04/02/2004	66.00		AHD		0.900	20.24	1444m	North East
10133662	GW048878	Water Supply	Unknown	01/01/1978	27.00		AHD				1458m	East
10052131	GW300604	Water Supply	Unknown	19/12/1996	66.00		AHD	Good	1.200	52.00	1462m	South East
10095412	GW068217	Unknown	Unknown	04/11/1989	42.00		AHD		1.000	5.00	1511m	South East
10014574	GW064831	Water Supply	Unknown	24/04/1986	67.00		AHD		2.340		1537m	North
10131309	GW067095	Water Supply	Functioning		31.00	126.00	AHD		1.000	11.90	1539m	North West
10024572	GW302606	Water Supply	Unknown		24.00		AHD		0.450	13.80	1579m	East
10104446	GW302991	Water Supply	Unknown	13/08/2001	57.90		AHD		1.500	37.00	1590m	South East
10007238	GW301127	Irrigation	Unknown	02/03/1998	96.00		AHD	Good			1628m	South West
10126106	GW081006	Monitoring	Unknown	17/05/1999	14.00	113.00	AHD		1.800	7.50	1653m	North West
10145665	GW081005	Monitoring	Unknown	23/05/1999	75.00	113.00	AHD		9.300	44.12	1653m	North West
10147750	GW081006	Unknown	Unknown			113.00	AHD		1.800	7.50	1653m	North West
10148040	GW081006	Unknown	Unknown			113.00	AHD		1.800	7.50	1653m	North West
10148161	GW081005	Unknown	Unknown			113.00	AHD		9.300	44.12	1653m	North West
10148773	GW081005	Unknown	Unknown			113.00	AHD		9.300	44.12	1653m	North West
10095469	GW303871	Water Supply	Unknown	06/09/2002	85.00		AHD		1.500	70.00	1711m	North
10142591	GW046095	Water Supply	Functioning		3.30		AHD	0-500 ppm			1847m	North West
10095771	GW305715	Water Supply	Unknown	13/04/2006	1.00		AHD				1856m	North East
10131437	GW046449	Stock and Domestic	Unknown				AHD				1862m	East
10018328	GW065556	Water Supply	Unknown	27/04/1988	13.00		AHD	Good	1.000	6.00	1898m	North East
10053752	GW061386	Water Supply	Unknown	01/09/1985	19.00		AHD		1.040	8.00	1898m	North East
10142644	GW303022	Water Supply	Unknown	18/10/2001	61.00		AHD	80	0.088	14.00	1899m	South East
10110883	GW300803	Water Supply	Unknown	01/01/1985	3.30		AHD	Good		2.20	1905m	North
10028660	GW058719	Water Supply	Unknown	01/02/1983	25.00		AHD				1958m	North West

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

Hydrogeology & Groundwater

540 Gap Road, Alstonville, NSW 2477

Driller's Logs

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

NGIS Bore ID	Drillers Log	Distance	Direction
10131732	0.00m-1.00m soil 1.00m-21.00m basalt 21.00m-26.00m basalt clay 26.00m-30.00m basalt	0m	On-site
10136396	0.00m-2.00m soil 2.00m-7.00m basalt 7.00m-8.00m brown basalt 8.00m-14.50m basalt 14.50m-17.00m dec basalt 17.00m-42.00m basalt 42.00m-46.00m dec basalt 46.00m-51.00m sand 51.00m-54.00m basalt	0m	On-site
10142173	0.00m-2.00m Red Soil & Clay 2.00m-2.50m Charcoal 2.50m-4.00m Basalt Weathered 4.00m-5.50m Fractured Basalt 5.50m-12.00m Basalt	30m	West
10121532	0.00m-2.00m 2.00m-4.00m 4.00m-17.00m 17.00m-18.00m 18.00m-20.00m 20.00m-21.00m 21.00m-22.00m 22.00m-24.00m 24.00m-25.00m 25.00m-26.00m 26.00m-28.00m 28.00m-31.00m 31.00m-32.00m 32.00m-34.00m 34.00m-35.00m 35.00m-37.00m 37.00m-38.00m 38.00m-48.00m 48.00m-55.00m 55.00m-57.00m 57.00m-62.00m 62.00m-78.00m 78.00m-79.00m 79.00m-85.00m 85.00m-87.00m 87.00m-91.00m 91.00m-92.00m 92.00m-102.00m 102.00m-105.00m 105.00m-107.00m 107.00m-108.00m 108.00m-110.00m 110.00m-112.00m 112.00m-114.00m 114.00m-115.00m 115.00m-132.00m 132.00m-137.00m	133m	South
10139664	0.00m-13.00m 13.00m-14.00m 14.00m-15.00m 15.00m-17.00m 17.00m-20.00m 20.00m-24.00m 24.00m-25.00m 25.00m-27.00m 27.00m-28.00m	145m	South West
10066307	0.00m-1.00m Soil Red 1.00m-3.00m Soil Yellowish 3.00m-3.01m Rock Rotten	150m	North East

NGIS Bore ID	Drillers Log	Distance	Direction
10136589	0.00m-2.00m Soil Red 2.00m-33.00m Basalt 33.00m-35.00m Clay Black 35.00m-39.00m Sand Gravel Water Supply	274m	North East
10122830	0.00m-0.50m topsoil 0.50m-5.00m clay 5.00m-48.00m basalt 48.00m-54.00m clay 54.00m-58.00m basalt 58.00m-60.00m soft basalt 60.00m-63.00m basalt 63.00m-66.00m broken basalt 66.00m-80.00m basalt 80.00m-81.00m broken basalt 81.00m-93.00m basalt 93.00m-94.00m broken basalt 94.00m-100.00m basalt 100.00m-101.00m broken basalt 101.00m-103.00m basalt 103.00m-106.00m broken basalt 106.00m-114.00m basalt	335m	North East
10131697	0.00m-3.00m Soil 3.00m-19.80m Clay Some Gravel Water Supply 19.80m-26.50m Clay 26.50m-27.40m Basalt	404m	South East
10130419	0.00m-3.60m soil 3.60m-10.60m clay 10.60m-30.40m basalt 30.40m-33.50m basalt soft 33.50m-47.20m basalt 47.20m-57.00m basalt clay	472m	North
10031921	0.00m-1.20m Soil 1.20m-11.00m Clay Water Supply 11.00m-16.80m Clay Shale Interlayere Water Supply 16.80m-23.30m Shale Water Supply 23.30m-26.50m Basalt	492m	South East
10094526	0.00m-2.00m Soil Boulder 0.00m-2.00m Gravel 2.00m-27.00m Basalt 27.00m-33.00m Shale Water Supply 33.00m-35.50m Shale Soft 35.50m-37.00m Sandstone Water Supply	526m	South West
10128138	0.00m-2.00m Soil Red 2.00m-10.00m Clay 10.00m-14.00m Shale Soft Water Supply 14.00m-17.00m Clay 17.00m-24.00m Shale Soft Water Supply 24.00m-25.00m Shale Hard Or Basalt	628m	South East
10123662	0.00m-14.63m Basalt Broken Nominal Water Supply 0.00m-14.63m Soil Red Nominal	652m	South East
10108032	0.00m-5.00m CLAY 5.00m-7.00m WEATHERED BASALT 7.00m-15.00m FRACTURED BASALT 15.00m-25.00m AIRATED CLAY & WEATHERED ASH 25.00m-28.00m ASH AND CLAY	655m	South West
10127686	0.00m-4.00m Soil Red 4.00m-4.30m Opal 4.30m-6.10m Gravel Waterworn 6.10m-12.00m Shale 12.00m-14.60m Gravel Water Supply	669m	North East
10122604	0.00m-2.00m Soil 2.00m-22.00m Basalt Broken 22.00m-25.00m Clay White 25.00m-28.00m Rock Broken Mixed Water Supply 28.00m-30.00m Clay 30.00m-31.00m Basalt Solid	716m	North
10023288	0.00m-4.00m red soil 4.00m-6.00m granite in clay 6.00m-14.00m basalt fractured 14.00m-15.00m grey clay 15.00m-61.00m basalt 61.00m-64.00m grey clay with some black ash 64.00m-70.00m highly fractured basalt 70.00m-76.00m basalt	731m	North
10133091	0.00m-2.50m soil 2.50m-14.00m basalt 14.00m-17.00m clay 17.00m-26.00m basalt	761m	West

NGIS Bore ID	Drillers Log	Distance	Direction
10142061	0.00m-1.00m soil 1.00m-20.00m basalt 20.00m-23.00m clay 23.00m-31.00m basalt 31.00m-34.00m clay 34.00m-43.00m basalt 43.00m-46.00m clay 46.00m-52.00m broken basalt 52.00m-54.00m basalt	767m	West
10030701	0.00m-1.00m Topsoil Clay 1.00m-4.00m Basalt Fractured Decomposed 4.00m-4.03m Basalt	793m	West
10125471	0.00m-1.00m SOIL 1.00m-4.00m CLAY 4.00m-15.00m DEC BASALT 15.00m-32.00m FIRM BASALT 32.00m-40.00m SOFT MUDDY BASALT 40.00m-44.00m FIRM BASALT 44.00m-48.00m SOFT BASALT 48.00m-54.00m FRACTURED BASALT 54.00m-56.00m RUBBLE 56.00m-70.00m FIRM BASALT	823m	North West
10149940	0.00m-1.00m SOIL 1.00m-4.00m CLAY 4.00m-15.00m DEC BASALT 15.00m-32.00m FIRM BASALT 32.00m-40.00m SOFT MUDDY BASALT 40.00m-44.00m FIRM BASALT 44.00m-48.00m SOFT BASALT 48.00m-54.00m FRACTURED BASALT 54.00m-56.00m RUBBLE 56.00m-70.00m FIRM BASALT	823m	North West
10150054	0.00m-1.00m SOIL 1.00m-4.00m CLAY 4.00m-15.00m DEC BASALT 15.00m-32.00m FIRM BASALT 32.00m-40.00m SOFT MUDDY BASALT 40.00m-44.00m FIRM BASALT 44.00m-48.00m SOFT BASALT 48.00m-54.00m FRACTURED BASALT 54.00m-56.00m RUBBLE 56.00m-70.00m FIRM BASALT	823m	North West
10131497	0.00m-2.00m SOIL 2.00m-6.00m CLAY 6.00m-10.00m DEC BASALT 10.00m-13.00m BASALT 13.00m-15.00m SOFT BASALT MUDDY 15.00m-20.00m SOFT BASALT	826m	North West
10013210	0.00m-2.00m Soil Red 2.00m-3.00m Gravel 3.00m-31.00m Basalt 31.00m-35.00m Clay 35.00m-42.00m Shale 42.00m-44.00m Basalt 44.00m-48.00m Shale 48.00m-71.00m Basalt 71.00m-75.00m Shale Water Supply 75.00m-76.00m Basalt	851m	South West
10036990	0.00m-9.00m Soil 9.00m-14.00m Basalt Decomposed Clay 14.00m-16.00m Gravel Water Supply 16.00m-22.00m Basalt Water Supply	919m	South East
10137560	0.00m-1.00m TOPSOIL 1.00m-3.00m BOULDER MIX CLAY 3.00m-5.00m SHALE 5.00m-7.00m BROKEN BASALT 7.00m-13.00m BASALT 13.00m-26.00m MIX COLOURED SHALE 26.00m-27.00m HARD BLACK SHALE	935m	North East
10049629	0.00m-2.00m Soil 2.00m-6.00m Clay 6.00m-8.00m Clay Gravel Mixed 8.00m-12.00m Boulders Gravel Water Supply 12.00m-13.00m Basalt	951m	South East
10090360	0.00m-3.00m Soil 3.00m-5.00m Clay 5.00m-11.00m Shale 11.00m-42.00m Blue Metal Water Supply	962m	South

NGIS Bore ID	Drillers Log	Distance	Direction
10005844	0.00m-0.60m Soil 0.60m-1.50m Shale 1.50m-8.40m Soil Black Water Supply 8.40m-9.00m Basalt Vesicular Water Supply	963m	North East
10117797	0.00m-0.61m Soil Red 0.61m-10.97m Basalt Red Fractured	1117m	North East
10060427	0.00m-0.60m soil 0.60m-16.70m basalt 16.70m-21.30m brown basalt 21.30m-34.10m basalt 34.10m-36.50m basalt clay 36.50m-38.40m small hailstone 38.40m-39.00m black clay 39.00m-42.60m green dec quartz 42.60m-48.70m clay	1130m	South East
10137451	0.00m-1.20m Soil 1.20m-5.40m Clay & Rocks 5.40m-41.00m Basalt 41.00m-45.00m Soft Basalt 45.00m-50.00m Clay 50.00m-62.00m Basalt	1134m	North East
10001820	0.00m-4.00m Land Fill 4.00m-13.50m Basalt, with Clays 13.50m-36.00m Basalt 36.00m-36.50m Fractured Basalt 36.50m-66.00m Basalt 66.00m-66.50m Fractured Basalt 66.50m-91.00m Basalt	1200m	West
10148911	0.00m-4.00m Land Fill 4.00m-13.50m Basalt, with Clays 13.50m-36.00m Basalt 36.00m-36.50m Fractured Basalt 36.50m-66.00m Basalt 66.00m-66.50m Fractured Basalt 66.50m-91.00m Basalt	1200m	West
10149836	0.00m-4.00m Land Fill 4.00m-13.50m Basalt, with Clays 13.50m-36.00m Basalt 36.00m-36.50m Fractured Basalt 36.50m-66.00m Basalt 66.00m-66.50m Fractured Basalt 66.50m-91.00m Basalt	1200m	West
10057003	0.00m-0.10m Topsoil/Grass 0.10m-0.50m Silty Clay; red, dry, medium plasticity 0.50m-3.70m Silty Clay; red, moist, high plasticity, @ 2.5m orange brown, @ 3m orange brown, moist/wet	1201m	West
10078758	0.00m-1.50m Driller 1.50m-6.00m Clay 6.00m-8.00m Shale 8.00m-15.00m Basalt 15.00m-18.00m Shale 18.00m-22.00m Basalt 22.00m-33.00m Rock Broken Gravel Water Supply 33.00m-36.00m Shale Soapstone Water Supply 36.00m-39.00m Shale White Soft	1202m	East
10044823	0.00m-3.00m Soil; red 3.00m-19.20m Clay; brown 19.20m-24.30m Clay; grey 24.30m-27.00m Basalt; weathered, brown 27.00m-30.50m Clay; grey basalt clay 30.50m-42.00m Sand	1205m	East
10057168	0.00m-3.00m red soil 3.00m-6.00m orange white clay 6.00m-12.00m white clay 12.00m-18.00m green clay 18.00m-24.00m weathered basalt 24.00m-27.00m basalt 27.00m-30.00m ash weathered basalt red 30.00m-34.00m harder 34.00m-36.00m soft ash area 36.00m-40.00m basalt 40.00m-42.00m light to dark grey ash 42.00m-48.00m clay 48.00m-54.00m hard & soft zones sediments 54.00m-102.00m grey walke with quartz layers	1209m	South East
10125842	0.00m-4.00m 4.00m-40.00m 40.00m-64.00m 64.00m-91.00m	1228m	West

NGIS Bore ID	Drillers Log	Distance	Direction
10126213	0.00m-4.00m Land Fill 4.00m-13.50m Basalt, with Clays 13.50m-36.00m Basalt 36.00m-36.50m Fractured Basalt 36.50m-66.00m Basalt 66.00m-66.50m Fractured Basalt 66.50m-91.00m Basalt	1228m	West
10040816	0.00m-0.10m Fill; Bitumen 0.10m-0.50m Silty Clay; red/brown 0.50m-3.60m Silty Clay; @ 2m red orange, @ 3m orange brown	1255m	West
10110959	0.00m-0.10m Fill; Bitumen 0.10m-0.50m Silty Clay; red/brown, moist 0.50m-3.70m Silty Clay; @ 2.5m orange brown	1257m	West
10001182	0.00m-2.00m topsoil, red 2.00m-5.00m clay, orange 5.00m-9.00m gravel 9.00m-13.50m clay, brown, orange, black 13.50m-26.00m basalt, hard and soft zones 26.00m-36.00m light grey, green sediment 36.00m-42.00m weathered basalt 42.00m-86.00m basalt 86.00m-90.00m basalt, fractured and airated 90.00m-96.00m basalt	1287m	North East
10143814	0.00m-3.60m SOIL AND ROCKS 3.60m-27.40m BASALT 27.40m-30.00m SOFT BROWN BASALT 30.00m-44.00m BASALT 44.00m-45.70m BASALT CLAY 45.70m-60.00m DEC BASALT	1291m	North East
10148855	0.00m-4.00m Land Fill 4.00m-13.50m Basalt, with Clays 13.50m-36.00m Basalt 36.00m-36.50m Fractured Basalt 36.50m-66.00m Basalt 66.00m-66.50m Fractured Basalt 66.50m-91.00m Basalt	1303m	West
10149094	0.00m-4.00m Land Fill 4.00m-13.50m Basalt, with Clays 13.50m-36.00m Basalt 36.00m-36.50m Fractured Basalt 36.50m-66.00m Basalt 66.00m-66.50m Fractured Basalt 66.50m-91.00m Basalt	1303m	West
10135871	0.00m-2.00m 2.00m-6.00m 6.00m-8.00m 8.00m-10.00m 10.00m-11.00m 11.00m-12.00m 12.00m-14.00m 14.00m-17.00m 17.00m-18.00m 18.00m-22.00m 22.00m-28.00m 28.00m-29.00m 29.00m-30.00m 30.00m-32.00m 32.00m-33.00m 33.00m-35.00m 35.00m-37.00m 37.00m-39.00m 39.00m-40.00m 40.00m-42.00m 42.00m-44.00m 44.00m-46.00m 46.00m-50.00m 50.00m-52.00m 52.00m-55.00m 55.00m-56.00m 56.00m-71.00m 71.00m-72.00m 72.00m-73.00m	1334m	West

NGIS Bore ID	Drillers Log	Distance	Direction
10148836	0.00m-2.00m Topsoil Red 2.00m-7.00m Clay 7.00m-12.00m Basalt Small Boulder 12.00m-17.00m Basalt 17.00m-19.00m Basalt Fractured Water Supply 19.00m-28.00m Basalt 28.00m-29.00m Basalt Fractured Water Supply 29.00m-32.00m Clay Green Rock 32.00m-33.00m Basalt Fractured Some Wood Water Supply 33.00m-36.00m Basalt Fractured Water Supply 36.00m-38.00m Basalt 38.00m-46.00m Basalt Fractured Water Supply 46.00m-47.00m Basalt Hard 47.00m-50.00m Basalt Fractured Water Supply 50.00m-55.00m Basalt Hard 55.00m-56.00m Basalt Fractured Water Supply 56.00m-70.00m Basalt Hard 70.00m-73.50m Basalt Fractured Some Water Supply	1334m	West
10149225	0.00m-2.00m Topsoil Red 2.00m-7.00m Clay 7.00m-12.00m Basalt Small Boulder 12.00m-17.00m Basalt 17.00m-19.00m Basalt Fractured Water Supply 19.00m-28.00m Basalt 28.00m-29.00m Basalt Fractured Water Supply 29.00m-32.00m Clay Green Rock 32.00m-33.00m Basalt Fractured Some Wood Water Supply 33.00m-36.00m Basalt Fractured Water Supply 36.00m-38.00m Basalt 38.00m-46.00m Basalt Fractured Water Supply 46.00m-47.00m Basalt Hard 47.00m-50.00m Basalt Fractured Water Supply 50.00m-55.00m Basalt Hard 55.00m-56.00m Basalt Fractured Water Supply 56.00m-70.00m Basalt Hard 70.00m-73.50m Basalt Fractured Some Water Supply	1334m	West
10136462	0.00m-2.00m Topsoil Red 2.00m-7.00m Clay 7.00m-12.00m Basalt Boulder Water Bearing 12.00m-17.00m Basalt 17.00m-19.00m Basalt Fractured Water Bearing 19.00m-28.00m Basalt 28.00m-29.00m Basalt Fractured Water Bearing 29.00m-32.00m Clay Green 32.00m-36.00m Basalt Fractured Water Bearing 36.00m-37.00m Basalt Soft 37.00m-38.00m Basalt Hard 38.00m-46.00m Basalt Fractured Water Bearing 46.00m-47.00m Basalt Hard 47.00m-50.00m Basalt Fractured Water Bearing 50.00m-55.00m Basalt Hard 55.00m-56.00m Basalt Fractured Water Bearing 56.00m-69.00m Basalt Very Hard 69.00m-79.00m Basalt Fractured Water Bearing 79.00m-82.00m Basalt	1349m	West
10098706	0.00m-8.23m Driller 8.23m-8.53m Basalt Water Supply	1370m	North
10017274	0.00m-1.00m top soil 1.00m-5.00m clay 5.00m-48.00m basalt 48.00m-49.00m broken basalt 49.00m-54.00m basalt	1399m	East
10042315	0.00m-1.52m Soil Red 1.52m-3.05m Basalt Water Supply	1434m	South East
10050621	0.00m-2.00m top soil 2.00m-5.00m orange clay 5.00m-22.50m clay grawer 22.50m-31.00m basalt 31.00m-33.00m grey light grey weathered basalt 33.00m-36.00m dark grey weathered basalt 36.00m-39.00m dark grey ash 39.00m-48.00m light grey clay 48.00m-56.00m basalt 56.00m-61.00m basalt with soft zones 61.00m-62.00m fractured basalt 62.00m-66.00m basalt	1444m	North East
10133662	0.00m-6.00m Soil Red 6.00m-23.00m Rock Solid Metal 23.00m-27.00m Earth Grey Soft Water Supply	1458m	East

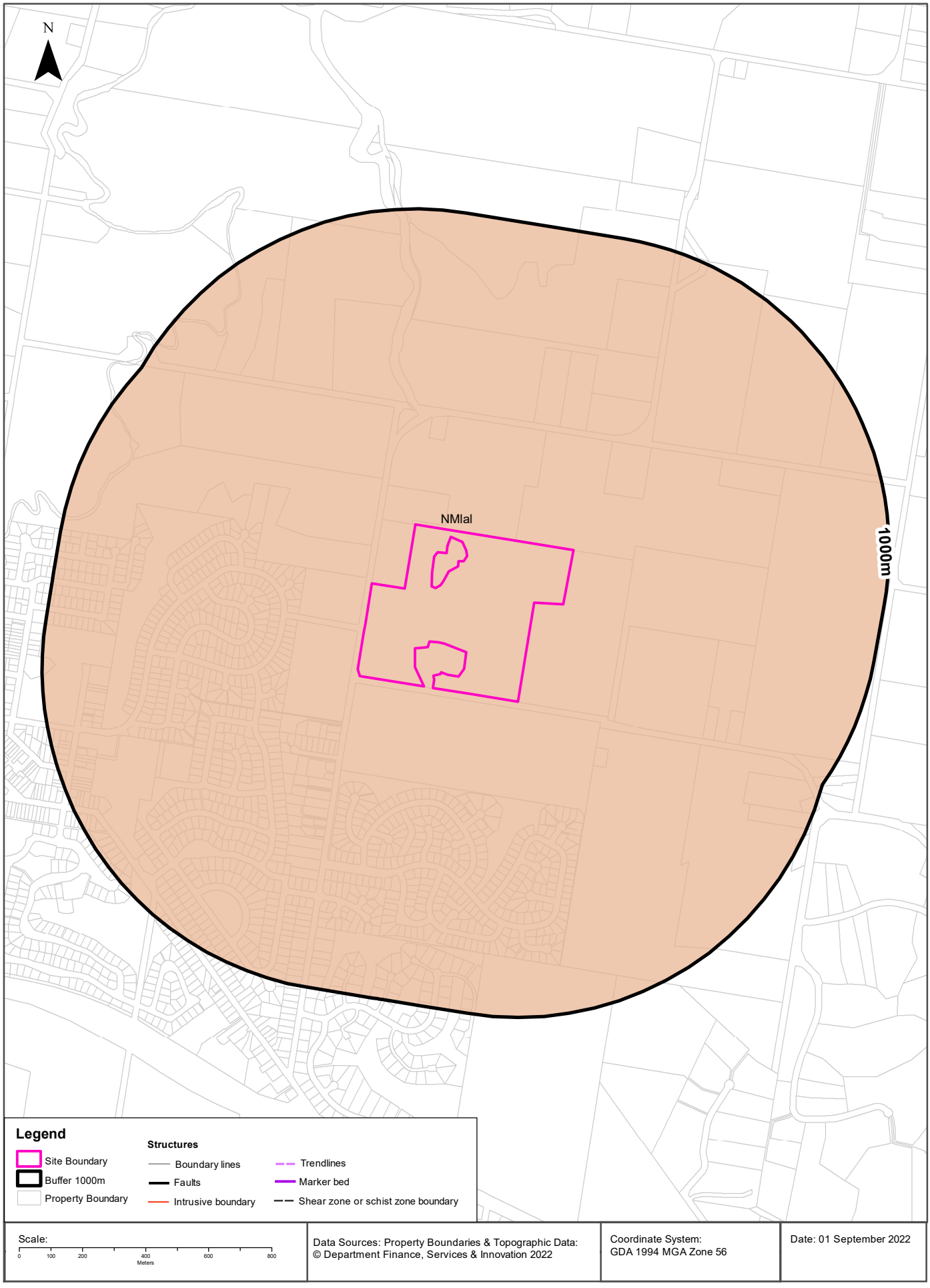
NGIS Bore ID	Drillers Log	Distance	Direction
10052131	0.00m-3.00m Top soil 3.00m-21.00m Clay 21.00m-53.00m Basalt 53.00m-66.00m Highly fractured basalt & clay layers	1462m	South East
10095412	0.00m-2.00m Soil 2.00m-6.00m Shale 6.00m-34.00m Basalt 34.00m-40.00m Fractured Basalt 40.00m-47.00m Basalt	1511m	South East
10014574	0.00m-2.00m SOIL 2.00m-3.00m CLAY 3.00m-6.00m SHALE 6.00m-29.00m BASALT 29.00m-31.00m CAVE HOLE 31.00m-32.00m BROKEN ROCK 32.00m-40.00m BASALT 40.00m-49.00m RED CLAY SHALE 49.00m-60.00m SHALE 60.00m-64.00m BASALT 64.00m-65.00m SHALE 65.00m-67.00m CAVITY BASALT	1537m	North
10024572	0.00m-18.00m unknown 18.00m-24.00m broken basalt	1579m	East
10104446	0.00m-2.40m Soil 2.40m-8.50m Clay 8.50m-50.20m Firm Basalt 50.20m-57.90m Fractured Basalt	1590m	South East
10007238	0.00m-0.50m top soil 0.50m-7.00m brown clay 7.00m-20.00m basalt 20.00m-23.00m soft basalt 23.00m-24.00m broken basalt 24.00m-30.00m basalt 30.00m-35.00m broken basalt 35.00m-40.00m basalt 40.00m-42.00m broken basalt 42.00m-45.00m brown clay 45.00m-51.00m soft basalt 51.00m-63.00m basalt 63.00m-64.00m soft basalt 64.00m-96.00m basalt	1628m	South West
10126106	0.00m-3.00m 3.00m-12.00m 12.00m-14.00m	1653m	North West
10145665	0.00m-7.00m 7.00m-12.00m 12.00m-15.00m 15.00m-40.00m 40.00m-58.00m 58.00m-75.00m	1653m	North West
10147750	0.00m-3.60m Soil 3.60m-9.50m Basalt, weathered & Clay 9.50m-12.00m Basalt, firm 12.00m-14.00m Mudstone	1653m	North West
10148040	0.00m-3.60m Soil 3.60m-9.50m Basalt, weathered & Clay 9.50m-12.00m Basalt, firm 12.00m-14.00m Mudstone	1653m	North West
10148161	0.00m-4.00m Soil 4.00m-6.50m Clay 6.50m-9.50m Weathered Basalt 9.50m-12.00m Basalt, firm 12.00m-16.00m Mudstone 16.00m-17.00m Weathered Basalt 17.00m-32.00m Basalt, firm 32.00m-36.00m Basalt, soft 36.00m-40.00m Basalt, soft, brown 40.00m-45.00m Basalt 45.00m-53.00m Basalt, firm, grey 53.00m-54.00m Basalt, soft, brown 54.00m-62.00m Basalt 62.00m-69.00m Broken Basalt 69.00m-73.00m Basalt, hard 73.00m-75.00m Basalt	1653m	North West

NGIS Bore ID	Drillers Log	Distance	Direction
10148773	0.00m-4.00m Soil 4.00m-6.50m Clay 6.50m-9.50m Weathered Basalt 9.50m-12.00m Basalt, firm 12.00m-16.00m Mudstone 16.00m-17.00m Weathered Basalt 17.00m-32.00m Basalt, firm 32.00m-36.00m Basalt, soft 36.00m-40.00m Basalt, soft, brown 40.00m-45.00m Basalt 45.00m-53.00m Basalt, firm, grey 53.00m-54.00m Basalt, soft, brown 54.00m-62.00m Basalt 62.00m-69.00m Broken Basalt 69.00m-73.00m Basalt, hard 73.00m-75.00m Basalt	1653m	North West
10095469	0.00m-5.40m SOIL 5.40m-13.70m 13.70m-32.00m FIRM BLUE BASALT 32.00m-36.50m BROWN MUD 36.50m-76.20m BASALT 76.20m-85.00m SOFT BASALT	1711m	North
10142591	0.00m-0.90m Topsoil 0.90m-1.50m Subsoil 1.50m-2.70m Basalt Rotten Clay 2.70m-3.30m Clay Some Rock	1847m	North West
10018328	0.00m-2.00m RED SOIL 2.00m-4.00m RED HARD CLAY WET 4.00m-6.00m BROWN CLAY 6.00m-8.00m ORANGE SHALE 8.00m-10.00m BROKEN ROCK GRAVEL 10.00m-13.00m BASALT	1898m	North East
10053752	0.00m-5.00m Soil 5.00m-9.00m Clay 9.00m-15.00m Rock Claybound Broken 15.00m-18.00m Shale White Broken Rock Water Supply 18.00m-19.00m Basalt	1898m	North East
10142644	0.00m-0.60m Red Topsoil 0.60m-3.00m Red Clay 3.00m-7.00m Brown Clay/Basalt Floaters 7.00m-38.00m Basalt 38.00m-42.00m Cracky Basalt W/B 42.00m-52.00m Grey Clay 52.00m-55.00m Basalt 55.00m-60.00m Cracky Basalt W/B 60.00m-61.00m Basalt	1899m	South East
10028660	0.00m-3.00m Soil 3.00m-9.00m Clay 9.00m-20.00m Shale Soft Water Supply 20.00m-25.00m Shale Hard Water Supply	1958m	North West

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

Geology

540 Gap Road, Alstonville, NSW 2477



Geology

540 Gap Road, Alstonville, NSW 2477

Geological Units

What are the Geological Units within the dataset buffer?

Unit Code	Unit Name	Description	Unit Stratigraphy	Age	Dominant Lithology	Distance
NMlal	Lismore Basalt	Predominantly tholeiitic with occasional alkaline types of formations.	/Lamington Volcanic Complex//Lismore Basalt//	Chattian (base) to Aquitanian (top)	Basalt	0m

Linear Geological Structures

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

Map ID	Feature Description	Map Sheet Name	Distance
No Features			

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

Map ID	Boundary Type	Description	Map Sheet Name	Distance
No Features				

Geological Data Source: Statewide Seamless Geology v2.1, Department of Regional NSW
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Naturally Occurring Asbestos Potential

540 Gap Road, Alstonville, NSW 2477

Naturally Occurring Asbestos Potential

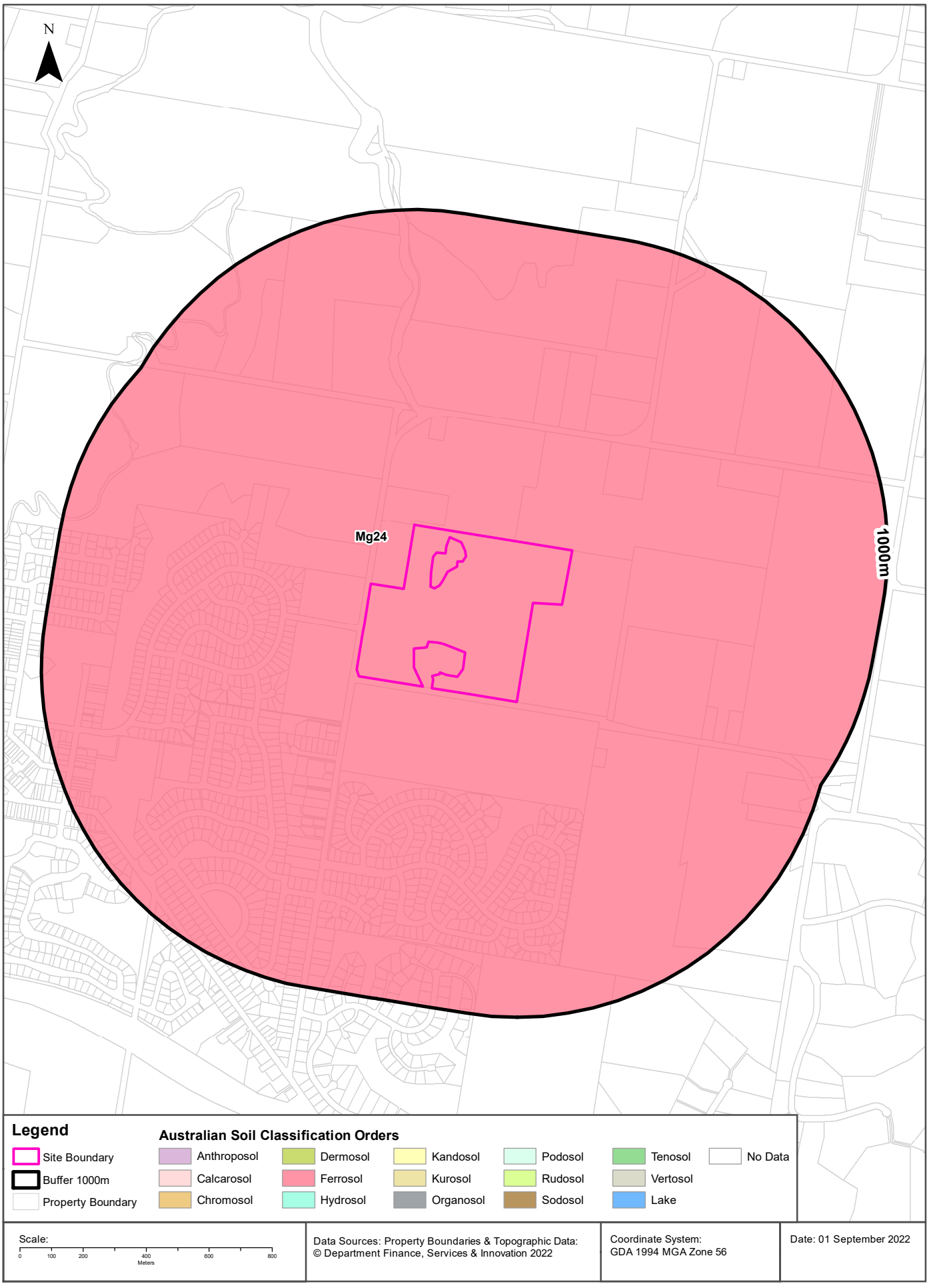
Naturally Occurring Asbestos Potential within the dataset buffer:

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

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

Atlas of Australian Soils

540 Gap Road, Alstonville, NSW 2477



Soils

540 Gap Road, Alstonville, NSW 2477

Atlas of Australian Soils

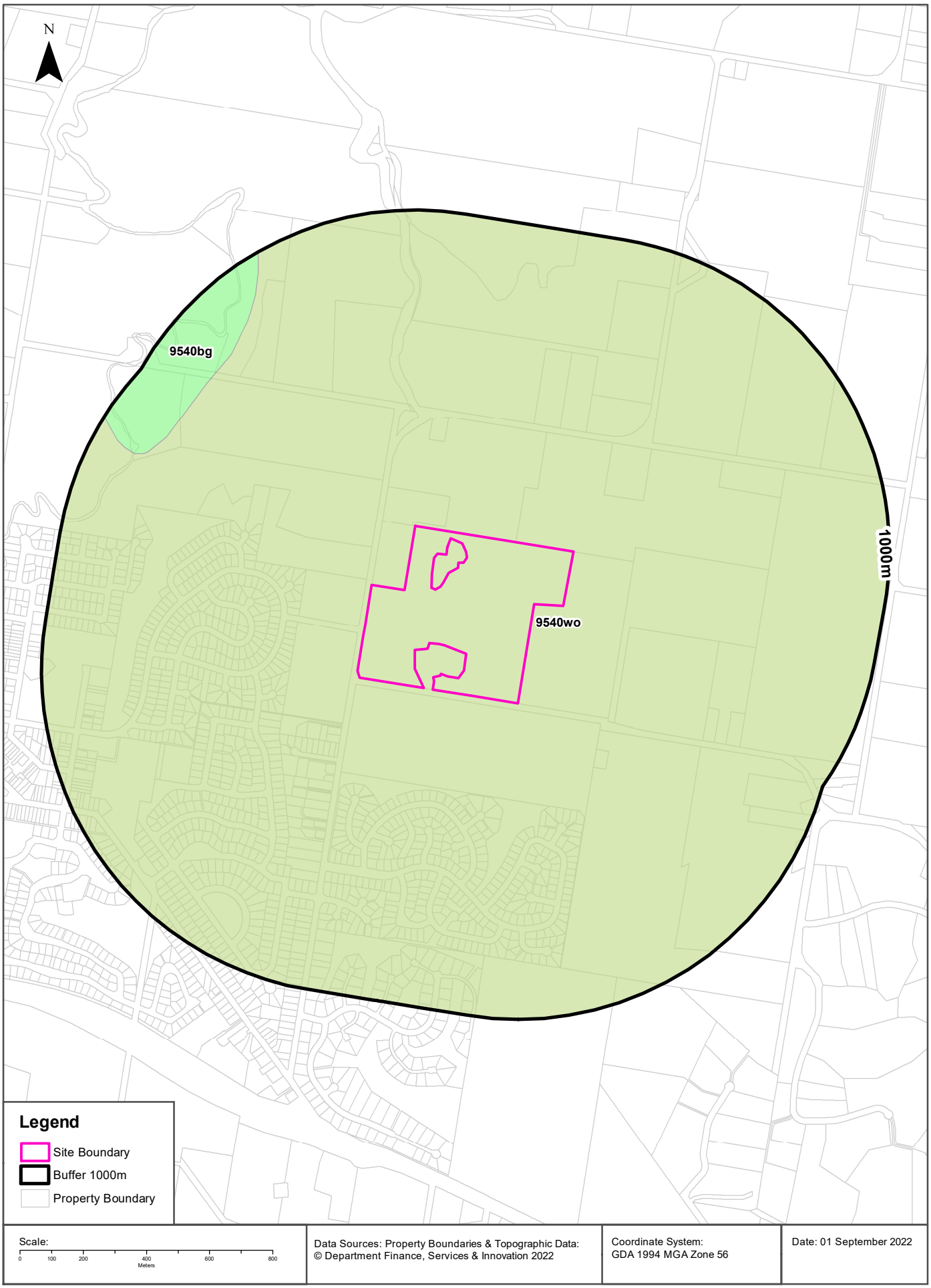
Soil mapping units and Australian Soil Classification orders within the dataset buffer:

Map Unit Code	Soil Order	Map Unit Description	Distance	Direction
Mg24	Ferrosol	Plateaux and plateau remnants at low elevation (< 1000 ft): low rolling hills of red friable porous earths (Gn4.11) generally on moderate to gentle but occasionally steep slopes, and in association with small areas of many different soils, including (Gn4.31). Small areas of units Mf5 and M12 are included around plateau edges. In some of the small headland occurrences of the unit, (Gn3.1) soils are present to an unknown extent.	0m	On-site

Atlas of Australian Soils Data Source: CSIRO
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Soil Landscapes of Central and Eastern NSW

540 Gap Road, Alstonville, NSW 2477



Soils

540 Gap Road, Alstonville, NSW 2477

Soil Landscapes of Central and Eastern NSW

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

Soil Code	Name	Distance	Direction
9540wo	Wollongbar	0m	On-site
9540bg	Bangalow	796m	North West

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

540 Gap Road, Alstonville, NSW 2477

Environmental Planning Instrument - Acid Sulfate Soils

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

Soil Class	Description	EPI Name
N/A		

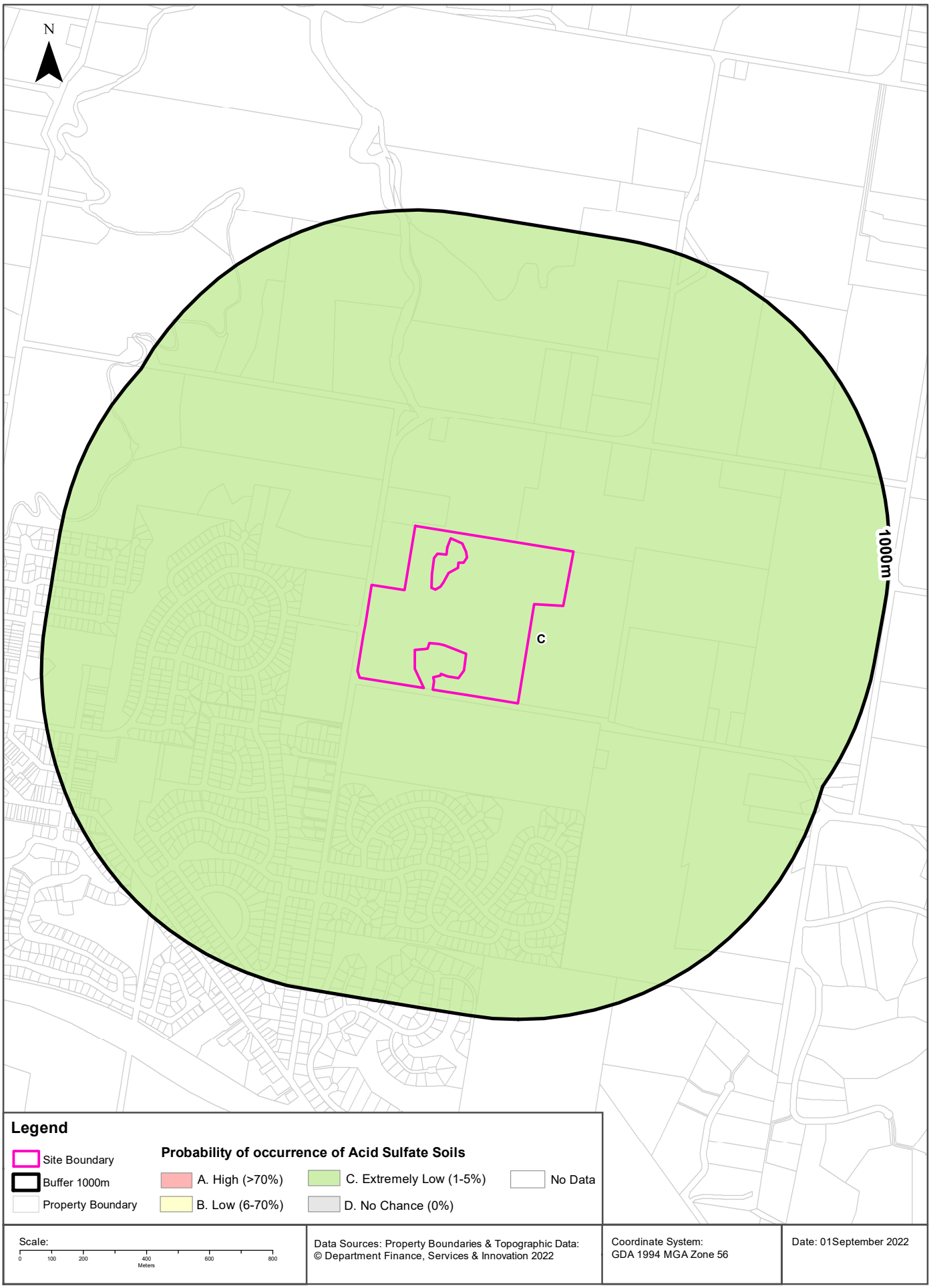
If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	EPI Name	Distance	Direction
N/A				

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Atlas of Australian Acid Sulfate Soils

540 Gap Road, Alstonville, NSW 2477



Acid Sulfate Soils

540 Gap Road, Alstonville, NSW 2477

Atlas of Australian Acid Sulfate Soils

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

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

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO
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Dryland Salinity

540 Gap Road, Alstonville, NSW 2477

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

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

No

What Dryland Salinity assessments are given?

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

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

Mining

540 Gap Road, Alstonville, NSW 2477

Mining Subsidence Districts

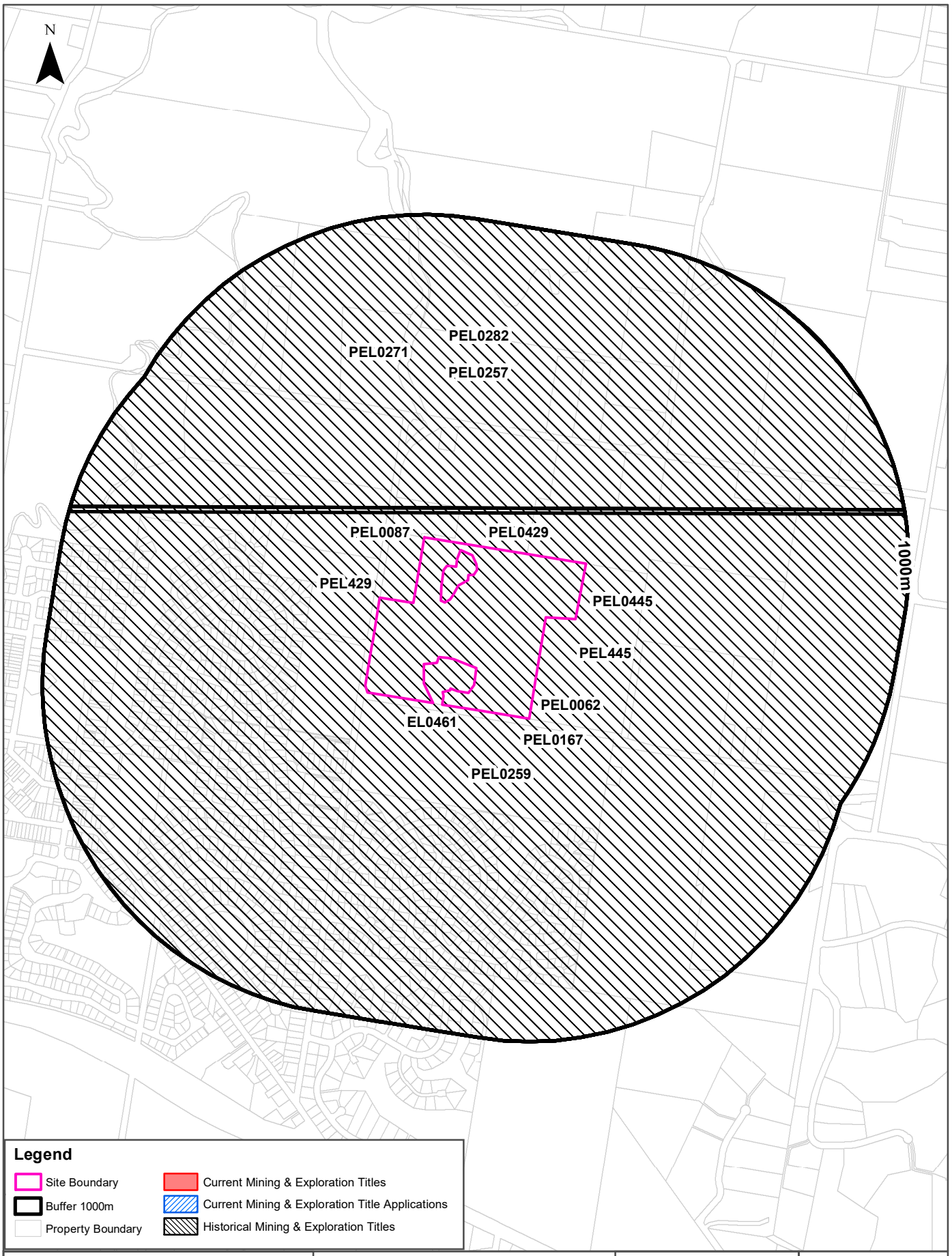
Mining Subsidence Districts within the dataset buffer:

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

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

540 Gap Road, Alstonville, NSW 2477



Mining

540 Gap Road, Alstonville, NSW 2477

Current Mining & Exploration Titles

Current Mining & Exploration Titles within the dataset buffer:

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

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

Current Mining & Exploration Title Applications

Current Mining & Exploration Title Applications within the dataset buffer:

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

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

Mining

540 Gap Road, Alstonville, NSW 2477

Historical Mining & Exploration Titles

Historical Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Start Date	End Date	Resource	Minerals	Dist	Dir
PEL0429	SUNOCO INC	26/10/1999	13/11/2002	PETROLEUM	Petroleum	0m	On-site
PEL0259	BRIDGE OIL LTD, THE AUSTRALIAN GAS LIGHT CO., CONSOLIDATED PETROLEUM (AUST.) NL, HARTOGEN ENERGY LTD, PROJECT OIL EXPLOR	7/01/1981	6/01/1993	PETROLEUM	Petroleum	0m	On-site
PEL0087	NATIONAL OIL HOLDINGS LTD, ALLIANCE OIL DEVELOPMENT AUSTRALIA NL			PETROLEUM	Petroleum	0m	On-site
PEL0167	BRIDGE OIL			PETROLEUM	Petroleum	0m	On-site
PEL0445	DART ENERGY (BRUXNER) PTY LTD	19/04/2004	19/10/2015	PETROLEUM	Petroleum	0m	On-site
PEL0062	MID-EASTERN OIL			PETROLEUM	Petroleum	0m	On-site
EL0461	PLANET METALS LIMITED	01 Jun 1971	01 Dec 1972	MINERALS	Ti Fe Th Heavy mineral sands Zircon	0m	On-site
PEL445	DART ENERGY (BRUXNER) PTY LTD			MINERALS		0m	On-site
PEL429	SUNOCO INC.			MINERALS		0m	On-site
PEL0257	OIL AND MINERALS QUEST NL	3/12/1980		PETROLEUM	Petroleum	76m	North
PEL0271	BASE RESOURCES LTD, EDGEWORTH MINERALS LTD	10/05/1984	9/05/1986	PETROLEUM	Petroleum	92m	North
PEL0282	AGL PETROLEUM OPERATIONS PTY LTD	16/03/1992	4/11/1992	PETROLEUM	Petroleum	92m	North

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

State Environmental Planning Policy

540 Gap Road, Alstonville, NSW 2477

State Significant Precincts

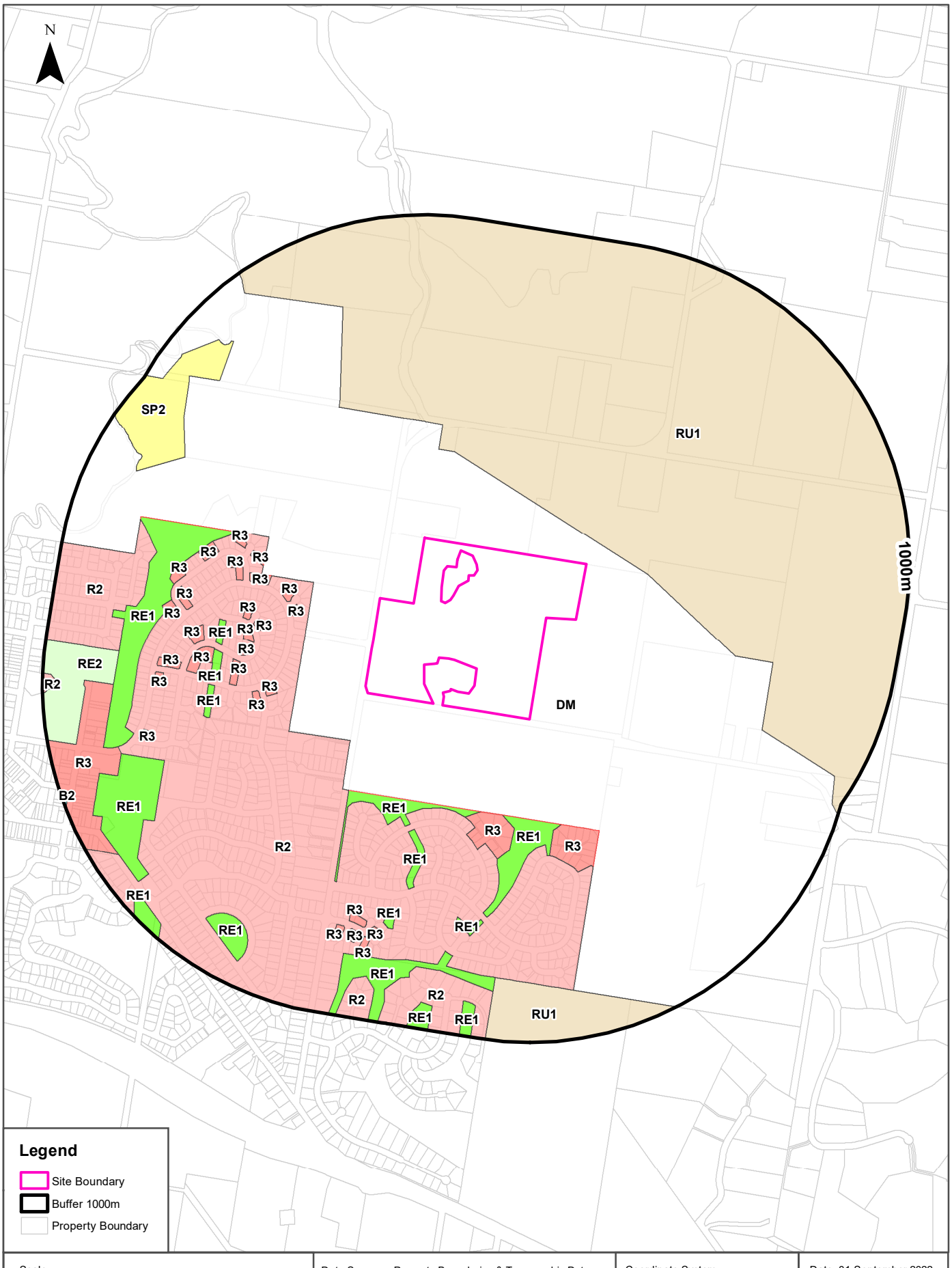
What SEPP State Significant Precincts exist within the dataset buffer?

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

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EPI Planning Zones

540 Gap Road, Alstonville, NSW 2477



Data Sources: Property Boundaries & Topographic Data:
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Planning: NSW Crown Copyright - Planning & Environment

Coordinate System:
GDA 1994 MGA Zone 56

Date: 01 September 2022

Environmental Planning Instrument

540 Gap Road, Alstonville, NSW 2477

Land Zoning

What EPI Land Zones exist within the dataset buffer?

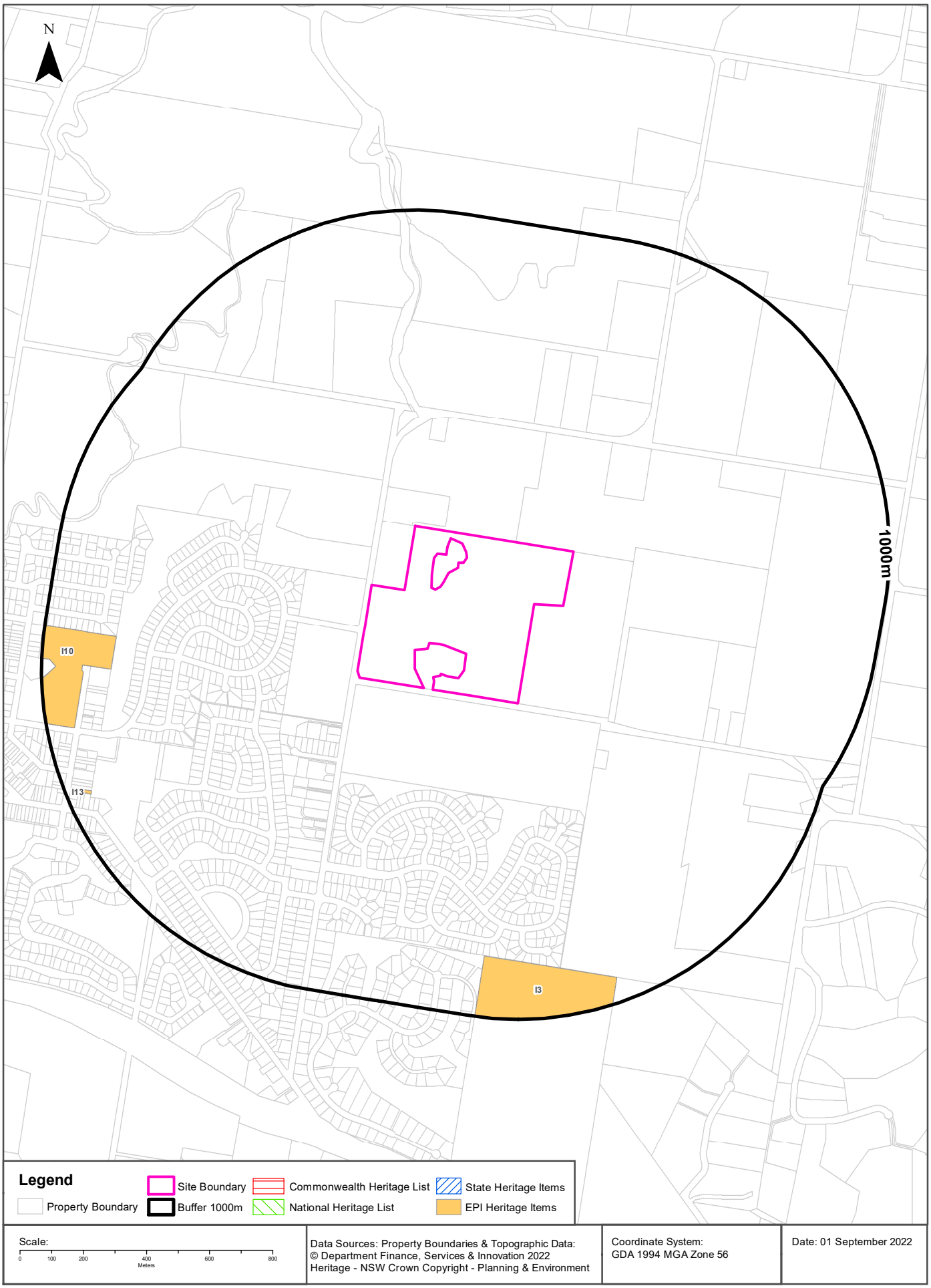
Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
DM	Deferred Matter		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		0m	On-site
RU1	Primary Production		Ballina Local Environmental Plan 2012	17/08/2018	17/08/2018	19/02/2021	Amendment No 39	75m	North East
R2	Low Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		156m	South West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		230m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		265m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		274m	West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		305m	South
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		305m	South
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		305m	South West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		327m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		333m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		339m	South East
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		343m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		363m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		364m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		376m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		382m	West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		393m	South
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		396m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		428m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		444m	West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		453m	West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		459m	West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		467m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		480m	West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		483m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		516m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		519m	West

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		569m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		575m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		602m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		605m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		627m	West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		635m	South
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		655m	South
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		655m	South
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		663m	South West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		667m	West
R2	Low Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		706m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		708m	South
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		721m	South West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		727m	South
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		743m	South
SP2	Infrastructure		Ballina Local Environmental Plan 2012	18/11/2016	18/11/2016	19/02/2021	Amendment No 25	745m	North West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		749m	South
RE2	Private Recreation		Ballina Local Environmental Plan 2012	19/06/2015	19/06/2015	19/02/2021	Amendment No 22	772m	West
R3	Medium Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		781m	West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		805m	South West
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		892m	South
RE1	Public Recreation		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		917m	South
RE1	Public Recreation		Ballina Local Environmental Plan 2012	19/06/2015	19/06/2015	19/02/2021	Amendment No 22	940m	South West
R2	Low Density Residential		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		956m	West
B2	Local Centre		Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	19/02/2021		974m	West

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Heritage Items

540 Gap Road, Alstonville, NSW 2477



Heritage

540 Gap Road, Alstonville, NSW 2477

Commonwealth Heritage List

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

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

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

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

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

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

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

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

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

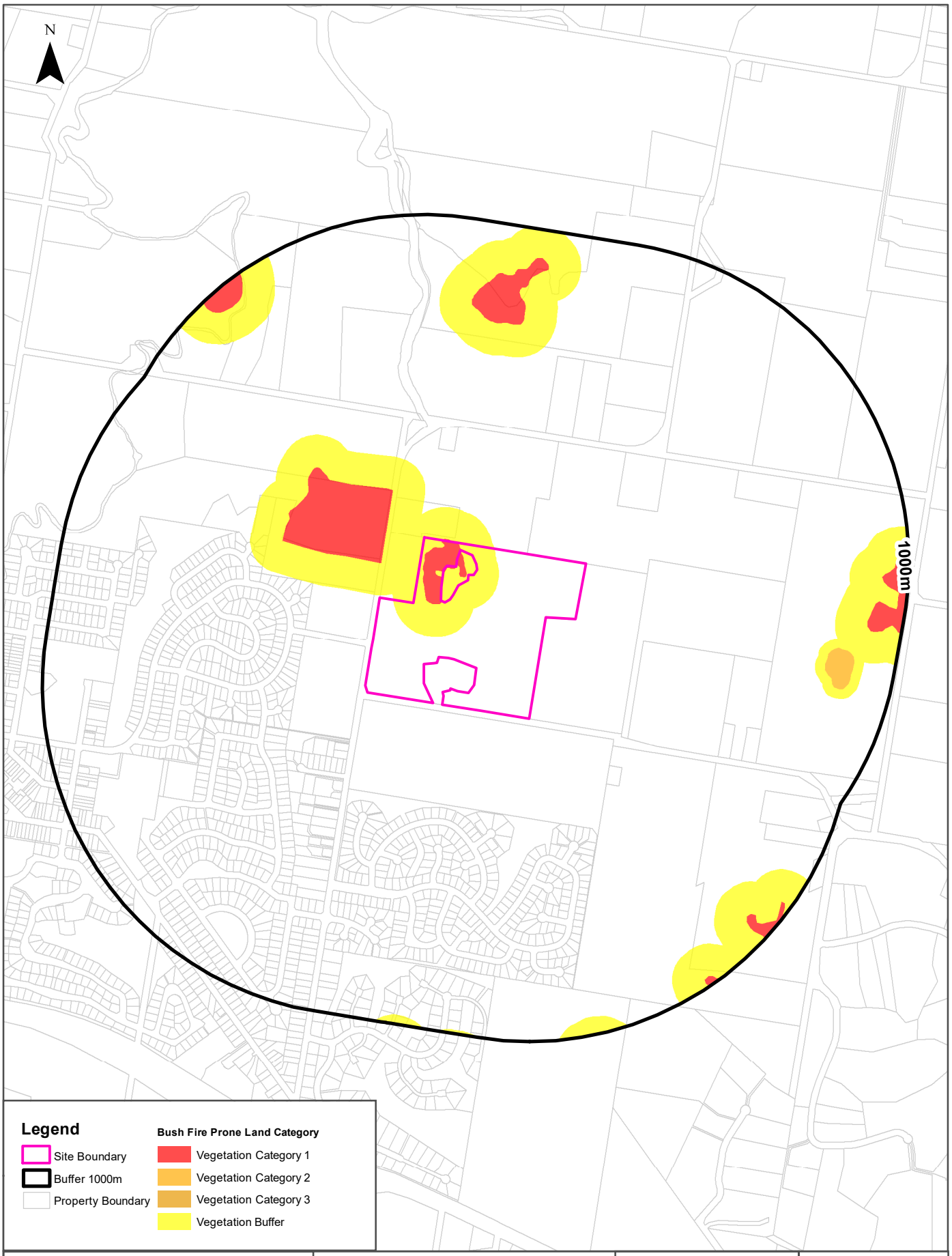
What are the EPI Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I10	Alstonville Show Ground Memorial Gates	Item - General	Local	Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	17/08/2018	772m	West
I3	Alstonville Tropical Fruit Research Station	Item - General	Local	Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	17/08/2018	805m	South
I13	Saw Miller's Cottage	Item - General	Local	Ballina Local Environmental Plan 2012	25/01/2013	04/02/2013	17/08/2018	920m	South West

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Natural Hazards - Bush Fire Prone Land

540 Gap Road, Alstonville, NSW 2477



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

Coordinate System: GDA 1994 MGA Zone 56

Date: 01 September 2022

Natural Hazards

540 Gap Road, Alstonville, NSW 2477

Bush Fire Prone Land

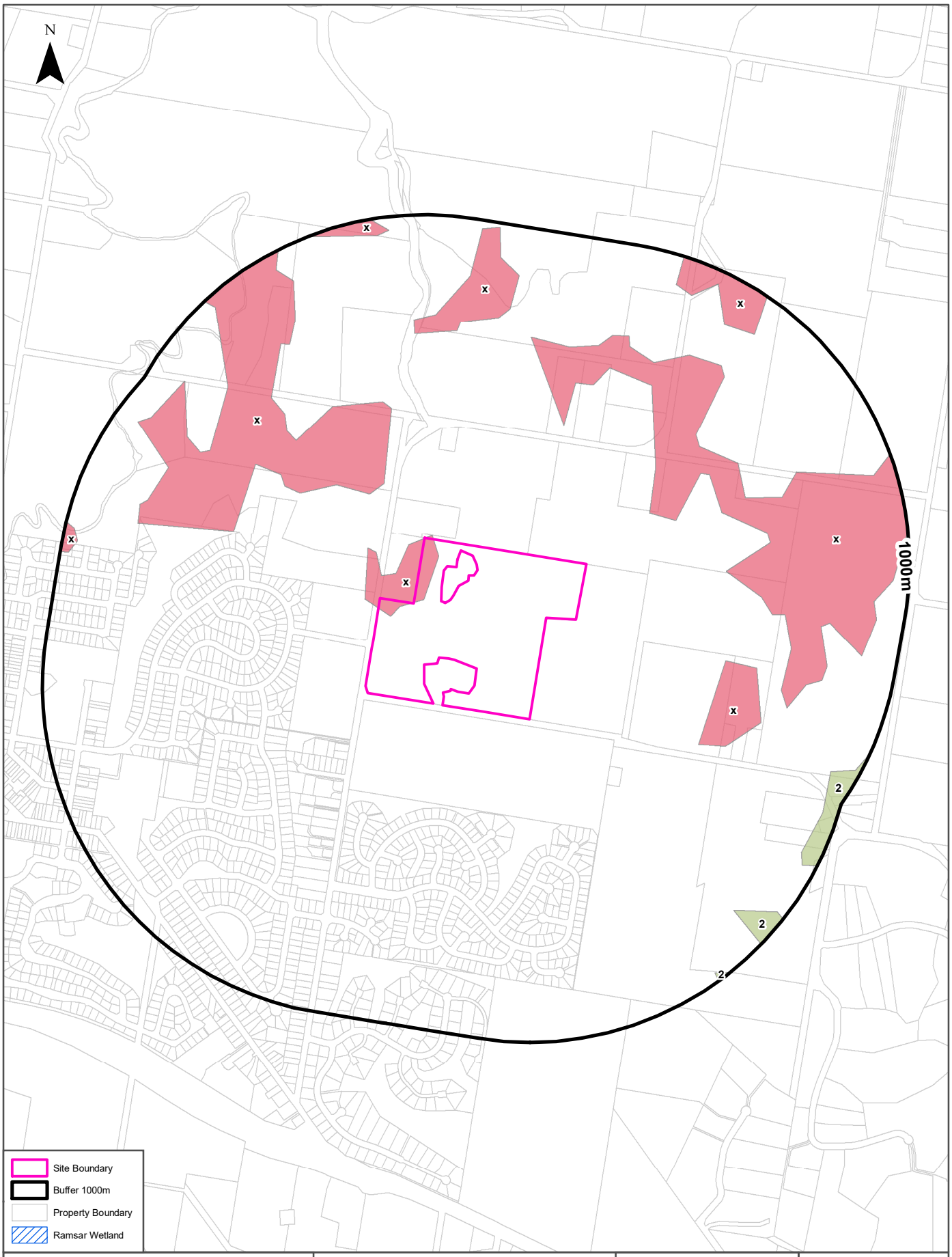
What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Category 1	0m	On-site
Vegetation Buffer	0m	On-site
Vegetation Category 2	784m	East

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

Ecological Constraints - Vegetation & Ramsar Wetlands

540 Gap Road, Alstonville, NSW 2477



Ecological Constraints

540 Gap Road, Alstonville, NSW 2477

Vegetation - Eastern Bushland Database (North Region)

What Vegetation exists within the dataset buffer?

Veg Code	Veg Desc	NVISCode	NVISDesc	Distance	Direction
x	disturbed forest woodland	23	Disturbed bushland	0m	On-site
2	moist eucalypt forest	8	Moist forest system	864m	South East

Vegetation Eastern Bushland Database Data Source: NSW Office of Environment and Heritage
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Ramsar Wetlands

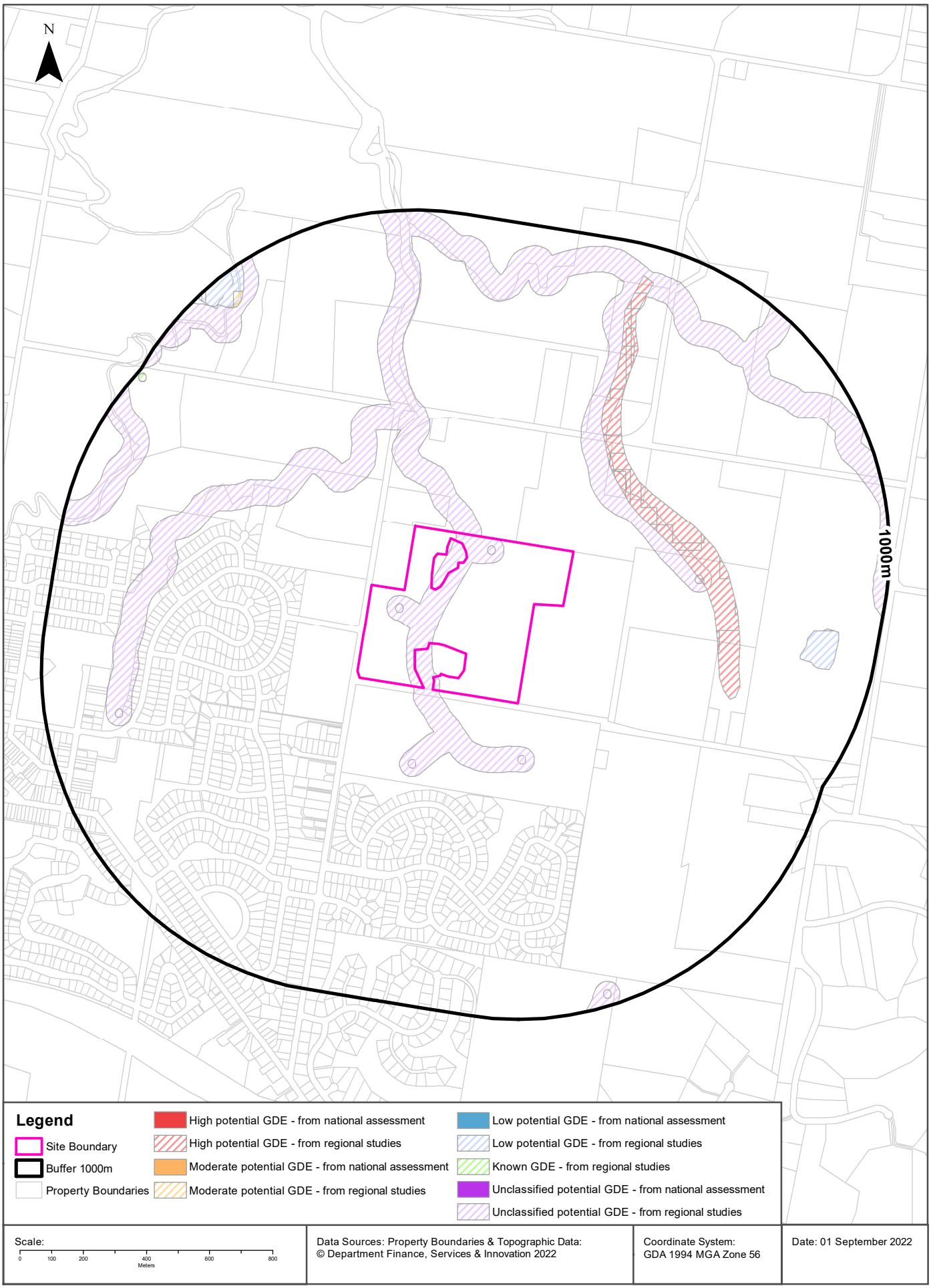
What Ramsar Wetland areas exist within the dataset buffer?

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

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

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

540 Gap Road, Alstonville, NSW 2477



Ecological Constraints

540 Gap Road, Alstonville, NSW 2477

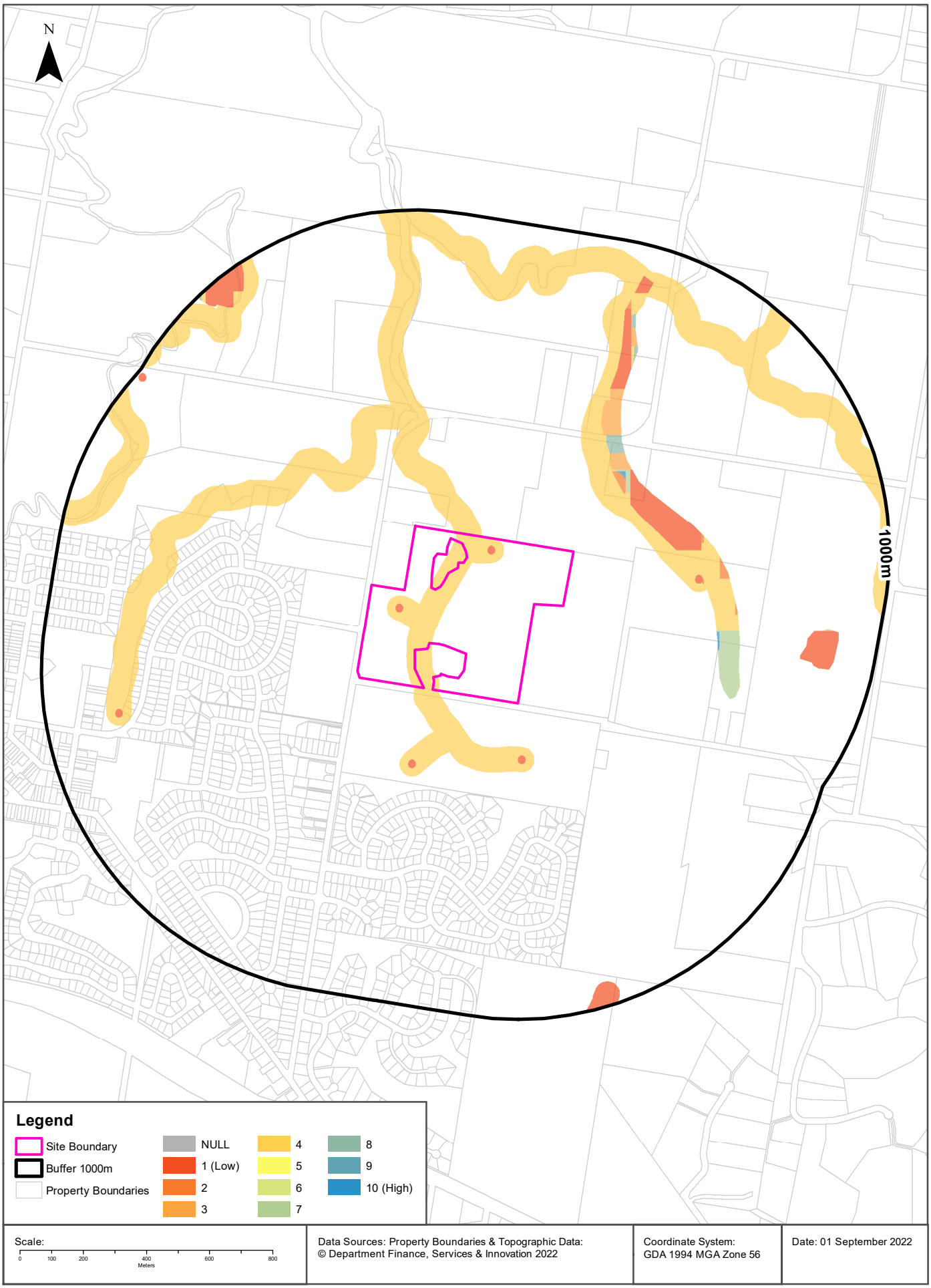
Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Aquatic	Unclassified potential GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Spring		0m	On-site
Aquatic	Unclassified potential GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Wetland		0m	On-site
Aquatic	Unclassified potential GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	River		0m	On-site
Terrestrial	High potential GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		235m	North East
Terrestrial	High potential GDE - from regional studies	Coastal lowlands on weak sedimentary rocks, with littoral and alluvial plains.	Vegetation		235m	East
Terrestrial	High potential GDE - from regional studies	Undulating granitic plateau with higher residuals including basalt cappings.	Vegetation		287m	North East
Terrestrial	Low potential GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		766m	East
Terrestrial	High potential GDE - from regional studies	Dissected plateau margin on granite and metamorphic rocks.	Vegetation		792m	North East
Terrestrial	Moderate potential GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		896m	North West
Aquatic	Known GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Spring		967m	North West

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

540 Gap Road, Alstonville, NSW 2477



Ecological Constraints

540 Gap Road, Alstonville, NSW 2477

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Aquatic	4	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Spring		0m	On-site
Aquatic	1	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Wetland		0m	On-site
Aquatic	1	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	River		0m	On-site
Terrestrial	7	Coastal lowlands on weak sedimentary rocks, with littoral and alluvial plains.	Vegetation		235m	East
Terrestrial	1	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		235m	North East
Terrestrial	10	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		240m	East
Terrestrial	2	Coastal lowlands on weak sedimentary rocks, with littoral and alluvial plains.	Vegetation		243m	North East
Terrestrial	4	Coastal lowlands on weak sedimentary rocks, with littoral and alluvial plains.	Vegetation		252m	North East
Terrestrial	1	Coastal lowlands on weak sedimentary rocks, with littoral and alluvial plains.	Vegetation		256m	North East
Terrestrial	3	Undulating granitic plateau with higher residuals including basalt cappings.	Vegetation		287m	North East
Terrestrial	8	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		296m	North East
Terrestrial	7	Undulating granitic plateau with higher residuals including basalt cappings.	Vegetation		317m	North East
Terrestrial	4	Undulating granitic plateau with higher residuals including basalt cappings.	Vegetation		326m	East
Terrestrial	2	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		405m	East
Terrestrial	7	Dissected plateau margin on granite and metamorphic rocks.	Vegetation		792m	North East
Terrestrial	7	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		794m	East
Terrestrial	4	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		896m	North West
Terrestrial	9	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		901m	North West
Aquatic	1	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Spring		921m	South

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology

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Ecological Constraints

540 Gap Road, Alstonville, NSW 2477

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	Assa darlingtoni	Pouched Frog	Vulnerable	Not Sensitive	Not Listed	
Animalia	Amphibia	Crinia tinnula	Wallum Froglet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Actitis hypoleucos	Common Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Amaurornis moluccana	Pale-vented Bush-hen	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Ardenna grisea	Sooty Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ardenna pacifica	Wedge-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ardenna tenuirostris	Short-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	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	Calidris canutus	Red Knot	Not Listed	Not Sensitive	Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris ferruginea	Curlew Sandpiper	Endangered	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris melanotos	Pectoral Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Calidris ruficollis	Red-necked Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris subminuta	Long-toed Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Carterornis leucotis	White-eared Monarch	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Charadrius leschenaultii	Greater Sand-plover	Vulnerable	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Charadrius mongolus	Lesser Sand-plover	Vulnerable	Not Sensitive	Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Circus assimilis	Spotted Harrier	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Coracina lineata	Barred Cuckoo-shrike	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Cuculus optatus	Oriental Cuckoo	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Erythrotriorchis radiatus	Red Goshawk	Critically Endangered	Category 2	Vulnerable	
Animalia	Aves	Falco subniger	Black Falcon	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Gelochelidon nilotica	Gull-billed Tern	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Grus rubicunda	Brolga	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Gygis alba	White Tern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus fuliginosus	Sooty Oystercatcher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus longirostris	Pied Oystercatcher	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Hydroprogne caspia	Caspian Tern	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Irediparra gallinacea	Comb-crested Jacana	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Limicola falcinellus	Broad-billed Sandpiper	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Limosa lapponica	Bar-tailed Godwit	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Limosa limosa	Black-tailed Godwit	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Menura alberti	Albert's Lyrebird	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Nettapus coromandelianus	Cotton Pygmy-Goose	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Numenius madagascariensis	Eastern Curlew	Not Listed	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Numenius phaeopus	Whimbrel	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Onychoprion fuscata	Sooty Tern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pachycephala olivacea	Olive Whistler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pandion cristatus	Eastern Osprey	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Phaethon rubricauda	Red-tailed Tropicbird	Vulnerable	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Philomachus pugnax	Ruff	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pluvialis fulva	Pacific Golden Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pterodroma solandri	Providence Petrel	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus magnificus	Wompoo Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Ptilinopus regina	Rose-crowned Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus superbus	Superb Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Rostratula australis	Australian Painted Snipe	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Sterna hirundo	Common Tern	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Sternula albifrons	Little Tern	Endangered	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Thalasseus bergii	Crested Tern	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Thinornis cucullatus cucullatus	Eastern Hooded Dotterel	Critically Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Tringa brevipes	Grey-tailed Tattler	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa glareola	Wood Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa stagnatilis	Marsh Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Turnix maculosus	Red-backed Button-quail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tyto longimembris	Eastern Grass Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto tenebricosa	Sooty Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Xenus cinereus	Terek Sandpiper	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Insecta	Nurus atlas	Atlas Rainforest Ground-beetle	Endangered	Category 3	Not Listed	
Animalia	Insecta	Phyllodes imperialis southern subspecies	Southern Pink Underwing Moth	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Arctocephalus pusillus doriferus	Australian Fur-seal	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Cercartetus nanus	Eastern Pygmy-possum	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Megaptera novaeangliae	Humpback Whale	Vulnerable	Not Sensitive	Vulnerable	
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	Nyctimene robinsoni	Eastern Tube-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Nyctophilus bifax	Eastern Long-eared Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petauroides volans	Greater Glider	Not Listed	Not Sensitive	Endangered	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascogale tapoatafa	Brush-tailed Phascogale	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Phascolarctos cinereus	Koala	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Planigale maculata	Common Planigale	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Potorous tridactylus	Long-nosed Potoroo	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Thylogale stigmatica	Red-legged Pademelon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Caretta caretta	Loggerhead Turtle	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Reptilia	Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Reptilia	Eretmochelys imbricata	Hawksbill Turtle	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Acalypha eremorum	Acalypha	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Acronychia littoralis	Scented Acronychia	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Amyema plicatula		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Archidendron hendersonii	White Lace Flower	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Arthraxon hispidus	Hairy Jointgrass	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Baloghia marmorata	Jointed Baloghia	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Belvisia mucronata	Needle-leaf Fern	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Blumea lacera		Extinct	Not Sensitive	Not Listed	
Plantae	Flora	Caesalpinia bonduc	Knicker Nut	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Cassia marksiana		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Coatesia paniculata	Axe-Breaker	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Cryptocarya foetida	Stinking Cryptocarya	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Davidsonia jerseyana	Davidson's Plum	Endangered	Category 2	Endangered	
Plantae	Flora	Davidsonia johnsonii	Smooth Davidson's Plum	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Desmodium acanthocladum	Thorny Pea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Diploglottis campbellii	Small-leaved Tamarind	Endangered	Category 2	Endangered	
Plantae	Flora	Endiandra hayesii	Rusty Rose Walnut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Endiandra muelleri subsp. bracteata	Green-leaved Rose Walnut	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Floydia praealta	Ball Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Gossia fragrantissima	Sweet Myrtle	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Hicksbeachia pinnatifolia	Red Boppel Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Hypolepis elegans		Extinct	Not Sensitive	Not Listed	
Plantae	Flora	Isoglossa eranthemoides	Isoglossa	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Lepiderema pulchella	Fine-leaved Tuckeroo	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Lindsaea brachypoda	Short-footed Screw Fern	Endangered	Category 3	Not Listed	
Plantae	Flora	Macadamia integrifolia	Macadamia Nut	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Macadamia tetraphylla	Rough-shelled Bush Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Marsdenia longiloba	Slender Marsdenia	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Melicope vitiflora	Coast Euodia	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Niemeyera whitei	Rusty Plum, Plum Boxwood	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Oberonia titania	Red-flowered King of the Fairies	Vulnerable	Category 2	Not Listed	
Plantae	Flora	Ochrosia moorei	Southern Ochrosia	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Owenia cepiodora	Onion Cedar	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Peristeranthus hillii	Brown Fairy-chain Orchid	Vulnerable	Category 2	Not Listed	
Plantae	Flora	Phaius australis	Southern Swamp Orchid	Endangered	Category 2	Endangered	
Plantae	Flora	Phyllanthus microcladus	Brush Sauropus	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Psilotum complanatum	Flat Fork Fern	Endangered	Category 3	Not Listed	
Plantae	Flora	Quassia sp. Moonee Creek	Moonee Quassia	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Rhodamnia maideniana	Smooth Scrub Turpentine	Critically Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Rhodamnia rubescens	Scrub Turpentine	Critically Endangered	Not Sensitive	Critically Endangered	
Plantae	Flora	Rhodomyrtus psidioides	Native Guava	Critically Endangered	Not Sensitive	Critically Endangered	
Plantae	Flora	Senna acclinis	Rainforest Cassia	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Sophora fraseri	Brush Sophora	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Syzygium hodgkinsoniae	Red Lilly Pilly	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Syzygium moorei	Durobby	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Tinospora smilacina	Tinospora Vine	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Tinospora tinosporoides	Arrow-head Vine	Vulnerable	Not Sensitive	Not Listed	

Data does not include NSW category 1 sensitive species.

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

Location Confidences

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

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

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Appendix D

Current and Historic Title Searches

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

Summary of Owners Report

Address: 540 Gap Road, Alstonville, NSW 2477

Description: - Lot 22 D.P. 1243105

As regards to the part numbered 1 on attached Cadastral Records Enquiry Report: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
14.03.1921 (1921 to 1927)	Thomas Devery (Farmer)	Volume 3163 Folio 158
08.07.1927 (1927 to 1927)	Marid Devery (Spinster) Ellen Devery (Spinster) James Devery (Farmer) (Transmission Application not investigated)	Volume 3163 Folio 158
08.07.1927 (1927 to 1935)	George Herbert Woodford (Farmer)	Volume 3163 Folio 158
22.08.1935 (1935 to 1936)	Alfred Ernest Schmidt (Farmer)	Volume 3163 Folio 158 Now Volume 4719 Folio 189
10.07.1936 (1936 to Date)	# The Council of The Shire of Tintenbar Now # Ballina Shire Council	Volume 4719 Folio 189 (Government Gazette published 10.07.1936 Folio 2857) Then Volume 4916 Folio 37 Then 1/186865 Then 1/861305 Then 2/880416 Then 2/1130300 Now 22/1243105

 # Denotes current registered proprietor

Email: mark.groll@infotrack.com.au
Email: taylor.wilson@infotrack.com.au

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to the part numbered 2 on attached Cadastral Records Enquiry Report: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
14.03.1921 (1921 to 1927)	Thomas Devery (Farmer)	Volume 3163 Folio 158
08.07.1927 (1927 to 1927)	Marid Devery (Spinster) Ellen Devery (Spinster) James Devery (Farmer) (Transmission Application not investigated)	Volume 3163 Folio 158
08.07.1927 (1927 to 1935)	George Herbert Woodford (Farmer)	Volume 3163 Folio 158
22.08.1935 (1935 to 1942)	Alfred Ernest Schmidt (Farmer)	Volume 3163 Folio 158 Now Volume 4925 Folio 222
30.09.1942 (1942 to Date)	# The Council of The Shire of Tintenbar Now # Ballina Shire Council	Volume 4925 Folio 222 Then Volume 5371 Folio 100 Then Volume 12183 Folio 93 Then Volume 12735 Folio 211 Then 1/575192 Then 1/861305 Then 2/880416 Then 2/1130300 Now 22/1243105

 # Denotes current registered proprietor

Email: mark.groll@infotrack.com.au
Email: taylor.wilson@infotrack.com.au

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to the part numbered 3 on attached Cadastral Records Enquiry Report: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
14.03.1921 (1921 to 1927)	Thomas Devery (Farmer)	Volume 3163 Folio 158
08.07.1927 (1927 to 1927)	Marid Devery (Spinster) Ellen Devery (Spinster) James Devery (Farmer) (Transmission Application not investigated)	Volume 3163 Folio 158
08.07.1927 (1927 to 1935)	George Herbert Woodford (Farmer)	Volume 3163 Folio 158
22.08.1935 (1935 to 1947)	Alfred Ernest Schmidt (Farmer)	Volume 3163 Folio 158 Then Volume 4925 Folio 222 Now Volume 5371 Folio 101
13.10.1947 (1947 to Date)	# The Council of The Shire of Tintenbar Now # Ballina Shire Council	Volume 5371 Folio 101 Then Volume 5920 Folio 118 Then Volume 12183 Folio 93 Then Volume 12735 Folio 211 Then 1/575192 Then 1/861305 Then 2/880416 Then 2/1130300 Now 22/1243105

 # Denotes current registered proprietor

Email: mark.groll@infotrack.com.au
Email: taylor.wilson@infotrack.com.au

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to the part numbered 4 on attached Cadastral Records Enquiry Report: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
14.03.1921 (1921 to 1927)	Thomas Devery (Farmer)	Volume 3163 Folio 158
08.07.1927 (1927 to 1927)	Marid Devery (Spinster) Ellen Devery (Spinster) James Devery (Farmer) (Transmission Application not investigated)	Volume 3163 Folio 158
08.07.1927 (1927 to 1935)	George Herbert Woodford (Farmer)	Volume 3163 Folio 158
22.08.1935 (1935 to 1947)	Alfred Ernest Schmidt (Farmer)	Volume 3163 Folio 158 Then Volume 4925 Folio 222 Now Volume 5371 Folio 101
13.10.1947 (1947 to Date)	# The Council of The Shire of Tintenbar Now # Ballina Shire Council	Volume 5371 Folio 101 Then Volume 5920 Folio 118 Then Volume 12183 Folio 93 Then Volume 12735 Folio 211 Then 1/575192 Then 1/861305 Then 2/880416 Then 2/1130300 Now 22/1243105

 # Denotes current registered proprietor

Email: mark.groll@infotrack.com.au
Email: taylor.wilson@infotrack.com.au

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to the part numbered 5 on attached Cadastral Records Enquiry Report: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
14.03.1921 (1921 to 1927)	Thomas Devery (Farmer)	Volume 3163 Folio 158
08.07.1927 (1927 to 1927)	Marid Devery (Spinster) Ellen Devery (Spinster) James Devery (Farmer) (Transmission Application not investigated)	Volume 3163 Folio 158
08.07.1927 (1927 to 1935)	George Herbert Woodford (Farmer)	Volume 3163 Folio 158
22.08.1935 (1935 to 1953)	Alfred Ernest Schmidt (Farmer)	Volume 3163 Folio 158 Then Volume 4925 Folio 222 Then Volume 5371 Folio 101 Then Volume 5920 Folio 119 Now Volume 6256 Folio 45
31.07.1953 (1953 to 1973)	John Lance Schmidt (Farmer)	Volume 6256 Folio 45 Now Volume 12183 Folio 94
18.04.1973 (1973 to Date)	# The Council of The Shire of Tintenbar Now # Ballina Shire Council	Volume 12183 Folio 94 Then Volume 12735 Folio 211 Then 1/575192 Then 1/861305 Then 2/880416 Then 2/1130300 Now 22/1243105

 # Denotes current registered proprietor

Email: mark.groll@infotrack.com.au
Email: taylor.wilson@infotrack.com.au

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to the parts numbered 6 & 7 on attached Cadastral Records Enquiry Report: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
14.03.1921 (1921 to 1927)	Thomas Devery (Farmer)	Volume 3163 Folio 158
08.07.1927 (1927 to 1927)	Marid Devery (Spinster) Ellen Devery (Spinster) James Devery (Farmer) (Transmission Application not investigated)	Volume 3163 Folio 158
08.07.1927 (1927 to 1935)	George Herbert Woodford (Farmer)	Volume 3163 Folio 158
22.08.1935 (1935 to 1947)	Alfred Ernest Schmidt (Farmer)	Volume 3163 Folio 158 Then Volume 4925 Folio 222 Now Volume 5371 Folio 101
13.10.1947 (1947 to Date)	# The Council of The Shire of Tintenbar Now # Ballina Shire Council	Volume 5371 Folio 101 Then Volume 5920 Folio 118 Then Volume 12183 Folio 93 Then Volume 12735 Folio 211 Then 1/575192 Then 1/861305 Then 2/880416 Then 2/1130300 Now 22/1243105

 # Denotes current registered proprietor

Email: mark.groll@infotrack.com.au
Email: taylor.wilson@infotrack.com.au

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to the part numbered 8 on attached Cadastral Records Enquiry Report: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
14.03.1921 (1921 to 1927)	Thomas Devery (Farmer)	Volume 3163 Folio 158
08.07.1927 (1927 to 1927)	Marid Devery (Spinster) Ellen Devery (Spinster) James Devery (Farmer) (Transmission Application not investigated)	Volume 3163 Folio 158
08.07.1927 (1927 to 1935)	George Herbert Woodford (Farmer)	Volume 3163 Folio 158
22.08.1935 (1935 to 1953)	Alfred Ernest Schmidt (Farmer)	Volume 3163 Folio 158 Then Volume 4925 Folio 222 Then Volume 5371 Folio 101 Then Volume 5920 Folio 119 Now Volume 6256 Folio 45
31.07.1953 (1953 to 1977)	John Lance Schmidt (Farmer)	Volume 6256 Folio 45 Then Volume 12183 Folio 94 Then Volume 12735 Folio 212 Now Volume 13320 Folio 30
14.11.1977 (1977 to Date)	# The Council of The Shire of Tintenbar Now # Ballina Shire Council	Volume 13320 Folio 30 Then 4/588893 Then 1/861305 Then 2/880416 Then 2/1130300 Now 22/1243105

 # Denotes current registered proprietor

Continued Over.

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

Leases: -

- 22.10.2008 (AE147057): Lease. Surrendered 31.05.2018.

Easements: -

- 22.04.1977 (D.P. 588893): Easement for water supply 4 metre(s) wide affecting the part(s) shown so burdened in the title diagram.
- 15.10.2008 (D.P. 1130300): Right of carriageway 8 metre(s) wide affecting the part(s) shown so burdened in the title diagram.

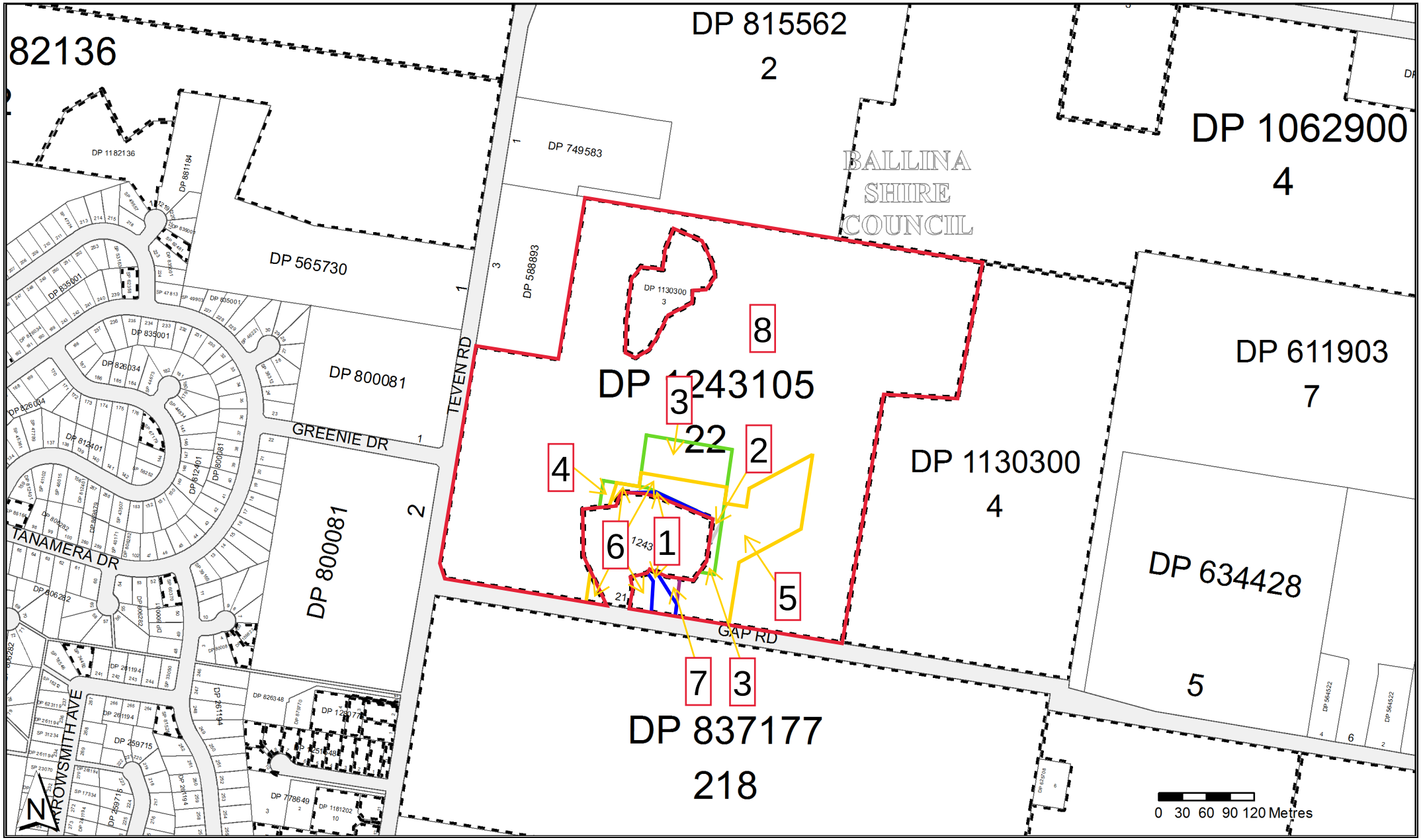
Yours Sincerely
Taylor Wilson
13th September 2022

Email: mark.groll@infotrack.com.au
Email: taylor.wilson@infotrack.com.au

Cadastral Records Enquiry Report : Lot 22 DP 1243105

Ref : 540 Gap Road, Alstonville

Locality : ALSTONVILLE
Parish : TUCKOMBIL
LGA : BALLINA
County : ROUS



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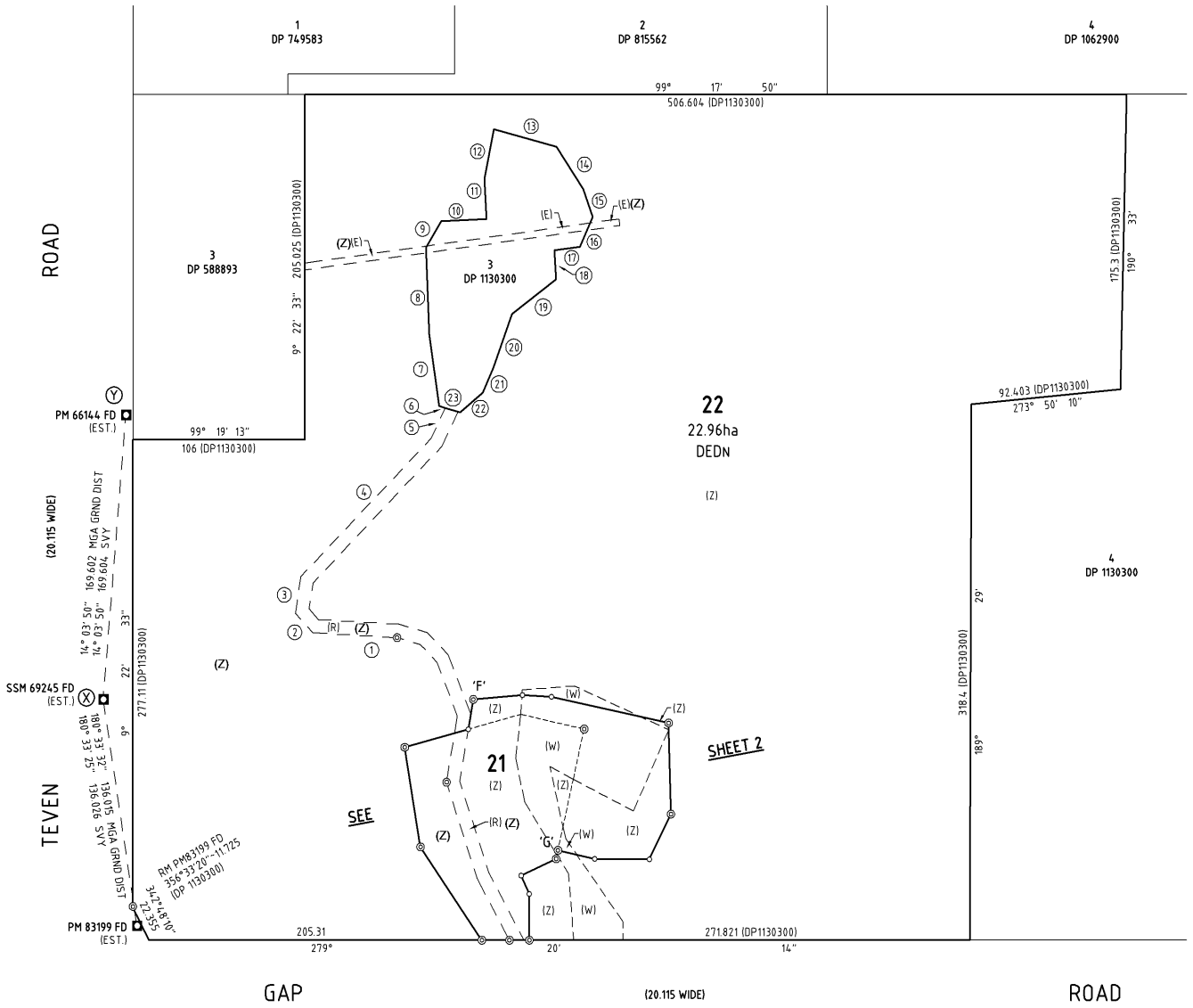
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	Status	Surv/Comp	Purpose
DP837177			
Lot(s): 218			
DP1054905	REGISTERED	SURVEY	SUBDIVISION
DP1205311	REGISTERED	SURVEY	SUBDIVISION
DP853747			
Lot(s): 2			
DP1129271	REGISTERED	SURVEY	EASEMENT
DP872631			
Lot(s): 1			
DP1205311	REGISTERED	SURVEY	SUBDIVISION
Lot(s): 1, 2			
DP1011770	REGISTERED	SURVEY	EASEMENT
DP1062900			
Lot(s): 4			
DP611903	HISTORICAL	SURVEY	SUBDIVISION
DP1107339	REGISTERED	SURVEY	EASEMENT
Lot(s): 3, 4			
DP815562	HISTORICAL	SURVEY	SUBDIVISION
DP1130300			
Lot(s): 3, 4			
DP880416	HISTORICAL	SURVEY	LEASE
DP1155623			
Lot(s): 100, 101			
DP800081	HISTORICAL	SURVEY	SUBDIVISION
DP1181202			
Lot(s): 10, 11, 12			
DP778649	HISTORICAL	SURVEY	SUBDIVISION
DP1182136			
Lot(s): 1			
DP835001	HISTORICAL	SURVEY	SUBDIVISION
Lot(s): 1, 2			
DP253899	HISTORICAL	SURVEY	SUBDIVISION
DP1198760			
Lot(s): 2, 3			
DP786289	HISTORICAL	SURVEY	SUBDIVISION
DP1243105			
Lot(s): 21, 22			
DP880416	HISTORICAL	SURVEY	LEASE
DP1130300	HISTORICAL	SURVEY	SUBDIVISION
DP1251548			
Lot(s): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11			
DP239781	HISTORICAL	SURVEY	SUBDIVISION
DP1280774			
Lot(s): 1, 2, 3, 4			
DP879770	HISTORICAL	SURVEY	SUBDIVISION
SP60370			
DP800081	HISTORICAL	SURVEY	SUBDIVISION
SP62358			
DP835001	HISTORICAL	SURVEY	SUBDIVISION
SP67179			
DP826034	HISTORICAL	SURVEY	SUBDIVISION
SP74492			
DP261194	HISTORICAL	SURVEY	SUBDIVISION
SP80810			
DP826034	HISTORICAL	SURVEY	SUBDIVISION
SP81526			
DP261194	HISTORICAL	SURVEY	SUBDIVISION
DP1132938	HISTORICAL	SURVEY	REDEFINITION
SP82481			
DP835001	HISTORICAL	SURVEY	SUBDIVISION

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COMPARISONS & CONNECTIONS

FROM	TO	BEARING	DISTANCE	SOURCE
PM 66144	PM 83199	188° 03' 25"	303.523	MGA GRND DIST
		188° 03' 21"	303.535	SVY
SSM 69245	CORNER G	117° 03' 23"	294.377	SVY
PM 66144	CORNER F	137° 36' 52"	272.867	SVY

SHORT LINE TABLE

LINE	BEARING	DISTANCE	ORIGIN
1	282°30'	52	DP 1130300
2	326°53'30"	15.735	DP 1130300
3	18°00'	22	DP 1130300
4	53°45'	115	DP 1130300
5	35°00'	20	DP 1130300
6	295°27'	(4)	DP 1130300
7	1°03'06"	42.85	DP 1130300
8	7°11'39"	51.556	DP 1130300
9	39°57'55"	18.266	DP 1130300
10	96°35'	28	DP 1130300
11	6°35'20"	24	DP 1130300
12	20°30'	30	DP 1130300
13	114°30'	40	DP 1130300
14	156°00'	30	DP 1130300
15	170°00'	17.498	DP 1130300
16	213°00'	19.411	DP 1130300
17	271°31'28"	16	DP 1130300
18	185°35'56"	17.181	DP 1130300
19	242°13'32"	34.292	DP 1130300
20	208°46'42"	33.665	DP 1130300
21	213°45'50"	16.342	DP 1130300
22	239°16'	18.158	DP 1130300
23	295°27'	13.52	DP 1130300

(W) C498621 - LAND EXCLUDES MINERALS - SEC.141 P.W. ACT, 1912

(R) RIGHT OF CARRIAGEWAY 8 WIDE (DP 1130300)

(E) EASEMENT FOR WATER SUPPLY 4 WIDE (DP 588893)

(Z) LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS - SEE CROWN GRANTS

SURVEYING & SPATIAL INFORMATION REGULATION 2012 : CLAUSES 61(2) & 35(1)b

MGA COORDINATES - ZONE 56

MARK	EASTING	NORTHING	CLASS	ORDER	METHOD	ORIGIN
PM 66144	544 075. 270	6 810 127. 318	C	3		SCIMS
PM 83199	544 032. 747	6 809 826. 913	A	1		SCIMS
SSM 69245	544 034. 073	6 809 962. 867	B	2		SCIMS

MGA COORDINATES ADOPTED FROM SCIMS 6th APRIL 2017

COMBINED SCALE FACTOR 0.999596

10 20 30 40 50 Table of mm 80 90 100 110 120 130 140

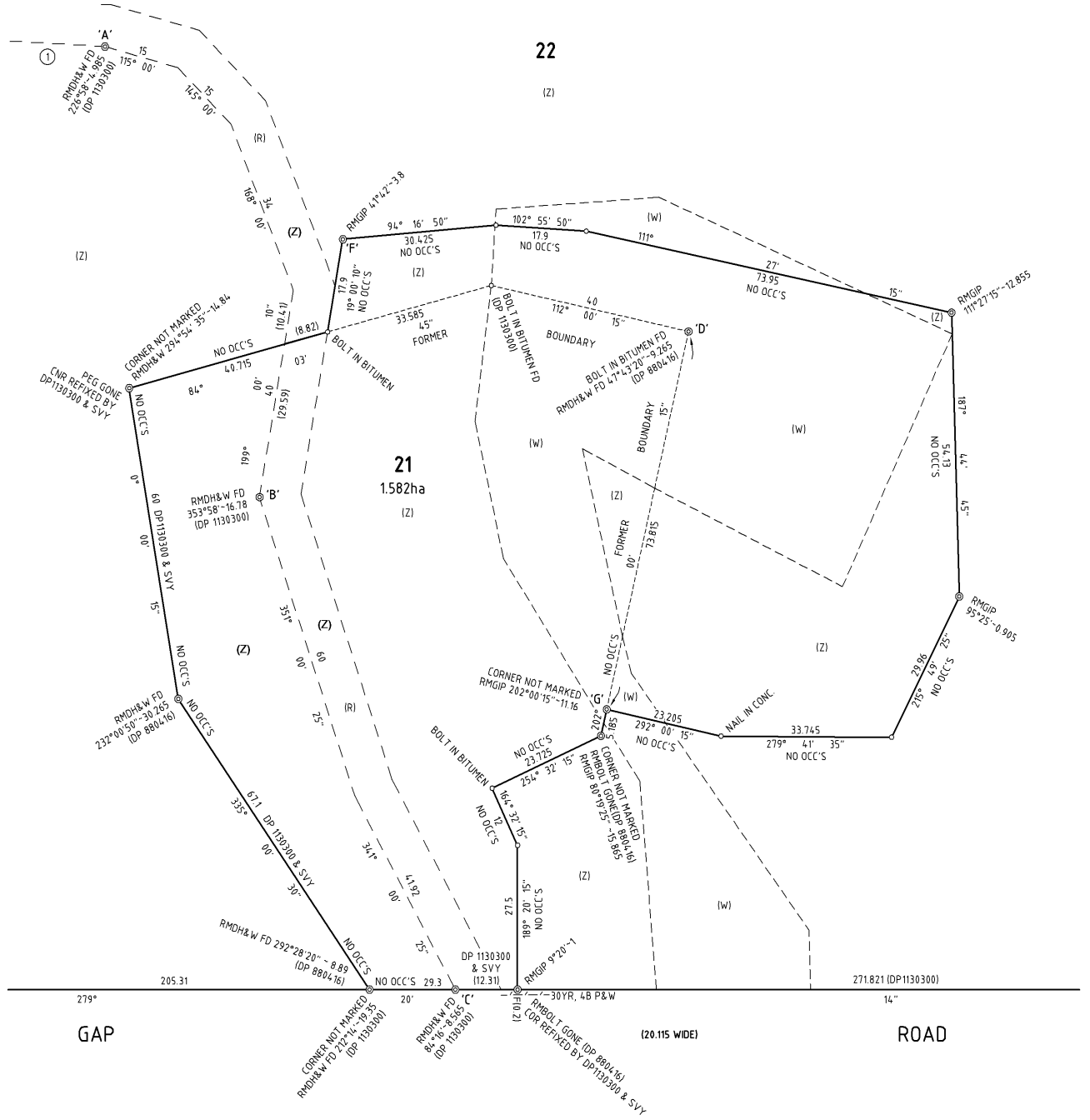
Surveyor: CHRISTOPHER ARTHUR ABBOTT
Date of Survey: 19th APRIL 2017
Surveyor's Ref: 17032 (3B)

PLAN OF SUBDIVISION OF LOT 2 IN DP 1130300 & LOT 1 IN DP 880416 FOR LEASEHOLD PURPOSES

LGA: BALLINA
Locality: ALSTONVILLE
Subdivision No: 5002/2017
Lengths are in metres. Reduction Ratio 1:2000

Registered
20.06.2018

DP1243105



COMPARISONS & CONNECTIONS

FROM	TO	BEARING	DISTANCE	SOURCE
CORNER A	CORNER B	169° 44' 08"	91.163	DP 1130300
		169° 44' 09"	91.16	SVY
CORNER B	CORNER C	166° 53' 21"	101.545	DP 1130300
		166° 53' 44"	101.545	SVY
CORNER C	CORNER D	29° 31' 55"	133.633	DP 1130300
		29° 31' 59"	133.639	SVY
CORNER D	CORNER B	258° 56' 33"	90.585	DP 1130300
		258° 56' 27"	90.579	SVY

(W) C498621 - LAND EXCLUDES MINERALS - SEC.141 P.W. ACT, 1912

(R) RIGHT OF CARRIAGEWAY 8 WIDE (DP 1130300)

(Z) LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS - SEE CROWN GRANTS

Surveyor: CHRISTOPHER ARTHUR ABBOTT Date of Survey: 19th APRIL 2017 Surveyor's Ref: 17032 (4B)	PLAN OF SUBDIVISION OF LOT 2 IN DP 1130300 & LOT 1 IN DP 880416 FOR LEASEHOLD PURPOSES	LGA: BALLINA Locality: ALSTONVILLE Subdivision No: 5002/2017 Lengths are in metres. Reduction Ratio 1:600	Registered 20.06.2018	DP1243105

10 20 30 40 50 Table of mm 80 90 100 110 120 130 140

Req:R397710 /Doc:DP 1243105 P /Rev:21-Jun-2018 /NSW LRS /Pgs:ALL /Prt:01-Sep-2022 16:05 /Seq:2 of 4
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Req:R397710 /Doc:DP 1243105 P /Rev:21-Jun-2018 /NSW LRS /Pgs:ALL /Prt:01-Sep-2022 16:05 /Seq:3 of 4
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gan Road, Alstonville

PLAN FORM 6 (2017) WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Office Use Only

Registered: 20.06.2018

Title System: TORRENS

Purpose: SUBDIVISION

Office Use Only

DP1243105

PLAN OF SUBDIVISION OF LOT 2 IN DP 1130300 & LOT 1 IN DP 880416 FOR LEASEHOLD PURPOSES

LGA: BALLINA

Locality: ALSTONVILLE

Parish: TUCKOMBIL

County: ROUS

Crown Lands NSW/Western Lands Office Approval

I..... (Authorised Officer) in approving this plan certify that all necessary approvals in regards to the allocation of the land shown herein have been given.

Signature: .....

Date: .....

File Number: .....

Office: .....

Subdivision Certificate

I, ANDREW SMITH

Authorised Person/~~General Manager~~/*~~Accredited Certifier~~, certify that the provisions of s.109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: .....

Accreditation number: —

Consent Authority: BALLINA SHIRE COUNCIL

Date of endorsement: 10 OCTOBER 2017

Subdivision Certificate number: 5002/2017

File number: —

* Strike through if inapplicable.

Survey Certificate

I, CHRISTOPHER ARTHUR ABBOTT

of CHRIS ABBOTT SURVEYING PTY LTD

PO BOX 633 BALLINA NSW 2478

a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

*(a) ~~The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on~~

*(b) The part of the land shown in the plan (*being/*~~excluding~~ ^ LOT 21) was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on, 19.04.2017 the part not surveyed was compiled in accordance with that Regulation.

*(c) ~~The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2012*.~~

Signature: ..... Dated: 5th SEPT 2017

Surveyor ID: 281

Datum Line: X - Y (MGA)

Type: *Urban/*~~Rural~~

The terrain is *Level-Undulating / *~~Steep-Mountainous.~~

*Strike through if inapplicable.

^Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.

Statements of intention to dedicate public roads, public reserves and drainage reserves.

Plans used in the preparation of survey / ~~compilation~~

DP 1130300
DP 880416
DP 861205
DP 588893
DP815429
DP1062900

If space is insufficient use PLAN FORM 6A

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

Surveyor's Reference: 17032 (1B)

Req:R397710 /Doc:DP 1243105 P /Rev:21-Jun-2018 /NSW LRS /Pgs:ALL /Prt:01-Sep-2022 16:05 /Seq:4 of 4
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

PLAN FORM 6A (2012) WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 2 of 2 sheets

Office Use Only

Registered: 20.06.2018

Office Use Only

DP1243105

PLAN OF SUBDIVISION OF LOT 2 IN DP 1130300 & LOT 1 IN DP 880416 FOR LEASEHOLD PURPOSES

Subdivision Certificate No: 5002/2017

Date of Endorsement: 10 October 2017

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2012*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

STREET ADDRESSES

LOT	STREET No.	STREET NAME	STREET TYPE	LOCALITY
21	N/A	GAP	ROAD	ALSTONVILLE
22	540	GAP	ROAD	ALSTONVILLE

Executed by Ballina Shire Council by its authorised officers, before me:

David Wright
Mayor

Paul Hickey
General Manager

BALLINA SHIRE COUNCIL The Common Seal of INCORP. 1977

If space is insufficient use additional annexure sheet

Surveyor's Reference: 17032 (2B)

9 minutes 100 feet to the point of commencement,—having an area of 9 perches or thereabouts, and said to be in the possession of Rosamond M. Woolcott and T. L. Pringle.

Also, all that piece or parcel of land situate as aforesaid, being part of lots 20, 21 and 22, deposited plan 11,280, comprised in Certificates of Title, registered volume 3,784, folio 160, volume 4,004, folio 6, and volume 3,884, folio 190, respectively: Commencing at the intersection of the eastern side of Bungaloe-avenue with the southern side of Thornton-street; and bounded thence on the north by that side of Thornton-street bearing 91 degrees 1 minute 49 seconds 60 feet; on the south-east by a line bearing 207 degrees 32 minutes 170 feet 11¼ inches to the southern boundary of the said lot 20; on the south by part of that boundary bearing 271 degrees 26 seconds 3 feet 10¾ inches; and on the west by the eastern side of Bungaloe-avenue aforesaid bearing 8 degrees 32 minutes 154 feet 3½ inches to the point of commencement,—having an area of 17¾ perches or thereabouts, and said to be in the possession of A. L. and Ruby A. Stevens, Mary A. J. Carroll and Edith Huddleston.

Also, all that piece or parcel of land situate as aforesaid, being part of lot 19, deposited plan 11,280, comprised in Certificate of Title, registered volume 4,173, folio 67: Commencing on the eastern side of Bungaloe-avenue at the north-western corner of the said lot 19; and bounded thence on the north by part of the northern boundary of that lot bearing 91 degrees 26 seconds 3 feet 10¾ inches; on the south-east by a line bearing 207 degrees 32 minutes 11 feet 10½ inches to the eastern side of Bungaloe-avenue aforesaid; and on the west by that side of that avenue bearing 8 degrees 32 minutes 10 feet 8½ inches to the point of commencement,—having an area of 41 square feet or thereabouts, and said to be in the possession of R. J. Harvey.

Also all that piece or parcel of land situate as aforesaid, being part of lots 26, 27 and 28, deposited plan 11,430, comprised in Certificates of Title, registered volume 3,683, folio 228, volume 3,683, folio 206 and volume 4,093, folio 129, respectively: Commencing on the eastern side of Bungaloe-avenue at the north-western corner of the said lot 26; and bounded thence on the north by part of the northern boundary of that lot bearing 90 degrees 59 minutes 30 seconds 3 feet 5½ inches; on the north-east by a line bearing 161 degrees 43 minutes 30 seconds 127 feet 1½ inches to the southern boundary of the said lot 28; on the south by part of that boundary bearing 270 degrees 59 minutes 30 seconds 10 feet; on the south-west by the south-western boundary of that lot bearing 310 degrees 7 minutes 18 feet 7¼ inches: and generally on the west by the generally eastern side of Bungaloe-avenue being lines successively bearing 349 degrees 14 minutes 30 seconds 102 feet 9½ inches and 50 minutes 30 seconds 7 feet 7¼ inches to the point of commencement,—having an area of 5¼ perches or thereabouts, and said to be in the possession of A. G. Driver, Netta Paterson and Muriel V. V. Hallam.

Also, all that piece or parcel of land situate as aforesaid, being part of lot 25, deposited plan 11,430, comprised in Certificate of Title, registered volume 4,094, folio 201: Commencing on the eastern side of Bungaloe-avenue at the south-western corner of the said lot 25; and bounded thence on the west by that side of Bungaloe-avenue bearing 50 minutes 30 seconds 10 feet; on the north-east by a line bearing 161 degrees 43 minutes 30 seconds 10 feet 7 inches to the southern boundary of the said lot 25; and on the south by part of that boundary bearing 270 degrees 59 minutes 30 seconds 3 feet 5½ inches to the point of commencement,—having an area of 17 square feet or thereabouts, and said to be in the possession of A. G. Penfold.

And, also, all that piece or parcel of land situate as aforesaid, being part of lots 13 and 14, deposited plan 9,928, comprised in Certificates of Title, registered volume 3,084, folio 221, volume 3,563, folio 161, respectively: Commencing at the intersection of the southern side of New-street with the western side of Bungaloe-avenue; and bounded thence on the east by that side of Bungaloe-avenue bearing 180 degrees 9 minutes 116 feet 8 inches; on the south-west by a line bearing 342 degrees 38 minutes 122 feet 11¼ inches to the southern side of New-street aforesaid; and on the north by that side of that street bearing 90 degrees 59 minutes 30 seconds 37 feet to the point of commencement,—having an area of 7½ perches or thereabouts, and said to be in the possession of G. Hudddleston and Edith Alexander.

(L.G. 36-M. 1,519) (4641)

LOCAL GOVERNMENT ACT, 1919, AS AMENDED. PUBLIC WORKS ACT, 1912, AS AMENDED.

TINTENBAR SHIRE COUNCIL.

Resumption of Land.

IT is hereby notified and declared in pursuance of section 536 (4) of the Local Government Act, 1919, and of Division 1 of Part V of the Public Works Act, 1912, that the land described in the Schedule hereto is hereby appropriated or resumed according as the said land is Crown land or private property respectively, for the purpose of a quarry, and that the said land is vested in the Council of the Shire of Tintenbar.

Dated the tenth day of July, 1936.

E. S. SPOONER, Minister for Public Works.

SCHEDULE.

All that piece or parcel of land situate in the Shire of Tintenbar, parish of Tuckombil, county of Rous, and State of New South Wales, being part of portion 22, comprised in Certificate of Title, registered volume 4,719, folio 189: Commencing on the northern side of the road 1 chain wide, catalogued R. 14,319-1,603 at the Lands Department, Sydney, at a point bearing 90 degrees 11 minutes and distant 13 chains 37.9 links from the south-western corner of the land comprised in the said Certificate of Title, registered volume 4,719, folio 189; and bounded thence on the south by that side of that road bearing 90 degrees 11 minutes 1 chain 55.5 links; on the north-east by lines successively bearing 354 degrees 35 minutes 53.4 links, 324 degrees 41 minutes 3 chains 2.7 links and 348 degrees 38 minutes 2 chains 15.8 links; on the south-west by a line bearing 118 degrees 9 minutes 2 chains 96 links; on the south-east by a line bearing 24 degrees 40 minutes 2 chains 31.9 links; generally on the north by lines successively bearing 295 degrees 10 minutes 3 chains 46.1 links and 266 degrees 8 minutes 1 chain 46.3 links; and generally on the west by lines successively bearing 185 degrees 20 minutes 1 chain 79.2 links, 169 degrees 8 minutes 1 chain 28.9 links, 146 degrees 24 minutes 2 chains 66.2 links and 175 degrees 59 minutes 1 chain 93.4 links to the point of commencement,—having an area of 1 acre 2 roods 1½ perches or thereabouts, and said to be in the possession of Alfred E. Schmidt.

(L.G. 36-S. 2,916) (4518)

PUBLIC WORKS ACT, 1912, AS AMENDED.

RESUMPTION OF LAND AT LEETON FOR FIRE STATION.

SO much of the land hereunder described as is Crown land is hereby appropriated and so much thereof as is private property is hereby resumed for a certain authorised work, namely, the erection of a Fire Station at Leeton, and is vested in the Board of Fire Commissioners of New South Wales for the purposes of the Fire Brigades Act, 1909-1927.

Dated this eighth day of July, 1936.

P. W. STREET, Lieutenant-Governor.

By His Excellency's Command,

E. S. SPOONER, Minister for Public Works.

SCHEDULE.

All that piece or parcel of Crown land situate in the Shire of Willimbong, parish of Willimbong, county of Cooper and State of New South Wales, being allotment 2, section 21, town of Leeton: Commencing at the intersection of the north-western side of Chelmsford-place with the north-eastern side of Sycamore-street; and bounded thence on the south-west by that side of Sycamore-street bearing 297 degrees 45 minutes 2 chains 16.85 links; on the north-west by the south-eastern side of a lane 38 links wide bearing 27 degrees 45 minutes 1 chain 14.4 links; on the north-east by the south-western boundary of allotment 3 of the said section 21, bearing 117 degrees 45 minutes 2 chains 16.8 links; and on the south-east by the north-western side of Chelmsford-place aforesaid bearing 207 degrees 44 minutes 1 chain 14.4 links to the point of commencement,—having an area of 39½ perches or thereabouts, and said to be Crown land under the control of the Water Conservation and Irrigation Commission.

(Misc. 36-1,390) (2800)

National Library of Australia http://nla.gov.au/nla.news-page14017386

Req:R448506 /Doc:CT 12183-094 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 09:15 /Seq:1 of 2
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

1218394

[redacted]ICATE OF TITLE

NEW SOUTH WALES

[redacted] PROPERTY ACT, 1900

(Page 1) Vol. 12183 Fol. 94

Crown Grants Vol.2260 Fol.108
Vol.3311 Fol.106

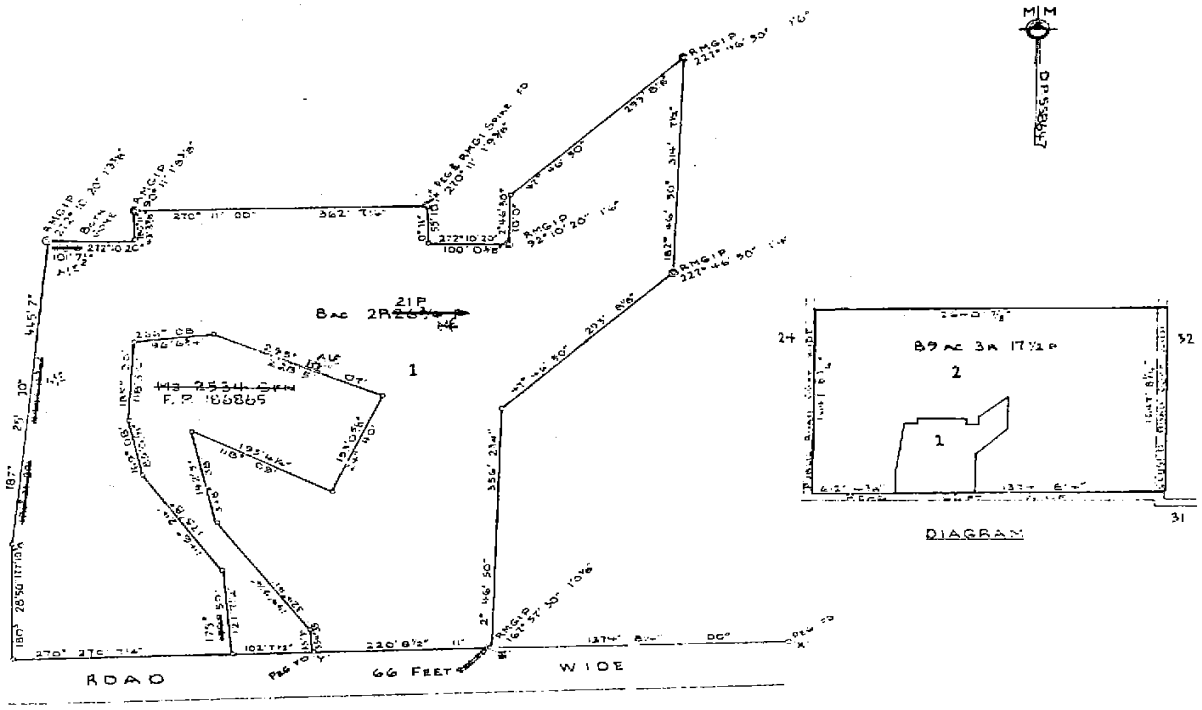
[redacted]

Edition issued 13-8-1973

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 2 in Deposited Plan 558647 at Tuckombil in the Shire of Tintenbar Parish of Tuckombil and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

[redacted]

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. Mortgage No. N23975 of the part of the land above described formerly comprised in Certificate of Title Volume 6256 Folio 45 to The Commercial Banking Company of Sydney Limited. Entered 19-12-1972.

Registrar General

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.

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

Vol. 12183 Fol. 94

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
Title Cf missing at D-T-92 to be to be rep without of the Sch This deed is cancelled as to the whole Fee Certificates of Title were issued on 20-3-1975 for lots on Deposited Plan No. 575192 as follows: 1 & 2 Vol 12735 [illegible] respectively Jonathan Sims REGISTRAR GENERAL					

Dual Entry
C
Dr
DP575192
9-21-75
PROG PREP
WHOLE

SECOND SCHEDULE (continued)

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

(Page 2 of 2 pages)

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

Req:R448506 /Doc:CT 12183-094 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 09:15 /Seq:2 of 2
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

Req:R448492 /Doc:CT 12735-212 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 09:13 /Seq:1 of 2
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

[redacted]ICATE OF TITLE

NEW SOUTH WALES

[redacted] PROPERTY ACT, 1900

12735212

12735 Fol. 212

(Page 1) Vol.

Crown Grants Vol. 2260 Fol. 108
Vol. 3311 Fol. 106

[redacted]

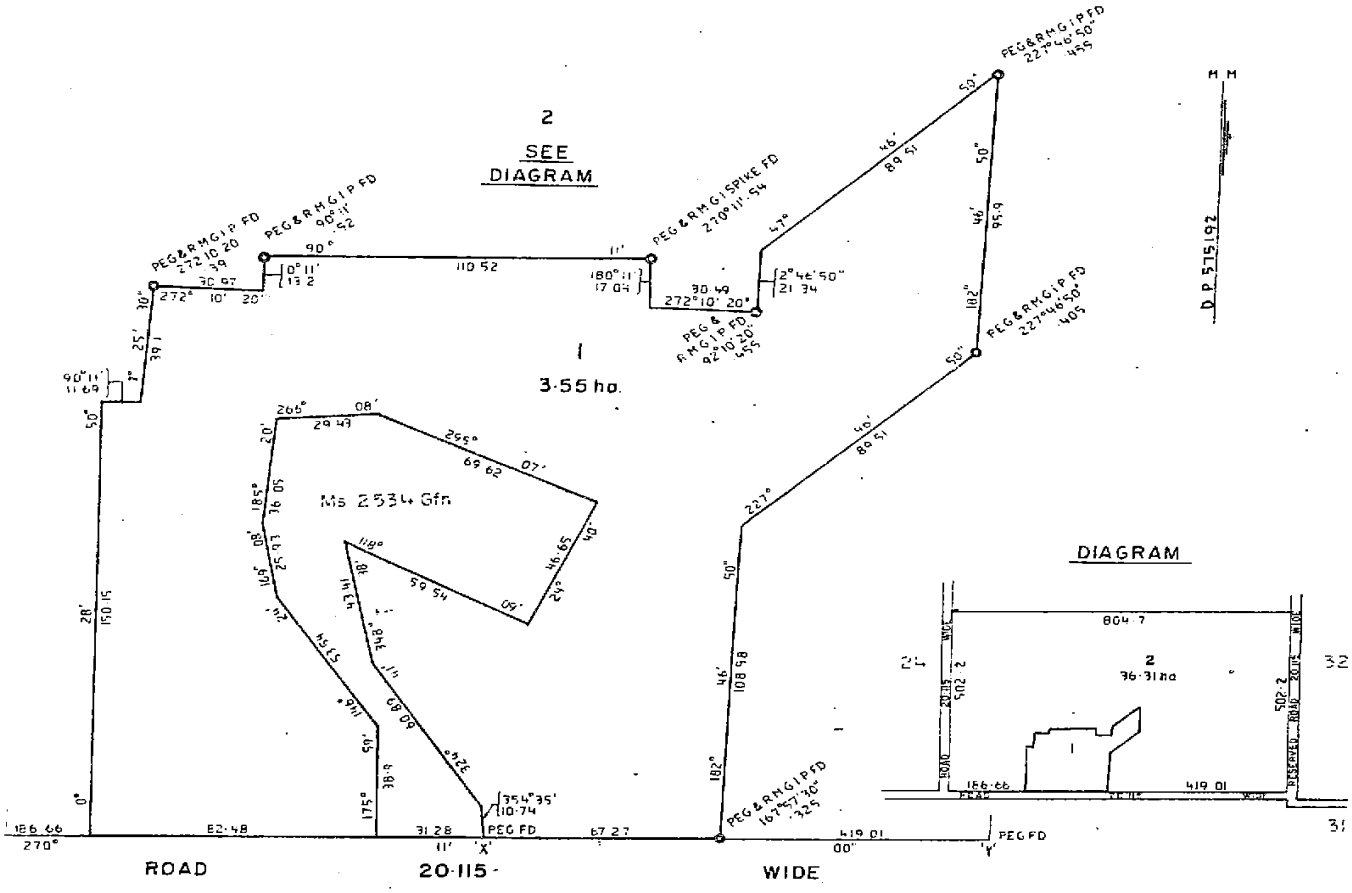
Edition issued 20-3-1975

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



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 2 in Deposited Plan 575192 at Tuckombil in the Shire of Tintenbar, Parish of Tuckombil and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

[redacted]

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. Mortgage No. N23975 to The Commercial Banking Company of Sydney Limited. Entered 19-12-1972.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON
RG 2/62 NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

Vol. 12735 Fol. 212

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
the whole					
23-5-77					
Deposited 588893					
3-4 13320 29-30					

NEW CERTIFICATE(S) OF TITLE ISSUING ON DP 588893
NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		
88B INST	Q122920		Interests created pursuant to Section 88B Conveyancing Act, 1919 by the registration of Deposited Plan 588893	22-4-1977				

(Page 2 of 2 pages)

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

Req:R448492 /Doc:CT 12735-212 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 09:13 /Seq:2 of 2
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

Req:R447919 /Doc:CT 13320-030 CT /Rev:24-Jan-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 07:50 /Seq:1 of 2
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

[redacted]ICATE OF TITLE

NEW SOUTH WALES [redacted] PROPERTY ACT, 1900

13320030

(Page 1) Vol. 13320 Fol. 30

Crown Grants Vol. 2260 Fol.108
Vol. 3311 Fol.106

[redacted]

V [redacted]

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.

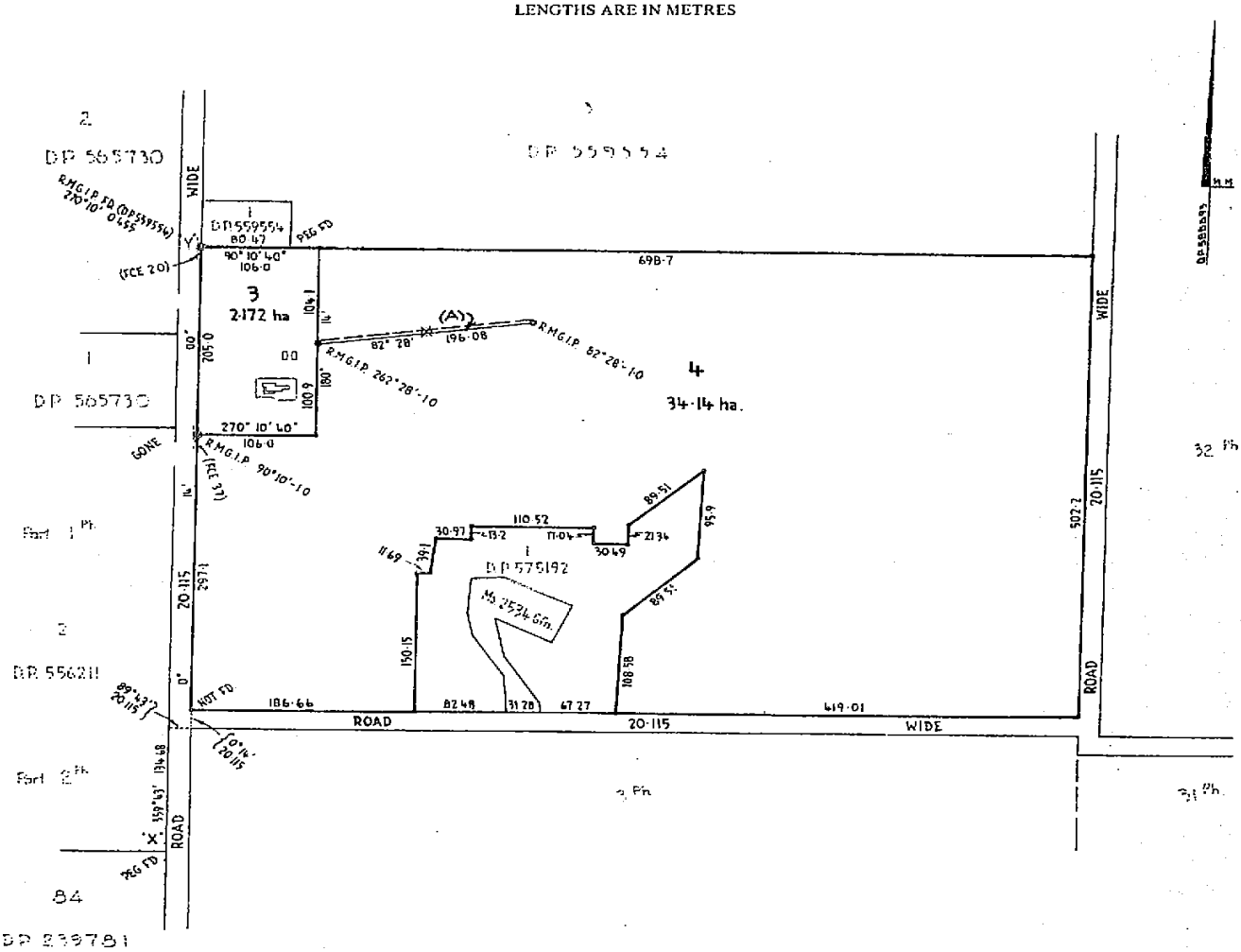
CANCELLED

Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

X EASEMENT FOR SUPPLY OF WATER - 4 WIDE (A)

Estate in Fee Simple in Lot 4 in Deposited Plan 588893 at Alstonville in the Shire of Ballina Parish of Tuckombil and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grants.

FIRST SCHEDULE

[redacted]

GRM

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. ~~N23975 Mortgage to The Commercial Banking Company of Sydney Limited.~~ Discharged G211606
EF (A) 3. Easement for Water Supply 4 Wide affecting the part of the land above described designated (A) in the plan hereon created by the registration of Deposited Plan 588893 P See Q122920.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON
NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

Vol. 13320 Fol. 30

FIRST SCHEDULE (continued)

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

CANCELLED

SEE AUTO FOLIO

Q245229 Rev @
Q416006 0/4
7Te

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		
~~Caveat~~	~~Q245229~~	~~------~~	~~by The Council of The Shire of Ballina~~	~~28-6-1977~~				

(Page 2 of 2 pages)

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

Req:R447919 /Doc:CT 13320-030 CT /Rev:24-Jan-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 07:50 /Seq:2 of 2
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LAND REGISTRY SERVICES

Historical Search

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
13/9/2022 9:10AM

FOLIO: 4/588893

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 13320 FOL 30

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
23/8/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
7/8/1996	DP861305	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

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Received: 13/09/2022 09:10:59

Req:R448507 /Doc:CT 12183-093 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 09:15 /Seq:1 of 2
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

12183093

[redacted]ICATE OF TITLE

NEW SOUTH WALES — PROPERTY ACT, 1900

(Page 1) Vol. 12183 Fol. 93

Crown Grant Vol.2260 Fol.108

[redacted]

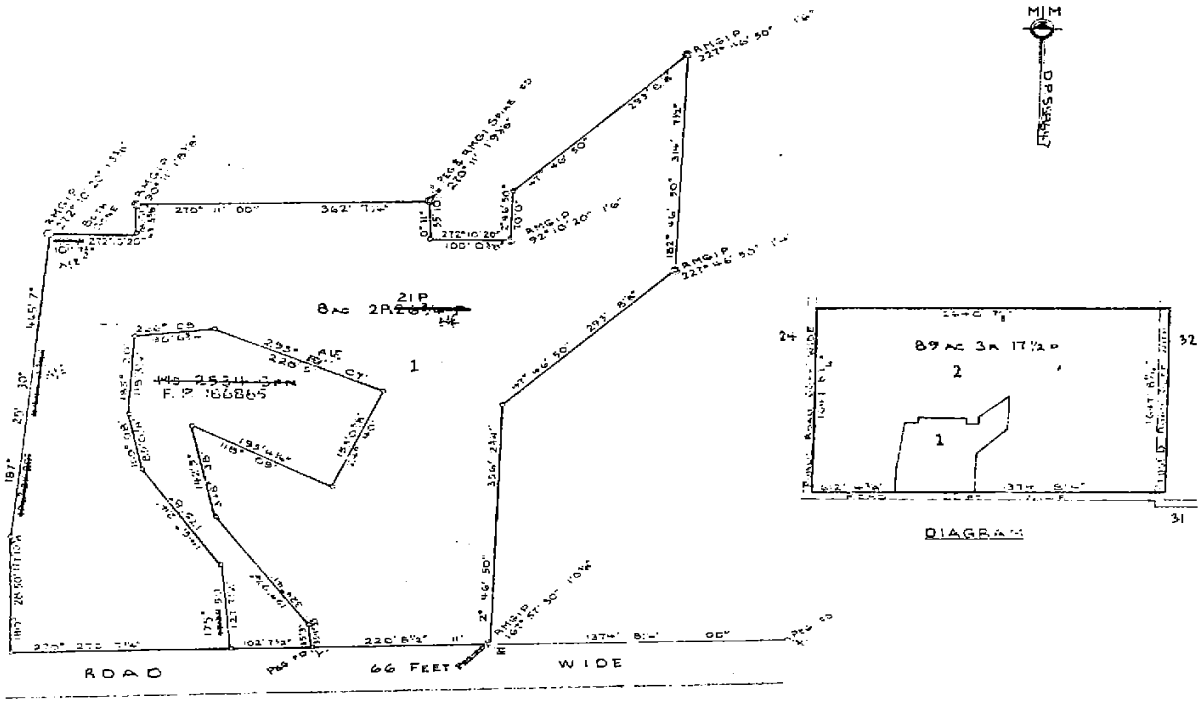
V[redacted]

Edition issued 13-8-1973

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 558647 at Tuckombil in the Shire of Tintenbar Parish of Tuckombil and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

[redacted]

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. ~~Mortgage No. N23975 of the part of the land above described formerly comprised in Certificate of Title Volume 2256 Folio 45 to The Commercial Banking Company of Sydney Limited. Entered 19-12-1972.~~ Discharged N251711

Registrar General

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON
NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

Vol. 12183 Fol. 93

FIRST SCHEDULE (continued)

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

The Certificate of Title
No dlg. to be issued until 20 Sept.

This deed is cancelled as to the whole
New Certificates of Title have issued on 20-9-1995
for lots in Deposited Plan No. 275192 as follows:-
Lots 1 & 2 Vol. 12735 Fol. 214 & 215 respectively.

SECOND SCHEDULE (continued)

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

(Page 2 of 2 pages)

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

N251 [illegible] PI [illegible] Te
DPS7591
9 22/2/95
PROG PREP
WHOLE

Req:R448507 /Doc:CT 12183-093 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 09:15 /Seq:2 of 2
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

Req:R447918 /Doc:CT 12735-211 CT /Rev:01-Feb-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 07:50 /Seq:1 of 2
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

[redacted]ICATE OF TITLE

NEW SOUTH WALES

[redacted] PROPERTY ACT, 1900

12735211

Vol. [redacted] 1

Crown Grant Vol. 2260 Fol. 108

[redacted] 3
4

Edition issued 20-3-1975

(Page 1) Vol. 12735 Fol. 211

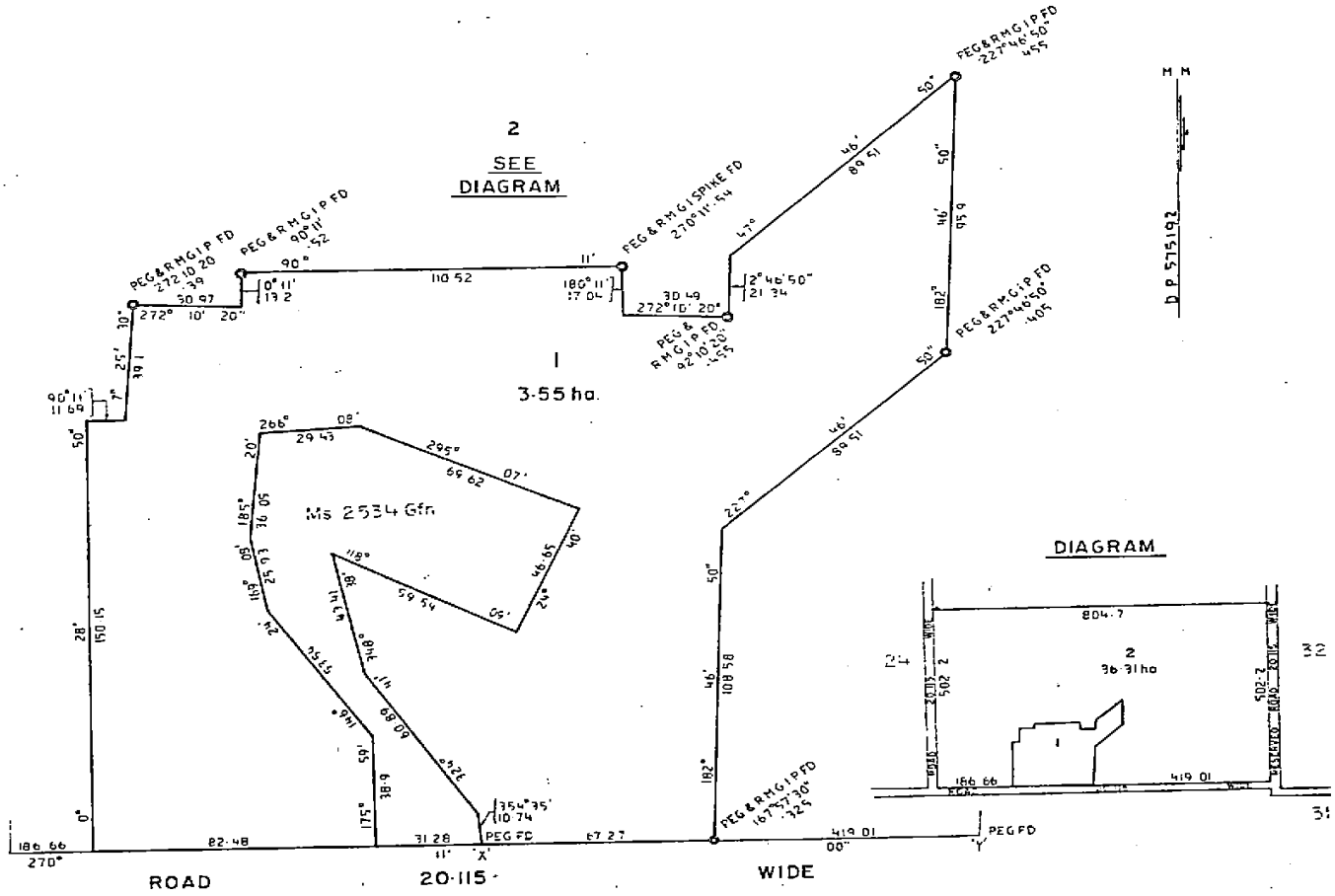
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

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 1 in Deposited Plan 575192 at Tuckombil in the Shire of Tintenbar, Parish of Tuckombil and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

[redacted].

GRM

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON
NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.
RG 1/62

Vol. 12735 Fol. 211

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT			ENTERED	Signature of Registrar General
	NATURE	NUMBER	DATE		
CANCELLED					
SEE AUTO FOLIO					

SECOND SCHEDULE (continued)

INSTRUMENT			PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		
NATURE	NUMBER	DATE						

(Page 2 of 2 pages)

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

Req:R447918 /Doc:CT 12735-211 CT /Rev:01-Feb-2011 /NSW LRS /Pgs:ALL /Prt:13-Sep-2022 07:50 /Seq:2 of 2
© Office of the Registrar-General /Src:InfoTrack /Ref:540 Gap Road, Alstonville

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

13/9/2022 9:10AM

FOLIO: 1/575192

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 12735 FOL 211

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
30/8/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
7/8/1996	DP861305	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Received: 13/09/2022 09:10:58

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

13/9/2022 9:10AM

FOLIO: 1/186865

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 4916 FOL 37

Recorded	Number	Type of Instrument	C.T. Issue
18/12/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
17/4/1990		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
7/8/1996	DP861305	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
1/9/2022 4:17PM

FOLIO: 1/861305

First Title(s): VOL 2260 FOL 108
Prior Title(s): 1/186865 1/575192
4/588893

Recorded	Number	Type of Instrument	C.T. Issue
7/8/1996	DP861305	DEPOSITED PLAN	FOLIO CREATED EDITION 1
22/9/1998	DP880416	DEPOSITED PLAN	FOLIO CANCELLED
25/6/2018	AN446749	DEPARTMENTAL DEALING	

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
1/9/2022 4:17PM

FOLIO: 2/880416

First Title(s): VOL 2260 FOL 108
Prior Title(s): 1/861305

Recorded	Number	Type of Instrument	C.T. Issue
22/9/1998	DP880416	DEPOSITED PLAN	FOLIO CREATED EDITION 1
7/12/1999	DP1009034	DEPOSITED PLAN	
15/10/2008	DP1130300	DEPOSITED PLAN	FOLIO CANCELLED
20/7/2016	AK607998	DEPARTMENTAL DEALING	
25/6/2018	AN446749	DEPARTMENTAL DEALING	

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
1/9/2022 4:17PM

FOLIO: 2/1130300

First Title(s): VOL 2260 FOL 108
Prior Title(s): 2/880416

Recorded	Number	Type of Instrument	C.T. Issue
15/10/2008	DP1130300	DEPOSITED PLAN	FOLIO CREATED EDITION 1
22/10/2008	AE147057	LEASE	EDITION 2
27/3/2013	AH632544	DEPARTMENTAL DEALING	
20/7/2016	AK607998	DEPARTMENTAL DEALING	
31/5/2018	AN331990	SURRENDER OF LEASE	
20/6/2018	DP1243105	DEPOSITED PLAN	FOLIO CANCELLED
25/6/2018	AN446749	DEPARTMENTAL DEALING	

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LAND REGISTRY SERVICES Historical Search

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
1/9/2022 4:06PM

FOLIO: 22/1243105

First Title(s): VOL 2260 FOL 108
Prior Title(s): 2/1130300

Recorded	Number	Type of Instrument	C.T. Issue
20/6/2018	DP1243105	DEPOSITED PLAN	FOLIO CREATED EDITION 1

*** END OF SEARCH ***

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 22/1243105

SEARCH DATE	TIME	EDITION NO	DATE
1/9/2022	4:04 PM	1	20/6/2018

LAND

LOT 22 IN DEPOSITED PLAN 1243105
AT ALSTONVILLE
LOCAL GOVERNMENT AREA BALLINA
PARISH OF TUCKOMBIL COUNTY OF ROUS
TITLE DIAGRAM DP1243105

FIRST SCHEDULE

BALLINA SHIRE COUNCIL

SECOND SCHEDULE (4 NOTIFICATIONS)

---

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM - SEE CROWN GRANT

2 C498621 LAND EXCLUDES MINERALS (S.141 PUBLIC WORKS ACT, 1912) AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM

3 DP588893 EASEMENT FOR WATER SUPPLY 4 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM

4 DP1130300 RIGHT OF CARRIAGEWAY 8 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM

NOTATIONS

DP1009034 PLAN FOR LEASE PURPOSES

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register. InfoTrack an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act 1900.

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Appendix E

Site Photographs



Photograph 1: View of the south-western constructed gravel pad with stockpiled gravel.



Photograph 2: View of the north-eastern gravel construction pad.

Douglas Partners Geotechnics / Environment / Groundwater	Project No. 216829.00	Site Photographs	Plate No. 1 of 5
	Walkover Date: 12 September 2022	Contamination Assessment Gap Road, Alstonville Client: Ballina Shire Council	



Photograph 3: View of the Quarry void.



Photograph 4: View of Branch Creek.

Douglas Partners Geotechnics / Environment / Groundwater	Project No. 216829.00	Site Photographs	Plate No. 2 of 5
	Walkover Date: 12 September 2022	Contamination Assessment Gap Road, Alstonville Client: Ballina Shire Council	



Photograph 5: View of the south-eastern gravel pad.



Photograph 6: View of the general condition of the site.

Douglas Partners Geotechnics / Environment / Groundwater	Project No. 216829.00	Site Photographs	Plate No. 3 of 5
	Walkover Date: 12 September 2022	Contamination Assessment Gap Road, Alstonville Client: Ballina Shire Council	



Photograph 7: View of the ponded water area in the western part of the site.



Photograph 8: View of main track leading to the north-eastern part of the site

Douglas Partners Geotechnics / Environment / Groundwater	Project No. 216829.00	Site Photographs	Plate No. 4 of 5
	Walkover Date: 12 September 2022	Contamination Assessment Gap Road, Alstonville Client: Ballina Shire Council	



Photograph 9:Diesel storage area of the Boral Asphlat Plant.



Photograph 10: View of Ron Southon Lease Area.

Douglas Partners Geotechnics / Environment / Groundwater	Project No. 216829.00	Site Photographs	Plate No. 5 of 5
	Walkover Date: 12 September 2022	Contamination Assessment Gap Road, Alstonville Client: Ballina Shire Council	

Appendix F

Data Quality Assessment

Data Quality Assessment

QAQC1 Data Quality Objectives

The investigation was prepared with reference to the seven step data quality objective (DQO) process which is provided in Appendix B, Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Measure* 1999 as amended 2013 (the 'NEPM'). The DQO process is outlined as follows:

- Stating the Problem;
- Identifying the Decision;
- Identifying Inputs to the Decision;
- Defining the Boundary of the Assessment;
- Developing a Decision Rule;
- Specifying Acceptable Limits on Decision Errors; and
- Optimising the Design for Obtaining Data.

The DQOs have been addressed within the report as shown in QAQC Table 1 below.

QAQC Table 1: Data Quality Objectives

Data Quality Objective	Report Section where Addressed
State the Problem	S1 Introduction
Identify the Decision	S1 Introduction (objective) S12 Discussion of Results S13 Conclusions and Recommendations
Identify Inputs to the Decision	S1 Introduction S2 Scope of Works S3 Site Information S10 Site Assessment Criteria S12 Discussion of Results
Define the Boundary of the Assessment	S3 Site Information Site Drawings – Appendix B
Develop a Decision Rule	S10 Site Assessment Criteria
Specify Acceptable Limits on Decision Errors	S8 Sampling and Analysis Quality Plan and Methodology S10 Site Assessment Criteria QA/QC Procedures and Results – Section QAQC2
Optimise the Design for Obtaining Data	S2 Scope of Works S8 Sampling and Analysis Quality Plan and Methodology QA/QC Procedures and Results – Section QAQC2

QAQC2 Field and Laboratory Quality Control

The field and laboratory quality control (QC) procedures and results are summarised in QAQC Table 2 and QAQC Table 3. Reference should be made to the field work and analysis procedures in Section 8 and the laboratory results certificates in Appendix H for further details.

QAQC Table 2: Field QC

Item	Frequency	Acceptance Criteria	Achievement
Intra-laboratory replicate	5% primary samples	RPD <30% inorganics), <50% (organics)	Yes[1]
Inter-laboratory replicate	5% primary samples	RPD <30% inorganics), <50% (organics)	Yes
Trip Blank	One per field batch	<PQL/LOR	Yes
Trip Spike	One per field batch	four times PQL/LOR	Yes

Notes:

1 qualitative assessment of RPD results overall; refer Section QAQC2.1

RPD Relative Percentage Difference

PQL Practical Quantitation Limit

LOR Limit of Reporting

QAQC Table 3: Laboratory QC

Item	Frequency	Acceptance Criteria	Achievement
Analytical laboratories used	-	National Association of Testing Authorities (NATA) accreditation	Yes
Holding times	-	In accordance with NEPM which references various Australian and international standards	Yes
Laboratory/ Reagent Blank	One per lab batch	<PQL	Yes
Laboratory duplicate	10% primary samples	<10 x PQL Any RPD 10-20 x PQL 0 – 50% >20 x PQL 0 – 30%	Yes
Matrix Spike	One per lab batch	Variable Results, Refer to Interpretive Quality Control Report	Yes
Surrogate Spike	Organics by GC	Variable Results, Refer to Interpretive Quality Control Report	Yes
Control Sample	One per lab batch	Variable Results, Refer to Interpretive Quality Control Report	Yes

Laboratory QC data is considered to be of sufficient quality to be acceptable for the assessment.

QAQC2.1 Intra-Laboratory Replicates

Intra-laboratory replicates were analysed as an internal check of the reproducibility within the primary laboratory (Eurofins) and as a measure of consistency of sampling techniques. The comparative results of analysis between original and intra-laboratory replicate samples are summarised in QAQC Table 2, below.

Note that, where both samples are below the LOR/PQL, the difference and RPD has been given as zero.

QAQC Table 2: Relative Percentage Difference Results – Intra-laboratory Replicates

Sample ID	Lithology	Analyte (mg/kg)							
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
R1	Residual	2.9	<0.5	32	15	20	0.2	7.1	77
12/0.1		3.5	<0.5	41	23	42	0.3	8.8	220
RPD (%)		19	0	25	**42**	**71**	**40**	21	**96**
R4	Fill	<2	<0.5	<5	11	<5	<0.1	<5	66
22/0.1		2	<0.5	5.6	13	<5	<0.1	<5	77
RPD (%)		0	0	11	17	0	0	0	15

Notes

Orange cells contain RPD calculations greater than 30% for inorganic analytes

This table has been produced in colour to show exceedances of relevant criteria. Reproduction should be carried out in colour.

The calculated RPD values were within the acceptable range with the exception of those in bold. However, this is not considered to be significant because:

- The typically low actual differences in the concentrations of the replicate pairs where some RPD exceedance occurred. High RPD values reflect the small differences between two small numbers;
- Soil replicates, rather than homogenised soil duplicates, were used to minimise the risk of possible volatile loss, hence greater variability can be expected;
- Most of the RPDs within a replicate pair being within the acceptable limits; and
- All other QA/QC parameters met the DQIs.

Overall, the intra-laboratory replicate comparisons indicate that the sampling techniques were generally consistent and repeatable.

QAQC2.2 Inter-Laboratory Replicates

Inter-laboratory replicates were conducted as a check of the reproducibility of results between the primary laboratory, Eurofins, and the secondary laboratory, ALS, and as a measure of consistency of sampling techniques.

The comparative results of analysis between original and inter-laboratory replicate samples are summarised in QAQC Table 5 below.

Note that, where both samples are below the LOR/PQL the difference and RPD has been given as zero. Where one sample is reported below the LOR/PQL, but a concentration is reported for the other, the LOR/PQL value has been used for calculation of the RPD for the less than LOR/PQL sample.

QAQC Table 5: Relative Percentage Difference Results – Inter-laboratory Replicates

Sample ID	Lithology	Analyte (mg/kg)							
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
S1	Residual	<5	<1	13	7	10	0.2	5	30
12/0.1		3.5	<0.5	41	23	42	0.3	8.8	220
RPD (%)		**35**	0	**104**	**107**	**123**	**40**	**55**	**152**

Notes

Orange cells contain RPD calculations greater than 30% for inorganic analytes

This table has been produced in colour to show exceedances of relevant criteria. Reproduction should be carried out in colour.

The calculated RPD values were within the acceptable range with the exception of those in bold. However, this is not considered to be significant because:

- The typically low actual differences in the concentrations of the replicate pairs where some RPD exceedances occurred. High RPD values reflect the small differences between two small numbers;
- Soil replicates, rather than homogenised soil duplicates, were used to minimise the risk of possible volatile loss, hence greater variability can be expected;
- Some of the recorded concentrations being relatively close to the LOR/PQL. High RPD values reflect the low concentrations; and
- All other QA/QC parameters met the DQIs.

Overall, inter-laboratory replicate comparisons indicate that the sampling technique was generally consistent and repeatable and the laboratory sampling handling and analytical methods are comparable.

QAQC3 Data Quality Indicators

The reliability of field procedures and analytical results was assessed against the following data quality indicators (DQIs):

- Completeness – a measure of the amount of usable data from a data collection activity;
- Comparability – the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event;

- Representativeness – the confidence (qualitative) of data representativeness of media present on-site;
- Precision – a measure of variability or reproducibility of data; and
- Accuracy – a measure of closeness of the data to the 'true' value.

The DQIs were assessed as outlined in QAQC Table 6 below.

QAQC Table 6: Data Quality Indicators

Data Quality Indicator	Method(s) of Achievement
Completeness	Planned grid sampling locations sampled; Preparation of field logs, sample location plan and chain of custody (CoC) records; Preparation of field surface water sampling sheets; Laboratory sample receipt information received confirming receipt of samples intact and appropriateness of the chain of custody; Samples analysed for contaminants of potential concern (CoPC) identified in the Conceptual Site Model (CSM); Completion of CoC documentation; NATA endorsed laboratory certificates provided by the laboratory; and Satisfactory frequency and results for field and laboratory QC samples as discussed in Section QAQC2.
Comparability	Using appropriate techniques for sample recovery, storage and transportation, which were the same for the duration of the project; Works conducted by appropriately experienced and trained DP environmental scientists; Use of NATA accredited laboratories, with test methods the same or similar between laboratories; and Satisfactory results for field and laboratory QC samples.
Representativeness	Target media sampled; Spatial and temporal distribution of sample locations; Sample numbers recovered and analysed are considered to be representative of the target media and complying with the DQOs; Samples were extracted and analysed within holding times; and Samples were analysed in accordance with the requested analyses.
Precision	Acceptable RPD between original samples and replicates; and Satisfactory results for all other field and laboratory QC samples.
Accuracy	Satisfactory results for all field and laboratory QC samples.

Based on the above, it is considered that the DQIs have been complied with. As such, it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

Appendix G

Borehole Logs and Explanatory Notes

Symbols & Abbreviations

Douglas Partners

Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U_{50}	Undisturbed tube sample (50mm)
W	Water sample
pp	Pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	Lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough

Other

fg	fragmented
bnd	band
qtz	quartz

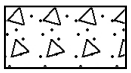
Symbols & Abbreviations

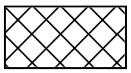
Graphic Symbols for Soil and Rock

General

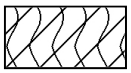

Asphalt

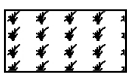

Road base

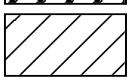

Concrete


Filling

Soils


Topsoil

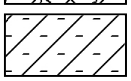

Peat


Clay


Silty clay

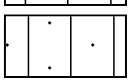

Sandy clay

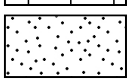

Gravelly clay

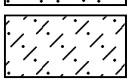

Shaly clay

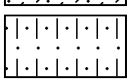

Silt


Clayey silt


Sandy silt

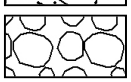

Sand


Clayey sand


Silty sand


Gravel

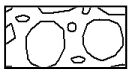

Sandy gravel


Cobbles, boulders

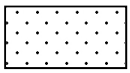

Talus

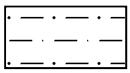
Sedimentary Rocks

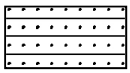

Boulder conglomerate

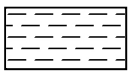

Conglomerate


Conglomeratic sandstone

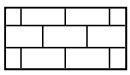

Sandstone


Siltstone

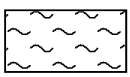

Laminite

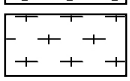

Mudstone, claystone, shale

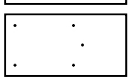

Coal


Limestone

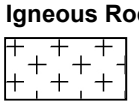
Metamorphic Rocks

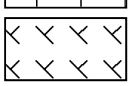

Slate, phyllite, schist

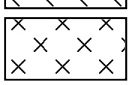

Gneiss

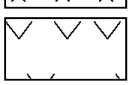

Quartzite

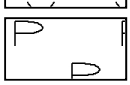
Igneous Rocks


Granite


Dolerite, basalt, andesite


Dacite, epidote


Tuff, breccia


Porphyry

Description and Classification Methods

The methods of description and classification of soils and rocks used in this report are generally based on Australian Standard AS1726:2017, Geotechnical Site Investigations. In general, the descriptions include strength or density, colour, structure, soil or rock type and inclusions.

Soil Types

Soil types are described according to the predominant particle size, qualified by the grading of other particles present:

Type	Particle size (mm)
Boulder	>200
Cobble	63 - 200
Gravel	2.36 - 63
Sand	0.075 - 2.36
Silt	0.002 - 0.075
Clay	<0.002

The sand and gravel sizes can be further subdivided as follows:

Type	Particle size (mm)
Coarse gravel	19 - 63
Medium gravel	6.7 - 19
Fine gravel	2.36 – 6.7
Coarse sand	0.6 - 2.36
Medium sand	0.21 - 0.6
Fine sand	0.075 - 0.21

Definitions of grading terms used are:

- Well graded - a good representation of all particle sizes
- Poorly graded - an excess or deficiency of particular sizes within the specified range
- Uniformly graded - an excess of a particular particle size
- Gap graded - a deficiency of a particular particle size with the range

The proportions of secondary constituents of soils are described as follows:

In fine grained soils (>35% fines)

Term	Proportion of sand or gravel	Example
And	Specify	Clay (60%) and Sand (40%)
Adjective	>30%	Sandy Clay
With	15 – 30%	Clay with sand
Trace	0 - 15%	Clay with trace sand

In coarse grained soils (>65% coarse)
- with clays or silts

Term	Proportion of fines	Example
And	Specify	Sand (70%) and Clay (30%)
Adjective	>12%	Clayey Sand
With	5 - 12%	Sand with clay
Trace	0 - 5%	Sand with trace clay

In coarse grained soils (>65% coarse)
- with coarser fraction

Term	Proportion of coarser fraction	Example
And	Specify	Sand (60%) and Gravel (40%)
Adjective	>30%	Gravelly Sand
With	15 - 30%	Sand with gravel
Trace	0 - 15%	Sand with trace gravel

The presence of cobbles and boulders shall be specifically noted by beginning the description with 'Mix of Soil and Cobbles/Boulders' with the word order indicating the dominant first and the proportion of cobbles and boulders described together.

Soil Descriptions

Cohesive Soils

Cohesive soils, such as clays, are classified on the basis of undrained shear strength. The strength may be measured by laboratory testing, or estimated by field tests or engineering examination. The strength terms are defined as follows:

Description	Abbreviation	Undrained shear strength (kPa)
Very soft	VS	<12
Soft	S	12 - 25
Firm	F	25 - 50
Stiff	St	50 - 100
Very stiff	VSt	100 - 200
Hard	H	>200
Friable	Fr	-

Cohesionless Soils

Cohesionless soils, such as clean sands, are classified on the basis of relative density, generally from the results of standard penetration tests (SPT), cone penetration tests (CPT) or dynamic penetrometers (PSP). The relative density terms are given below:

Relative Density	Abbreviation	Density Index (%)
Very loose	VL	<15
Loose	L	15-35
Medium dense	MD	35-65
Dense	D	65-85
Very dense	VD	>85

Soil Origin

It is often difficult to accurately determine the origin of a soil. Soils can generally be classified as:

- Residual soil - derived from in-situ weathering of the underlying rock;
- Extremely weathered material – formed from in-situ weathering of geological formations. Has soil strength but retains the structure or fabric of the parent rock;
- Alluvial soil – deposited by streams and rivers;
- Estuarine soil – deposited in coastal estuaries;
- Marine soil – deposited in a marine environment;
- Lacustrine soil – deposited in freshwater lakes;
- Aeolian soil – carried and deposited by wind;
- Colluvial soil – soil and rock debris transported down slopes by gravity;
- Topsoil – mantle of surface soil, often with high levels of organic material.
- Fill – any material which has been moved by man.

Moisture Condition – Coarse Grained Soils

For coarse grained soils the moisture condition should be described by appearance and feel using the following terms:

- Dry (D) Non-cohesive and free-running.
- Moist (M) Soil feels cool, darkened in colour.
  Soil tends to stick together.
  Sand forms weak ball but breaks easily.
- Wet (W) Soil feels cool, darkened in colour.
  Soil tends to stick together, free water forms when handling.

Moisture Condition – Fine Grained Soils

For fine grained soils the assessment of moisture content is relative to their plastic limit or liquid limit, as follows:

- ‘Moist, dry of plastic limit’ or ‘w <PL’ (i.e. hard and friable or powdery).
- ‘Moist, near plastic limit’ or ‘w ≈ PL (i.e. soil can be moulded at moisture content approximately equal to the plastic limit).
- ‘Moist, wet of plastic limit’ or ‘w >PL’ (i.e. soils usually weakened and free water forms on the hands when handling).
- ‘Wet’ or ‘w ≈LL’ (i.e. near the liquid limit).
- ‘Wet’ or ‘w >LL’ (i.e. wet of the liquid limit).

Sampling

Sampling is carried out during drilling or test pitting to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin-walled sample tube into the soil and withdrawing it to obtain a sample of the soil in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Test Pits

Test pits are usually excavated with a backhoe or an excavator, allowing close examination of the in-situ soil if it is safe to enter into the pit. The depth of excavation is limited to about 3 m for a backhoe and up to 6 m for a large excavator. A potential disadvantage of this investigation method is the larger area of disturbance to the site.

Large Diameter Augers

Boreholes can be drilled using a rotating plate or short spiral auger, generally 300 mm or larger in diameter commonly mounted on a standard piling rig. The cuttings are returned to the surface at intervals (generally not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube samples.

Continuous Spiral Flight Augers

The borehole is advanced using 90-115 mm diameter continuous spiral flight augers which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the auger flights, but they are disturbed and may be mixed with soils from the sides of the hole. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively low reliability, due to the remoulding, possible mixing or softening of samples by groundwater.

Non-core Rotary Drilling

The borehole is advanced using a rotary bit, with water or drilling mud being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from the rate of penetration. Where drilling mud is used this can mask the cuttings and reliable identification is only possible from separate sampling such as SPTs.

Continuous Core Drilling

A continuous core sample can be obtained using a diamond tipped core barrel, usually with a 50 mm internal diameter. Provided full core recovery is achieved (which is not always possible in weak rocks and granular soils), this technique provides a very reliable method of investigation.

Standard Penetration Tests

Standard penetration tests (SPT) are used as a means of estimating the density or strength of soils and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, Methods of Testing Soils for Engineering Purposes - Test 6.3.1.

The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm increments and the 'N' value is taken as the number of blows for the last 300 mm. In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form.

- In the case where full penetration is obtained with successive blow counts for each 150 mm of, say, 4, 6 and 7 as:

  4,6,7
  N=13

- In the case where the test is discontinued before the full penetration depth, say after 15 blows for the first 150 mm and 30 blows for the next 40 mm as:

  15, 30/40 mm

The results of the SPT tests can be related empirically to the engineering properties of the soils.

Dynamic Cone Penetrometer Tests / Perth Sand Penetrometer Tests

Dynamic penetrometer tests (DCP or PSP) are carried out by driving a steel rod into the ground using a standard weight of hammer falling a specified distance. As the rod penetrates the soil the number of blows required to penetrate each successive 150 mm depth are recorded. Normally there is a depth limitation of 1.2 m, but this may be extended in certain conditions by the use of extension rods. Two types of penetrometer are commonly used.

- Perth sand penetrometer - a 16 mm diameter flat ended rod is driven using a 9 kg hammer dropping 600 mm (AS 1289, Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.
- Cone penetrometer - a 16 mm diameter rod with a 20 mm diameter cone end is driven using a 9 kg hammer dropping 510 mm (AS 1289, Test 6.3.2). This test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various road authorities.

BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 135.601 AHD
EASTING: 544112.659
NORTHING: 6809859.281
DIP/AZIMUTH: 90°/--

BORE No: 1
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.0				
					0.1				
					0.4				
				E	0.5				
135	0.6	Bore discontinued at 0.6m depth - Limit of investigation							
	1								1
134									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 134.102 AHD **BORE No:** 2
EASTING: 544150.076 **PROJECT No:** 216829.00
NORTHING: 6809851.381 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
134	0.0	Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.0	+R3, +S3			
					0.1				
	0.2	Sandy CLAY (CI): medium plasticity, brown, fine to medium sand, trace fine to coarse subangular and subrounded gravel, w<PL, estimated stiff		E	0.2				
					0.3				
		- weathered rock		E	0.5				
	0.6	Bore discontinued at 0.6m depth - Refusal			0.6				
	1								1
133									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 135.677 AHD
EASTING: 544303.545
NORTHING: 6809779.634
DIP/AZIMUTH: 90°/--

BORE No: 3
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
135	0.0	FILL Sandy GRAVEL (GW): fine to medium, subangular, well graded, fine to coarse sand, trace low plasticity silt, moist, estimated dense		E	0.0				
					0.1				
	0.4	Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.4				
					0.5				
					0.9				
				E					
134	1.0	Bore discontinued at 1.0m depth - Limit of investigation			1.0				1

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 143.733 AHD
EASTING: 544429.671
NORTHING: 6809787.993
DIP/AZIMUTH: 90°/--

BORE No: 4
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
143	0.2	FILL Sandy CLAY (CI): medium plasticity, brown, fine to medium sand, with medium to large subangular gravel, w<PL, estimated stiff							
		Bore discontinued at 0.2m depth - Refusal							
	1								1
142									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 133.067 AHD
EASTING: 544124.377
NORTHING: 6809927.184
DIP/AZIMUTH: 90°/--

BORE No: 5
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
133		FILL Sandy GRAVEL (GW): fine to large, subangular, well graded, grey, fine to coarse sand, trace low plasticity silt, moist, estimated dense		E	0.0 0.1				
	0.2	Bore discontinued at 0.2m depth - Refusal							
132	1								1

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 133.282 AHD **BORE No:** 6
EASTING: 544144.402 **PROJECT No:** 216829.00
NORTHING: 6809886.79 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		FILL Sandy GRAVEL (GW): fine to large, subangular, well graded, grey, fine to coarse sand, trace low plasticity silt, moist, estimated dense		E	0.0				
	0.1	FILL Sandy CLAY (CI): medium plasticity, red/brown/black, trace fine to medium sand, trace fine to coarse subangular gravel, trace mulch and plastic, trace metals and glass, w<PL, estimated stiff		E	0.1				
	0.25	Bore discontinued at 0.25m depth - Refusal on cobbles			0.2				
133									
	1								1
132									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 133.001 AHD
EASTING: 544182.473
NORTHING: 6809945.889
DIP/AZIMUTH: 90°/--

BORE No: 7
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
133		FILL Sandy GRAVEL (GW): fine to large, subangular, well graded, grey, fine to coarse sand, trace low plasticity silt, moist, estimated dense		E	0.0 0.1				
	0.2	Bore discontinued at 0.2m depth - Refusal							
132	1								1

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 133.178 AHD
EASTING: 544129.492
NORTHING: 6810018.047
DIP/AZIMUTH: 90°/--

BORE No: 8
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
133	0.0	FILL Sandy GRAVEL (GW): fine to coarse, subrounded, well graded, reddish brown/grey, fine to coarse sand, trace low plasticity clay, moist, estimated loose		E	0.0	+R2, +S2			
	0.1				0.1				
	0.2	Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.2				
	0.3				0.3				
	0.4	Bore discontinued at 0.4m depth - Refusal							
	1								1
132									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 133.697 AHD
EASTING: 544209.39
NORTHING: 6810039.848
DIP/AZIMUTH: 90°/--

BORE No: 9
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		FILL Sandy GRAVEL (GW): fine to coarse, subangular, well graded, grey, fine to coarse sand, trace low plasticity silt, moist, estimated dense		E	0.0 0.1				
	0.3	Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.3				
	0.4	Bore discontinued at 0.4m depth - Refusal			0.4				
133									
	1								1
132									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 140.169 AHD **BORE No:** 10
EASTING: 544168.059 **PROJECT No:** 216829.00
NORTHING: 6810073.356 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
140	0.0	FILL Gravelly CLAY (CI): medium plasticity, reddish brown, fine to medium subangular gravel, trace fine to medium sand, w<PL, estimated stiff		E	0.0 - 0.1				
	0.2	Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.2 - 0.3				
				E	0.4 - 0.5				
	0.6	Bore discontinued at 0.6m depth - Refusal							
	1								1
139									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 137.385 AHD **BORE No:** 11
EASTING: 544212.492 **PROJECT No:** 216829.00
NORTHING: 6810123.243 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
137		Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.0			▼	
					0.1				
				E	0.2				
					0.3				
	0.4	Bore discontinued at 0.4m depth - Refusal							
	1								1
136									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: Groundwater observed at 0.2m depth
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 138.812 AHD
EASTING: 544211.813
NORTHING: 6810193.392
DIP/AZIMUTH: 90°/--

BORE No: 12
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
138	0.0	Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.0	+R1, +S1		▽	
					0.1				
				E	0.2				
		w<LL			0.3				
				E	0.5				
	0.6	Bore discontinued at 0.6m depth - Refusal			0.6				
	1								1
137									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: Water seepage observed at 0.4m depth
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 127.869 AHD **BORE No:** 13
EASTING: 544406.977 **PROJECT No:** 216829.00
NORTHING: 6810189.741 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
127	0.0	FILL Sandy CLAY (CI): medium plasticity, brown, fine to medium sand, trace fine to coarse subrounded and subangular gravel, w<PL, estimated stiff		E	0.0 - 0.1				
	0.4	FILL Sandy CLAY (CI): medium plasticity, red, fine to coarse sand, trace fine to medium subangular gravel, w<PL, estimated stiff		E	0.4 - 0.5				
				E	0.9				
126	1.0	Bore discontinued at 1.0m depth - Limit of investigation			1.0				1

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 128.797 AHD
EASTING: 544500.844
NORTHING: 6810200.209
DIP/AZIMUTH: 90°/--

BORE No: 14
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
128		Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.0				
					0.1				
				E	0.4				
					0.5				
				E	0.9				
	1 1.0	Bore discontinued at 1.0m depth - Limit of investigation			1.0				1
127									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 130.015 AHD **BORE No:** 15
EASTING: 544552.11 **PROJECT No:** 216829.00
NORTHING: 6810194.872 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
130		FILL Sandy GRAVEL (GW): fine to medium, subangular, well graded, grey/brown, fine to coarse sand, trace low plasticity silt, moist, dense		E	0.0 0.1				
	0.2	Bore discontinued at 0.2m depth - Refusal							
129	1								1

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 133.417 AHD **BORE No:** 16
EASTING: 544605.243 **PROJECT No:** 216829.00
NORTHING: 6810178.491 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
133	0.0	FILL Clayey GRAVEL (GC): fine to coarse, subrounded, well graded, brown/grey, medium plasticity clay, trace fine sand, trace cobbles, moist, estimated dense		E	0.0 - 0.1				
	0.3	Bore discontinued at 0.3m depth - Refusal							
	1								1
132									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 143.83 AHD
EASTING: 544734.53
NORTHING: 6810159.417
DIP/AZIMUTH: 90°/--

BORE No: 17
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
143		Sandy CLAY (CI): medium plasticity, red, fine to medium sand, w<PL, estimated stiff (Residual)		E	0.0	+R3, +S3			
					0.1				
				E	0.4				
					0.5				
				E	0.9				
	1 1.0	Bore discontinued at 1.0m depth - Limit of investigation			1.0				1
142									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 143.111 AHD **BORE No:** 18
EASTING: 544666.327 **PROJECT No:** 216829.00
NORTHING: 6810082.899 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
143	0.0	FILL Clayey GRAVEL (GC): fine to coarse, subangular, well graded, brown, medium plasticity clay, trace fine to coarse sand, moist, estimated dense		E	0.0 - 0.1				
	0.3	FILL Sandy CLAY (CI): medium plasticity, brown, fine to medium sand, trace fine subangular gravel, w<PL, estimated stiff		E	0.3 - 0.4				
	0.5	Bore discontinued at 0.5m depth - Refusal							
142	1								1

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 135.665 AHD **BORE No:** 19
EASTING: 544566.579 **PROJECT No:** 216829.00
NORTHING: 6810088.18 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
135	0.0	FILL Sandy CLAY (CI): medium plasticity, brown, fine to medium sand, trace fine subangular gravel, w<PL, estimated stiff		E	0.0				
	0.1				0.1				
	0.2	Bore discontinued at 0.2m depth - Refusal							
	1								1
134									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 137.687 AHD
EASTING: 544511.418
NORTHING: 6810127.961
DIP/AZIMUTH: 90°/--

BORE No: 20
PROJECT No: 216829.00
DATE: 12/9/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		FILL Sandy CLAY (CI): medium plasticity, brown, fine to medium sand, trace fine subangular gravel, w<PL, estimated stiff							
	0.2	Bore discontinued at 0.2m depth - Refusal							
137									
	1								1
136									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 134.526 AHD **BORE No:** 21
EASTING: 544540.743 **PROJECT No:** 216829.00
NORTHING: 6810053.191 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
134	0.0	FILL Sandy CLAY (CI): medium plasticity, brown, fine to medium sand, trace fine subangular gravel, w<PL, estimated stiff		E	0.0				
	0.1				0.1				
	0.3	Bore discontinued at 0.3m depth - Limit of investigation							
	1								1
133									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 131.687 AHD **BORE No:** 22
EASTING: 544254.245 **PROJECT No:** 216829.00
NORTHING: 6809990.809 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		FILL Silty GRAVEL (GM): fine to coarse, subangular, brown, low plasticity silt, trace fine to coarse sand, w<PL, estimated stiff		E	0.0	+R4, +S4			
	0.1	FILL Sandy GRAVEL (GW): fine to coarse, subangular, well graded, grey, fine to coarse sand, trace low plasticity silt, moist, estimated dense		E	0.1				
	0.2	Bore discontinued at 0.2m depth - Refusal			0.2				
131									
	1								1
130									

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Ballina Shire Council
PROJECT: Contamination Assessment
LOCATION: Gap Road, Alstoneville

SURFACE LEVEL: 128.094 AHD **BORE No:** 23
EASTING: 544360.217 **PROJECT No:** 216829.00
NORTHING: 6810123.962 **DATE:** 12/9/2022
DIP/AZIMUTH: 90°/-- **SHEET** 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
128	0.0	FILL Sandy CLAY (CI): medium plasticity, red brown, fine to medium sand, trace fine subangular gravel, w<PL, estimated stiff		E	0.0 - 0.1				
	0.3	FILL Sandy CLAY (CI): medium plasticity, dark brown, fine to coarse sand, trace fine subangular gravel, w<PL, estimated stiff		E	0.3 - 0.4				
				E	0.9				
127	1.0	Bore discontinued at 1.0m depth - Limit of investigation			1.0				1

RIG: Motorised Soil Sampler **DRILLER:** JW **LOGGED:** JW **CASING:** Uncased
TYPE OF BORING: Driven Tube
WATER OBSERVATIONS: No free groundwater observed during drilling
REMARKS: w = moisture content, PL = plastic limit

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

Appendix H

Laboratory Reports and Chain of Custody Documentation

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

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

☑ **Brisbane Laboratory**
Unit 1 21 Smallwood Place 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**
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Douglas Partners	Project №	216829.00.	Project Manager	Dawit Bekele
Address	439 Montague Road West End	Project Name	216829.00.	EDD Format (ESdat, EQuIS etc)	Esdat
Contact Name	Dawit Bekele				
Phone №	07 3237 8900				
Special Directions					
Purchase Order	216829.00.				
Quote ID №					

Sampler(s)	Jesse Wotton
Handed over by	Courier
Email for Invoice	Brisbane@douglaspartners.com.au
Email for Results	Dawit.Bekele@douglaspartners.com.au and Jesse.Wotton@douglaspartners.com.au

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

Containers — Change container type & size if necessary

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

♦Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☑ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Suite B7A + B14	Suite B7	TRHC6-C10/BTEX	Suite R21	500mL 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	1/0.1	12/09/22	S	X										1		
2	1/0.5	12/09/22	S											1		
3	2/0.1	12/09/22	S											1		
4	2/0.3	12/09/22	S	X										1		
5	2/0.6	12/09/22	S											1		
6	3/0.1	12/09/22	S	X										1		
7	3/0.5	12/09/22	S											1		
8	3/1.0	12/09/22	S				X							1		
9	4/0.1	12/09/22	S											1		
10	5/0.1	12/09/22	S	X										1		
	Total Counts			4			1							10		

Date/Time: 14/9/22 10:15am
Chilled: Temp: 1.9
Correction: -0.2
Final Temp: 1.7

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	J.Wotton	Signature		Date	14.09.22	Time	
Eurofins | mgt Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	923154

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03 8564 5000 EnviroSampleVic@eurofins.com

Company	Douglas Partners	Project №	216829.00.	Project Manager	Dawit Bekele
Address	439 Montague Road West End	Project Name	216829.00.	EDD Format (ESdat, EQuIS etc)	Esdat
Contact Name	Dawit Bekele				
Phone №	07 3237 8900				
Special Directions					
Purchase Order	216829.00.				
Quote ID №					

Sampler(s)	Jesse Wotton	
Handed over by	Courier	
Email for Invoice	Brisbane@douglaspartners.com.au	
Email for Results	Dawit.Bekele@douglaspartners.com.au and Jesse.Wotton@douglaspartners.com.au	

Containers (Change container type & size if necessary)

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

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☑ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Suite B7A + B14	Suite B7	TRHC6-C10/BTEX	Suite R21	500mL 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	6/0.1	12/09/22	S											1		
2	6/0.2	12/09/22	S	✖										1		
3	7/0.1	12/09/22	S	✖										1		
4	8/0.1	12/09/22	S	✖										1		
5	8/0.3	12/09/22	S											1		
6	9/0.1	12/09/22	S	✖										1		
7	9/0.4	12/09/22	S											1		
8	10/0.1	12/09/22	S	✖										1		
9	10/0.3	12/09/22	S											1		
10	10/0.5	12/09/22	S											1		
		Total Counts		5										10		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	J.Wotton	Signature	Date 14.09.22 Time
Eurofins | mgt Laboratory Use Only	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW		Signature		Date	Time / Temperature
	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW		Signature		Date	Time / Report №

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CHAIN OF CUSTODY RECORD

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Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory**
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Douglas Partners	**Project №**	216829.00.	**Project Manager**	Dawit Bekele
Address	439 Montague Road West End	**Project Name**	216829.00.	**EDD Format** ESdat, ECuIS etc	Esdat
Contact Name	Dawit Bekele				
Phone №	07 3237 8900				
Special Directions					
Purchase Order	216829.00.				
Quote ID №					

Sampler(s)	Jesse Wotton
Handed over by	Courier
Email for Invoice	Brisbane@douglaspartners.com.au
Email for Results	Dawit.Bekele@douglaspartners.com.au and Jesse.Wotton@douglaspartners.com.au

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

Containers — Change container type & size if necessary.

Required Turnaround Time (TAT) — Default will be 5 days if not ticked.

♦Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☑ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Suite B7A + B14	Suite B7	TRHC6-C10/BTEX	Suite R21	500mL 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	11/0.1	12/09/22	S	X										1		
2	11/0.3	12/09/22	S											1		
3	12/0.1	12/09/22	S	X										1		
4	12/0.3	12/09/22	S											1		
5	12/0.6	12/09/22	S				X							1		
6	13/0.1	12/09/22	S											1		
7	13/0.5	12/09/22	S	X										1		
8	13/1.0	12/09/22	S											1		
9	14/0.1	12/09/22	S	X										1		
10	14/0.5	12/09/22	S											1		
	Total Counts			4			1							10		

Method of Shipment	☑ Courier (#)	☑ Hand Delivered	☐ Postal	Name	J.Wotton	Signature	J. Wotton	Date	14.09.22	Time	

Eurofins | mgt Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	

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03 8564 5000 EnviroSampleVic@eurofins.com

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Address	439 Montague Road West End	Project Name	216829.00.	EDD Format (ESdat, EQuIS etc)	Esdat
Contact Name	Dawit Bekele				
Phone №	07 3237 8900				
Special Directions					
Purchase Order	216829.00.				
Quote ID №					

Sampler(s)	Jesse Wotton	
Handed over by	Courier	
Email for Invoice	Brisbane@douglaspartners.com.au	
Email for Results	Dawit.Bekele@douglaspartners.com.au and Jesse.Wotton@douglaspartners.com.au	

Containers (Change container type & size if necessary)

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

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☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☑ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

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

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7A + B14	Suite B7	TRHC6-C10/BTEX	Suite R21	500mL 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	14/1.0	12/09/22	S											1		
2	15/0.1	12/09/22	S	X										1		
3	16/0.1	12/09/22	S	X										1		
4	17/0.1	12/09/22	S	X										1		
5	17/0.5	12/09/22	S											1		
6	17/1.0	12/09/22	S											1		
7	18/0.1	12/09/22	S											1		
8	18/0.4	12/09/22	S	X										1		
9	19/0.1	12/09/22	S	X										1		
10	20/0.1	12/09/22	S	X										1		
	Total Counts			6										10		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	J.Wotton	Signature	Date 14.09.22	Time

Eurofins | mgt Laboratory Use Only							
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Temperature
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Report №

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CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

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☐ Melbourne Laboratory
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Company	Douglas Partners	Project №	216829.00.	Project Manager	Dawit Bekele
Address	439 Montague Road West End	Project Name	216829.00.	EDD Format (ESdat, EQuIS etc)	Esdat
Contact Name	Dawit Bekele				
Phone №	07 3237 8900				
Special Directions					
Purchase Order	216829.00.				
Quote ID №					

Sampler(s)	Jesse Wotton
Handed over by	Courier
Email for Invoice	Brisbane@douglaspartners.com.au
Email for Results	Dawit.Bekele@douglaspartners.com.au and Jesse.Wotton@douglaspartners.com.au

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☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☑ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7A + B14	Suite B7	TRHC6-C10/BTEX	Suite R21	500mL 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	21/0.1	12/09/22	S	X										1		
2	22/0.1	13/09/22	S	X										1		
3	22/0.2	13/09/22	S	X										1		
4	23/0.1	13/09/22	S	X										1		
5	23/0.4	13/09/22	S											1		
6	23/1.0	13/09/22	S											1		
7	R1	12/09/22	S		X									1		
8	R2	12/09/22	S											1		
9	R3	12/09/22	S											1		
10	R4	13/09/22	S		X									1		
	Total Counts			4	2									10		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	J.Wotton	Signature	Date 14.09.22	Time

Eurofins | mgt Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Temperature
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Report №

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CHAIN OF CUSTODY RECORD

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Address	439 Montague Road West End	Project Name	216829.00.	EDD Format (ESdat, EQuIS etc)	Esdat
Contact Name	Dawit Bekele				
Phone №	07 3237 8900				
Special Directions					
Purchase Order	216829.00.				
Quote ID №					

		Sampler(s)	Jesse Wotton
		Handed over by	Courier
		Email for Invoice	Brisbane@douglaspartners.com.au
		Email for Results	Dawit.Bekele@douglaspartners.com.au and Jesse.Wotton@douglaspartners.com.au

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

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Suite B7A + B14	Suite B7	TRHC6-C10/BTEX	Suite R21	Containers: 500mL 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	Trip Blank		S			✖						1				
2	Trip Spike		W			✖						1				
3																
4																
5																
6																
7																
8																
9																
10																
	Total Counts					2						2				

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

♦Surcharge will apply

- ☐ Overnight (reporting by 9am)♦
- ☐ Same day♦ ☑ 1 day♦
- ☐ 2 days♦ ☐ 3 days♦
- ☐ 5 days (Standard)
- ☐ Other( )

Method of Shipment								
☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	J.Wotton	Signature		Date	14.09.22	Time	

Eurofins | mgt Laboratory Use Only										
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	

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eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	4/52 Industrial Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield East NSW 2304
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	PO Box 60 Wickham 2293
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	Tel: +61 2 4968 8448
NATA# 1261 Site# 1254	NATA# 1261 Site# 1254	NATA# 1261 Site# 18217		NATA# 1261 Site# 20794	NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Christchurch
35 O'Rorke Road	43 Detroit Drive
Penrose,	Rolleston,
Auckland 1061	Christchurch 7675
Tel: +64 9 526 45 51	Tel: 0800 856 450
IANZ# 1327	IANZ# 1290

Sample Receipt Advice

Company name:	Douglas Partners (Qld) Pty Ltd
Contact name:	Dawit Bekele
Project name:	216829.00.
Project ID:	216829.00.
Turnaround time:	1 Day
Date/Time received	Sep 14, 2022 10:15 AM
Eurofins reference	923154

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Two extra samples received that were not recorded on the COC. The sample IDs are R4 (with a sample date of 12/09) and S4. These samples have been logged and placed on hold.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Peter Brand on phone : 0436 360 123 or by email: PeterBrand@eurofins.com

Results will be delivered electronically via email to Dawit Bekele - Dawit.Bekele@douglaspartners.com.au.

Note: A copy of these results will also be delivered to the general Douglas Partners (Qld) Pty Ltd email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
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VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
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VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091

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

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

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NZBN: 9429046024954

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Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101

Project Name: 216829.00.
Project ID: 216829.00.

Order No.: 216829.00.
Report #: 923154
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Sep 14, 2022 10:15 AM
Due: Sep 15, 2022
Priority: 1 Day
Contact Name: Dawit Bekele

Eurofins Analytical Services Manager : Peter Brand

Sample Detail						HOLD	Suite B14: OCP/OPP	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	1 / 0.1	Sep 12, 2022		Soil	B22-Se0029125		X	X			X		
2	2 / 0.3	Sep 12, 2022		Soil	B22-Se0029126		X	X			X		
3	3 / 0.1	Sep 12, 2022		Soil	B22-Se0029127		X	X			X		
4	3 / 1.0	Sep 12, 2022		Soil	B22-Se0029128			X	X				
5	5 / 0.1	Sep 12, 2022		Soil	B22-Se0029129		X	X			X		
6	6 / 0.2	Sep 12, 2022		Soil	B22-Se0029130		X	X			X		
7	7 / 0.1	Sep 12, 2022		Soil	B22-Se0029131		X	X			X		
8	8 / 0.1	Sep 12, 2022		Soil	B22-Se0029132		X	X			X		
9	9 / 0.1	Sep 12, 2022		Soil	B22-Se0029133		X	X			X		
10	10 / 0.1	Sep 12, 2022		Soil	B22-Se0029134		X	X			X		
11	11 / 0.1	Sep 12, 2022		Soil	B22-Se0029135		X	X			X		
12	12 / 0.1	Sep 12, 2022		Soil	B22-Se0029136		X	X			X		

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Company Name: Douglas Partners (Qld) Pty Ltd
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Project Name: 216829.00.
Project ID: 216829.00.

Order No.: 216829.00.
Report #: 923154
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Sep 14, 2022 10:15 AM
Due: Sep 15, 2022
Priority: 1 Day
Contact Name: Dawit Bekele

Eurofins Analytical Services Manager : Peter Brand

Sample Detail						HOLD	Suite B14: OCP/OPP	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
13	12 / 0.6	Sep 12, 2022		Soil	B22-Se0029137			X	X				
14	13 / 0.5	Sep 12, 2022		Soil	B22-Se0029138		X	X			X		
15	14 / 0.1	Sep 12, 2022		Soil	B22-Se0029139		X	X			X		
16	15 / 0.1	Sep 12, 2022		Soil	B22-Se0029140		X	X			X		
17	16 / 0.1	Sep 12, 2022		Soil	B22-Se0029141		X	X			X		
18	17 / 0.1	Sep 12, 2022		Soil	B22-Se0029142		X	X			X		
19	18 / 0.4	Sep 12, 2022		Soil	B22-Se0029143		X	X			X		
20	19 / 0.1	Sep 12, 2022		Soil	B22-Se0029144		X	X			X		
21	20 / 0.1	Sep 12, 2022		Soil	B22-Se0029145		X	X			X		
22	21 / 0.1	Sep 12, 2022		Soil	B22-Se0029146		X	X			X		
23	22 / 0.1	Sep 13, 2022		Soil	B22-Se0029147		X	X			X		
24	22 / 0.2	Sep 13, 2022		Soil	B22-Se0029148		X	X			X		
25	23 / 0.1	Sep 13, 2022		Soil	B22-Se0029149		X	X			X		
26	R1	Sep 12, 2022		Soil	B22-Se0029150			X		X			
27	R4	Sep 13, 2022		Soil	B22-Se0029151			X		X			

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Sample Detail						HOLD	Suite B14: OCP/OPP	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
28	TRIP BLANK	Not Provided		Trip Blank (solid)	B22-Se0029152							X	
29	TRIP SPIKE	Not Provided		Trip Spike (liquid)	B22-Se0029153								X
30	1 / 0.5	Sep 12, 2022		Soil	B22-Se0029154	X							
31	2 / 0.1	Sep 12, 2022		Soil	B22-Se0029155	X							
32	2 / 0.6	Sep 12, 2022		Soil	B22-Se0029156	X							
33	3 / 0.5	Sep 12, 2022		Soil	B22-Se0029157	X							
34	4 / 0.1	Sep 12, 2022		Soil	B22-Se0029158	X							
35	6 / 0.1	Sep 12, 2022		Soil	B22-Se0029159	X							
36	8 / 0.3	Sep 12, 2022		Soil	B22-Se0029160	X							
37	9 / 0.4	Sep 12, 2022		Soil	B22-Se0029161	X							
38	10 / 0.3	Sep 12, 2022		Soil	B22-Se0029162	X							
39	10 / 0.5	Sep 12, 2022		Soil	B22-Se0029163	X							
40	11 / 0.3	Sep 12, 2022		Soil	B22-Se0029164	X							

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Sample Detail						HOLD	Suite B14: OCP/OPP	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
41	12 / 0.3	Sep 12, 2022		Soil	B22-Se0029165	X							
42	13 / 0.1	Sep 12, 2022		Soil	B22-Se0029166	X							
43	13 / 1.0	Sep 12, 2022		Soil	B22-Se0029167	X							
44	14 / 0.5	Sep 12, 2022		Soil	B22-Se0029168	X							
45	14 / 1.0	Sep 12, 2022		Soil	B22-Se0029169	X							
46	17 / 0.5	Sep 12, 2022		Soil	B22-Se0029170	X							
47	17 / 1.0	Sep 12, 2022		Soil	B22-Se0029171	X							
48	18 / 0.1	Sep 12, 2022		Soil	B22-Se0029172	X							
49	23 / 0.4	Sep 13, 2022		Soil	B22-Se0029173	X							
50	23 / 1.0	Sep 13, 2022		Soil	B22-Se0029174	X							
51	R2	Sep 12, 2022		Soil	B22-Se0029175	X							
52	R3	Sep 12, 2022		Soil	B22-Se0029176	X							
53	R4	Sep 12, 2022		Soil	B22-Se0029244	X							
54	S4	Sep 12, 2022		Soil	B22-Se0029245	X							
Test Counts						25	23	27	2	2	23	1	1

Douglas Partners Pty Ltd
439 Montague Road
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NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Dawit Bekele**

Report **923154-S**
Project name 216829.00.
Project ID 216829.00.
Received Date Sep 14, 2022

Client Sample ID			**1 / 0.1**	**2 / 0.3**	**3 / 0.1**	**3 / 1.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B22-Se0029125**	**B22-Se0029126**	**B22-Se0029127**	**B22-Se0029128**
Date Sampled			**Sep 12, 2022**	**Sep 12, 2022**	**Sep 12, 2022**	**Sep 12, 2022**
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	23	-
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	-
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	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	75	71	83	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
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	-

Client Sample ID			1 / 0.1	2 / 0.3	3 / 0.1	3 / 1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029125	B22-Se0029126	B22-Se0029127	B22-Se0029128
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	111	108	109	-
p-Terphenyl-d14 (surr.)	1	%	112	104	99	-
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-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
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	< 0.1	< 0.1	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	63	86	81	-
Tetrachloro-m-xylene (surr.)	1	%	121	119	115	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Coumaphos	2	mg/kg	< 2	< 2	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-

Client Sample ID			1 / 0.1	2 / 0.3	3 / 0.1	3 / 1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029125	B22-Se0029126	B22-Se0029127	B22-Se0029128
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Monocrotophos	2	mg/kg	< 2	< 2	< 2	-
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Omethoate	2	mg/kg	< 2	< 2	< 2	-
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Triphenylphosphate (surr.)	1	%	54	64	69	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	-
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	-
Dinoseb	20	mg/kg	< 20	< 20	< 20	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	94	95	94	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	-

Client Sample ID			1 / 0.1	2 / 0.3	3 / 0.1	3 / 1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029125	B22-Se0029126	B22-Se0029127	B22-Se0029128
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	5.1	4.5	2.1	-
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chromium	5	mg/kg	20	14	5.3	-
Copper	5	mg/kg	12	21	9.4	-
Iron	20	mg/kg	-	-	-	170000
Lead	5	mg/kg	12	14	8.2	-
Mercury	0.1	mg/kg	< 0.1	0.1	< 0.1	-
Nickel	5	mg/kg	10	9.0	< 5	-
Zinc	5	mg/kg	85	160	56	-
% Moisture	1	%	30	29	11	31
% Clay	1	%	-	-	-	15
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	-	-	-	35
pH (units)(1:5 soil:CaCl2 extract at 25 °C as rec.)	0.1	pH Units	-	-	-	5.7
Total Organic Carbon	0.1	%	-	-	-	3.8
Heavy Metals						
Iron (%)	0.01	%	-	-	-	17
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	-	-	-	8.8

Client Sample ID			5 / 0.1	6 / 0.2	7 / 0.1	8 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029129	B22-Se0029130	B22-Se0029131	B22-Se0029132
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
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	%	56	72	70	99
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			5 / 0.1	6 / 0.2	7 / 0.1	8 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029129	B22-Se0029130	B22-Se0029131	B22-Se0029132
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
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	%	107	103	105	112
p-Terphenyl-d14 (surr.)	1	%	97	92	95	105
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-HCH	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-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	89	75	78	68
Tetrachloro-m-xylene (surr.)	1	%	117	107	112	120

Client Sample ID			5 / 0.1	6 / 0.2	7 / 0.1	8 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029129	B22-Se0029130	B22-Se0029131	B22-Se0029132
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	66	56	63	58
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID			5 / 0.1	6 / 0.2	7 / 0.1	8 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029129	B22-Se0029130	B22-Se0029131	B22-Se0029132
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	93	88	93	94
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Heavy Metals						
Arsenic	2	mg/kg	2.2	2.4	3.8	5.1
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	5.7	5.4	7.8	24
Copper	5	mg/kg	18	16	16	14
Lead	5	mg/kg	5.7	22	6.0	19
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.4
Nickel	5	mg/kg	6.5	5.8	7.6	< 5
Zinc	5	mg/kg	91	100	42	77
% Moisture	1	%	8.4	24	5.6	23

Client Sample ID			9 / 0.1	10 / 0.1	11 / 0.1	12 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029133	B22-Se0029134	B22-Se0029135	B22-Se0029136
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
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	30	< 20	31
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

Client Sample ID			9 / 0.1	10 / 0.1	11 / 0.1	12 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029133	B22-Se0029134	B22-Se0029135	B22-Se0029136
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	108	72	91	81
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
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	%	106	117	98	111
p-Terphenyl-d14 (surr.)	1	%	90	112	82	103
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-HCH	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-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	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-HCH (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

Client Sample ID			9 / 0.1	10 / 0.1	11 / 0.1	12 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029133	B22-Se0029134	B22-Se0029135	B22-Se0029136
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	66	80	61	81
Tetrachloro-m-xylene (surr.)	1	%	108	129	101	123
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	62	67	57	75
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID			9 / 0.1	10 / 0.1	11 / 0.1	12 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029133	B22-Se0029134	B22-Se0029135	B22-Se0029136
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	90	94	88	75
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Heavy Metals						
Arsenic	2	mg/kg	7.2	6.5	2.0	3.5
Cadmium	0.5	mg/kg	< 0.5	0.6	< 0.5	< 0.5
Chromium	5	mg/kg	6.0	27	13	41
Copper	5	mg/kg	21	38	17	23
Lead	5	mg/kg	18	95	11	42
Mercury	0.1	mg/kg	< 0.1	0.4	< 0.1	0.3
Nickel	5	mg/kg	9.0	11	< 5	8.8
Zinc	5	mg/kg	71	450	61	220
% Moisture	1	%	8.2	54	47	59

Client Sample ID			12 / 0.6	13 / 0.5	14 / 0.1	15 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029137	B22-Se0029138	B22-Se0029139	B22-Se0029140
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
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	22	< 20
TRH C15-C28	50	mg/kg	-	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	-	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	-	< 50	< 50	< 50

Client Sample ID			12 / 0.6	13 / 0.5	14 / 0.1	15 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029137	B22-Se0029138	B22-Se0029139	B22-Se0029140
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
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	-	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	-	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	111	107	97
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	-	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	< 20	< 20
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	%	-	106	118	103
p-Terphenyl-d14 (surr.)	1	%	-	104	109	87
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-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
d-HCH	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

Client Sample ID			12 / 0.6	13 / 0.5	14 / 0.1	15 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029137	B22-Se0029138	B22-Se0029139	B22-Se0029140
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
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-HCH (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	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
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	-	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	85	80	82
Tetrachloro-m-xylene (surr.)	1	%	-	122	131	103
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	-	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	-	< 2	< 2	< 2
Naled	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	-	< 2	< 2	< 2
Phorate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	-	71	68	70

Client Sample ID			12 / 0.6	13 / 0.5	14 / 0.1	15 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029137	B22-Se0029138	B22-Se0029139	B22-Se0029140
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	-	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	< 5	< 5
Dinoseb	20	mg/kg	-	< 20	< 20	< 20
Phenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	-	93	94	87
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	-	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	-	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	-	4.6	5.8	4.4
Cadmium	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	-	16	16	6.4
Copper	5	mg/kg	-	12	24	23
Iron	20	mg/kg	190000	-	-	-
Lead	5	mg/kg	-	15	15	11
Mercury	0.1	mg/kg	-	< 0.1	0.2	< 0.1
Nickel	5	mg/kg	-	7.1	9.9	7.7
Zinc	5	mg/kg	-	140	130	74
% Moisture	1	%	47	29	38	15
% Clay	1	%	< 1	-	-	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	12	-	-	-
pH (units)(1:5 soil:CaCl2 extract at 25 °C as rec.)	0.1	pH Units	5.5	-	-	-
Total Organic Carbon	0.1	%	5.4	-	-	-
Heavy Metals						
Iron (%)	0.01	%	19	-	-	-
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	0.88	-	-	-

Client Sample ID			16 / 0.1	17 / 0.1	18 / 0.4	19 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029141	B22-Se0029142	B22-Se0029143	B22-Se0029144
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
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	24	< 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	%	61	73	74	82
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
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	%	107	93	108	103
p-Terphenyl-d14 (surr.)	1	%	98	86	101	102
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-HCH	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

Client Sample ID			16 / 0.1	17 / 0.1	18 / 0.4	19 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029141	B22-Se0029142	B22-Se0029143	B22-Se0029144
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	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-HCH (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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	82	68	85	64
Tetrachloro-m-xylene (surr.)	1	%	118	100	122	115
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			16 / 0.1	17 / 0.1	18 / 0.4	19 / 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029141	B22-Se0029142	B22-Se0029143	B22-Se0029144
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 12, 2022	Sep 12, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	67	51	65	54
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	93	81	97	89
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Heavy Metals						
Arsenic	2	mg/kg	4.9	5.9	4.4	4.1
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	5.6	42	12	13
Copper	5	mg/kg	24	17	9.3	15
Lead	5	mg/kg	9.5	21	16	8.2
Mercury	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1
Nickel	5	mg/kg	7.3	9.1	< 5	5.5
Zinc	5	mg/kg	81	85	150	120
% Moisture	1	%	9.2	55	27	24

Client Sample ID			20 / 0.1	21 / 0.1	G01 22 / 0.1	G01 22 / 0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029145	B22-Se0029146	B22-Se0029147	B22-Se0029148
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 13, 2022	Sep 13, 2022
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	< 400	< 400
TRH C15-C28	50	mg/kg	< 50	< 50	< 1000	< 1000
TRH C29-C36	50	mg/kg	< 50	< 50	< 1000	< 1000
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 1000	< 1000
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	%	94	86	94	58
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 1000	< 1000
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	12	12
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	24	24
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
2-Fluorobiphenyl (surr.)	1	%	113	115	114	108
p-Terphenyl-d14 (surr.)	1	%	103	112	83	86
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 2	< 2
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1

Client Sample ID			20 / 0.1	21 / 0.1	G01 22 / 0.1	G01 22 / 0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029145	B22-Se0029146	B22-Se0029147	B22-Se0029148
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 13, 2022	Sep 13, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 2	< 2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 2	< 2
Dibutylchlorendate (surr.)	1	%	80	80	58	67
Tetrachloro-m-xylene (surr.)	1	%	121	125	130	120
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Coumaphos	2	mg/kg	< 2	< 2	< 10	< 10
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
EPN	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Monocrotophos	2	mg/kg	< 2	< 2	< 10	< 10
Naled	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Omethoate	2	mg/kg	< 2	< 2	< 10	< 10
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10

Client Sample ID			20 / 0.1	21 / 0.1	G01 22 / 0.1	G01 22 / 0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-Se0029145	B22-Se0029146	B22-Se0029147	B22-Se0029148
Date Sampled			Sep 12, 2022	Sep 12, 2022	Sep 13, 2022	Sep 13, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
Triphenylphosphate (surr.)	1	%	66	60	52	50
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 20	< 20
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 20	< 20
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 20	< 20
Pentachlorophenol	1	mg/kg	< 1	< 1	< 20	< 20
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 20	< 20
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 20	< 20
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 300	< 300
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 100	< 100
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 20	< 20
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 100	< 100
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 10	< 10
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 20	< 20
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 20	< 20
4-Nitrophenol	5	mg/kg	< 5	< 5	< 100	< 100
Dinoseb	20	mg/kg	< 20	< 20	< 300	< 300
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 10	< 10
Phenol-d6 (surr.)	1	%	94	100	93	93
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 300	< 300
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 1000	< 1000
TRH >C16-C34	100	mg/kg	< 100	< 100	< 2000	< 2000
TRH >C34-C40	100	mg/kg	< 100	< 100	< 2000	< 2000
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 2000	< 2000
Heavy Metals						
Arsenic	2	mg/kg	4.3	2.6	2.0	7.7
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	8.7	< 5	5.6	14
Copper	5	mg/kg	20	32	13	46
Lead	5	mg/kg	9.6	< 5	< 5	16
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	6.8	10.0	< 5	15
Zinc	5	mg/kg	130	120	77	70
% Moisture	1	%	18	31	5.1	2.5

Client Sample ID			23 / 0.1	R1	[G01]R4	TRIP BLANK
Sample Matrix			Soil	Soil	Soil	Trip Blank (solid)
Eurofins Sample No.			B22-Se0029149	B22-Se0029150	B22-Se0029151	B22-Se0029152
Date Sampled			Sep 13, 2022	Sep 12, 2022	Sep 13, 2022	Not Provided[I12]
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	27	< 200	-
TRH C15-C28	50	mg/kg	< 50	< 50	< 500	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 500	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 500	-
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	%	75	112	131	138
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 500	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
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	%	115	65	64	-
p-Terphenyl-d14 (surr.)	1	%	117	64	59	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-

Client Sample ID			23 / 0.1	R1	[G01]R4	TRIP BLANK
Sample Matrix			Soil	Soil	Soil	Trip Blank (solid)
Eurofins Sample No.			B22-Se0029149	B22-Se0029150	B22-Se0029151	B22-Se0029152
Date Sampled			Sep 13, 2022	Sep 12, 2022	Sep 13, 2022	Not Provided[I12]
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	68	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	124	-	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Bolstar	0.2	mg/kg	< 0.2	-	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-	-
Coumaphos	2	mg/kg	< 2	-	-	-
Demeton-S	0.2	mg/kg	< 0.2	-	-	-
Demeton-O	0.2	mg/kg	< 0.2	-	-	-
Diazinon	0.2	mg/kg	< 0.2	-	-	-
Dichlorvos	0.2	mg/kg	< 0.2	-	-	-
Dimethoate	0.2	mg/kg	< 0.2	-	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-	-
EPN	0.2	mg/kg	< 0.2	-	-	-
Ethion	0.2	mg/kg	< 0.2	-	-	-
Ethoprop	0.2	mg/kg	< 0.2	-	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	-	-
Fenitrothion	0.2	mg/kg	< 0.2	-	-	-
Fensulfothion	0.2	mg/kg	< 0.2	-	-	-
Fenthion	0.2	mg/kg	< 0.2	-	-	-
Malathion	0.2	mg/kg	< 0.2	-	-	-
Merphos	0.2	mg/kg	< 0.2	-	-	-
Methyl parathion	0.2	mg/kg	< 0.2	-	-	-
Mevinphos	0.2	mg/kg	< 0.2	-	-	-
Monocrotophos	2	mg/kg	< 2	-	-	-
Naled	0.2	mg/kg	< 0.2	-	-	-
Omethoate	2	mg/kg	< 2	-	-	-
Phorate	0.2	mg/kg	< 0.2	-	-	-

Client Sample ID			23 / 0.1	R1	[G01]R4	TRIP BLANK
Sample Matrix			Soil	Soil	Soil	Trip Blank (solid)
Eurofins Sample No.			B22-Se0029149	B22-Se0029150	B22-Se0029151	B22-Se0029152
Date Sampled			Sep 13, 2022	Sep 12, 2022	Sep 13, 2022	Not Provided[I12]
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Pyrazophos	0.2	mg/kg	< 0.2	-	-	-
Ronnel	0.2	mg/kg	< 0.2	-	-	-
Terbufos	0.2	mg/kg	< 0.2	-	-	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	-	-
Tokuthion	0.2	mg/kg	< 0.2	-	-	-
Trichloronate	0.2	mg/kg	< 0.2	-	-	-
Triphenylphosphate (surr.)	1	%	67	-	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	102	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 500	-
TRH >C16-C34	100	mg/kg	< 100	< 100	< 1000	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 1000	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 1000	-
Heavy Metals						
Arsenic	2	mg/kg	6.1	2.9	< 2	-
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chromium	5	mg/kg	20	32	< 5	-
Copper	5	mg/kg	8.3	15	11	-
Lead	5	mg/kg	16	20	< 5	-
Mercury	0.1	mg/kg	0.1	0.2	< 0.1	-
Nickel	5	mg/kg	< 5	7.1	< 5	-
Zinc	5	mg/kg	97	77	66	-

Client Sample ID			23 / 0.1	R1	G01R4	TRIP BLANK
Sample Matrix			Soil	Soil	Soil	Trip Blank (solid)
Eurofins Sample No.			B22-Se0029149	B22-Se0029150	B22-Se0029151	B22-Se0029152
Date Sampled			Sep 13, 2022	Sep 12, 2022	Sep 13, 2022	Not ProvidedI12
Test/Reference	LOR	Unit				
% Moisture	1	%	24	46	6.8	-
Naphthalene N02	0.5	mg/kg	-	-	-	< 0.5
TRH C6-C10 less BTEX (F1) N04	20	mg/kg	-	-	-	< 20
Total Recoverable Hydrocarbons						
TRH C6-C10	20	mg/kg	-	-	-	< 20

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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	Brisbane	Sep 15, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Brisbane	Sep 15, 2022	14 Days
- Method: USEPA SW846 8260			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Brisbane	Sep 15, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Naphthalene	Brisbane	Sep 15, 2022	14 Days
- Method: USEPA 8260B - MGT 350A Volatile Organics by GCMS			
Total Recoverable Hydrocarbons	Brisbane	Sep 14, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins Suite B7A			
Polycyclic Aromatic Hydrocarbons	Brisbane	Sep 15, 2022	14 Days
- Method: USEPA M 8270 (LTM-ORG-2130 PAH & Phenols in Soil & Water by GC-MS)			
Phenols (Halogenated)	Brisbane	Sep 15, 2022	14 Days
- Method: USEPA M 8270 (LTM-ORG-2130 PAH & Phenols in Soil & Water by GC-MS)			
Phenols (non-Halogenated)	Brisbane	Sep 15, 2022	14 Days
- Method: USEPA M 8270 (LTM-ORG-2130 PAH & Phenols in Soil & Water by GC-MS)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Brisbane	Sep 15, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8	Brisbane	Sep 15, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Brisbane	Sep 15, 2022	14 Days
- Method: LTM-ORG-2220 OCP and PCB in Soil and Water (USEPA 8270)			
Organophosphorus Pesticides	Brisbane	Sep 15, 2022	14 Days
- Method: LTM-ORG-2220 OCP and PCB in Soil and Water (USEPA 8270)			
NEPM Screen for Soil Classification			
Heavy Metals	Brisbane	Sep 14, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Clay	Brisbane	Sep 14, 2022	14 Days
- Method: LTM-GEN-7040			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	Brisbane	Sep 15, 2022	7 Days
- Method: LTM-INO-4030 Conductivity			
pH (units)(1:5 soil:CaCl2 extract at 25 °C as rec.)	Melbourne	Sep 15, 2022	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
Total Organic Carbon	Melbourne	Sep 15, 2022	28 Days
- Method: LTM-INO-4060 Total Organic Carbon in water and soil			
Cation Exchange Capacity	Melbourne	Sep 15, 2022	28 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
% Moisture	Brisbane	Sep 14, 2022	14 Days
- Method: LTM-GEN-7080 Moisture			

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Project Name: 216829.00.
Project ID: 216829.00.

Order No.: 216829.00.
Report #: 923154
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Sep 14, 2022 10:15 AM
Due: Sep 15, 2022
Priority: 1 Day
Contact Name: Dawit Bekele

Eurofins Analytical Services Manager : Peter Brand

Sample Detail						HOLD	Suite B14: OCP/OPP	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	1 / 0.1	Sep 12, 2022		Soil	B22-Se0029125		X	X			X		
2	2 / 0.3	Sep 12, 2022		Soil	B22-Se0029126		X	X			X		
3	3 / 0.1	Sep 12, 2022		Soil	B22-Se0029127		X	X			X		
4	3 / 1.0	Sep 12, 2022		Soil	B22-Se0029128			X	X				
5	5 / 0.1	Sep 12, 2022		Soil	B22-Se0029129		X	X			X		
6	6 / 0.2	Sep 12, 2022		Soil	B22-Se0029130		X	X			X		
7	7 / 0.1	Sep 12, 2022		Soil	B22-Se0029131		X	X			X		
8	8 / 0.1	Sep 12, 2022		Soil	B22-Se0029132		X	X			X		
9	9 / 0.1	Sep 12, 2022		Soil	B22-Se0029133		X	X			X		
10	10 / 0.1	Sep 12, 2022		Soil	B22-Se0029134		X	X			X		
11	11 / 0.1	Sep 12, 2022		Soil	B22-Se0029135		X	X			X		
12	12 / 0.1	Sep 12, 2022		Soil	B22-Se0029136		X	X			X		

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Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101

Project Name: 216829.00.
Project ID: 216829.00.

Order No.: 216829.00.
Report #: 923154
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Sep 14, 2022 10:15 AM
Due: Sep 15, 2022
Priority: 1 Day
Contact Name: Dawit Bekele

Eurofins Analytical Services Manager : Peter Brand

Sample Detail						HOLD	Suite B14: OCP/OPP	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
13	12 / 0.6	Sep 12, 2022		Soil	B22-Se0029137			X	X				
14	13 / 0.5	Sep 12, 2022		Soil	B22-Se0029138		X	X			X		
15	14 / 0.1	Sep 12, 2022		Soil	B22-Se0029139		X	X			X		
16	15 / 0.1	Sep 12, 2022		Soil	B22-Se0029140		X	X			X		
17	16 / 0.1	Sep 12, 2022		Soil	B22-Se0029141		X	X			X		
18	17 / 0.1	Sep 12, 2022		Soil	B22-Se0029142		X	X			X		
19	18 / 0.4	Sep 12, 2022		Soil	B22-Se0029143		X	X			X		
20	19 / 0.1	Sep 12, 2022		Soil	B22-Se0029144		X	X			X		
21	20 / 0.1	Sep 12, 2022		Soil	B22-Se0029145		X	X			X		
22	21 / 0.1	Sep 12, 2022		Soil	B22-Se0029146		X	X			X		
23	22 / 0.1	Sep 13, 2022		Soil	B22-Se0029147		X	X			X		
24	22 / 0.2	Sep 13, 2022		Soil	B22-Se0029148		X	X			X		
25	23 / 0.1	Sep 13, 2022		Soil	B22-Se0029149		X	X			X		
26	R1	Sep 12, 2022		Soil	B22-Se0029150			X		X			
27	R4	Sep 13, 2022		Soil	B22-Se0029151			X		X			

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
28	TRIP BLANK	Not Provided		Trip Blank (solid)	B22-Se0029152							X	
29	TRIP SPIKE	Not Provided		Trip Spike (liquid)	B22-Se0029153								X
30	1 / 0.5	Sep 12, 2022		Soil	B22-Se0029154	X							
31	2 / 0.1	Sep 12, 2022		Soil	B22-Se0029155	X							
32	2 / 0.6	Sep 12, 2022		Soil	B22-Se0029156	X							
33	3 / 0.5	Sep 12, 2022		Soil	B22-Se0029157	X							
34	4 / 0.1	Sep 12, 2022		Soil	B22-Se0029158	X							
35	6 / 0.1	Sep 12, 2022		Soil	B22-Se0029159	X							
36	8 / 0.3	Sep 12, 2022		Soil	B22-Se0029160	X							
37	9 / 0.4	Sep 12, 2022		Soil	B22-Se0029161	X							
38	10 / 0.3	Sep 12, 2022		Soil	B22-Se0029162	X							
39	10 / 0.5	Sep 12, 2022		Soil	B22-Se0029163	X							
40	11 / 0.3	Sep 12, 2022		Soil	B22-Se0029164	X							

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
41	12 / 0.3	Sep 12, 2022		Soil	B22-Se0029165	X							
42	13 / 0.1	Sep 12, 2022		Soil	B22-Se0029166	X							
43	13 / 1.0	Sep 12, 2022		Soil	B22-Se0029167	X							
44	14 / 0.5	Sep 12, 2022		Soil	B22-Se0029168	X							
45	14 / 1.0	Sep 12, 2022		Soil	B22-Se0029169	X							
46	17 / 0.5	Sep 12, 2022		Soil	B22-Se0029170	X							
47	17 / 1.0	Sep 12, 2022		Soil	B22-Se0029171	X							
48	18 / 0.1	Sep 12, 2022		Soil	B22-Se0029172	X							
49	23 / 0.4	Sep 13, 2022		Soil	B22-Se0029173	X							
50	23 / 1.0	Sep 13, 2022		Soil	B22-Se0029174	X							
51	R2	Sep 12, 2022		Soil	B22-Se0029175	X							
52	R3	Sep 12, 2022		Soil	B22-Se0029176	X							
53	R4	Sep 12, 2022		Soil	B22-Se0029244	X							
54	S4	Sep 12, 2022		Soil	B22-Se0029245	X							
Test Counts						25	23	27	2	2	23	1	1

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.

Units

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

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
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.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

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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. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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	
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-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	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	
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (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	< 0.05			0.05	Pass	
Aldrin and Dieldrin (Total)*	mg/kg	-			0.05	N/A	
DDT + DDE + DDD (Total)*	mg/kg	-			0.05	N/A	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
Total cresols*	mg/kg	-			0.5	N/A	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Total Non-Halogenated Phenol*	mg/kg	< 0			20	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
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							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.5			0.5	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Iron	mg/kg	< 20			20	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							
Total Organic Carbon	%	< 0.1			0.1	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Cation Exchange Capacity							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C10	mg/kg	< 20			20	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	96			70-130	Pass	
TRH C10-C14	%	99			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	74			70-130	Pass	
Toluene	%	77			70-130	Pass	
Ethylbenzene	%	79			70-130	Pass	
m&p-Xylenes	%	84			70-130	Pass	
Xylenes - Total*	%	84			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	%	96			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	109			70-130	Pass	
Acenaphthylene	%	101			70-130	Pass	
Anthracene	%	102			70-130	Pass	
Benz(a)anthracene	%	94			70-130	Pass	
Benzo(a)pyrene	%	94			70-130	Pass	
Benzo(b&j)fluoranthene	%	107			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	112			70-130	Pass	
Chrysene	%	100			70-130	Pass	
Dibenz(a.h)anthracene	%	88			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	105			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	87			70-130	Pass	
Naphthalene	%	104			70-130	Pass	
Phenanthrene	%	99			70-130	Pass	
Pyrene	%	95			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	106			70-130	Pass	
4.4'-DDD	%	99			70-130	Pass	
4.4'-DDE	%	101			70-130	Pass	
4.4'-DDT	%	87			70-130	Pass	
a-HCH	%	96			70-130	Pass	
Aldrin	%	105			70-130	Pass	
b-HCH	%	97			70-130	Pass	
d-HCH	%	98			70-130	Pass	
Dieldrin	%	100			70-130	Pass	
Endosulfan I	%	104			70-130	Pass	
Endosulfan II	%	100			70-130	Pass	
Endosulfan sulphate	%	90			70-130	Pass	
Endrin	%	104			70-130	Pass	
Endrin aldehyde	%	101			70-130	Pass	
Endrin ketone	%	100			70-130	Pass	
g-HCH (Lindane)	%	97			70-130	Pass	
Heptachlor	%	94			70-130	Pass	
Heptachlor epoxide	%	102			70-130	Pass	
Hexachlorobenzene	%	110			70-130	Pass	
Methoxychlor	%	99			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Azinphos-methyl	%	85			70-130	Pass	
Bolstar	%	90			70-130	Pass	
Chlorfenvinphos	%	109			70-130	Pass	
Chlorpyrifos	%	109			70-130	Pass	
Chlorpyrifos-methyl	%	98			70-130	Pass	
Coumaphos	%	94			70-130	Pass	
Demeton-S	%	89			70-130	Pass	
Demeton-O	%	88			70-130	Pass	
Diazinon	%	91			70-130	Pass	
Dichlorvos	%	99			70-130	Pass	
Dimethoate	%	91			70-130	Pass	
Disulfoton	%	104			70-130	Pass	
EPN	%	98			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethion	%	93			70-130	Pass	
Ethoprop	%	95			70-130	Pass	
Ethyl parathion	%	77			70-130	Pass	
Fenitrothion	%	94			70-130	Pass	
Fensulfothion	%	97			70-130	Pass	
Fenthion	%	95			70-130	Pass	
Malathion	%	99			70-130	Pass	
Methyl parathion	%	95			75-125	Pass	
Mevinphos	%	102			70-130	Pass	
Monocrotophos	%	121			70-130	Pass	
Naled	%	70			70-130	Pass	
Omethoate	%	80			70-130	Pass	
Phorate	%	89			70-130	Pass	
Pirimiphos-methyl	%	92			70-130	Pass	
Pyrazophos	%	91			70-130	Pass	
Ronnel	%	99			70-130	Pass	
Terbufos	%	100			70-130	Pass	
Tetrachlorvinphos	%	87			70-130	Pass	
Tokuthion	%	85			70-130	Pass	
Trichloronate	%	97			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	98			25-140	Pass	
2.4-Dichlorophenol	%	100			25-140	Pass	
2.4.5-Trichlorophenol	%	91			25-140	Pass	
2.4.6-Trichlorophenol	%	117			25-140	Pass	
2.6-Dichlorophenol	%	98			25-140	Pass	
4-Chloro-3-methylphenol	%	92			25-140	Pass	
Pentachlorophenol	%	79			25-140	Pass	
Tetrachlorophenols - Total	%	93			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	71			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	76			25-140	Pass	
2-Nitrophenol	%	78			25-140	Pass	
2.4-Dimethylphenol	%	89			25-140	Pass	
2.4-Dinitrophenol	%	116			25-140	Pass	
2-Methylphenol (o-Cresol)	%	95			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	103			25-140	Pass	
4-Nitrophenol	%	88			25-140	Pass	
Dinoseb	%	82			25-140	Pass	
Phenol	%	96			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	96			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	103			80-120	Pass	
Cadmium	%	100			80-120	Pass	
Chromium	%	97			80-120	Pass	
Copper	%	95			80-120	Pass	
Iron	%	108			80-120	Pass	
Lead	%	96			80-120	Pass	
Mercury	%	99			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel			%	95			80-120	Pass	
Zinc			%	93			80-120	Pass	
LCS - % Recovery									
% Clay			%	111			70-130	Pass	
Total Organic Carbon			%	94			70-130	Pass	
LCS - % Recovery									
Total Recoverable Hydrocarbons									
TRH C6-C10			%	116			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	B22-Se0029125	CP	%	129			70-130	Pass	
TRH C10-C14	B22-Se0029125	CP	%	92			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B22-Se0029125	CP	%	107			70-130	Pass	
Toluene	B22-Se0029125	CP	%	113			70-130	Pass	
Ethylbenzene	B22-Se0029125	CP	%	114			70-130	Pass	
m&p-Xylenes	B22-Se0029125	CP	%	122			70-130	Pass	
o-Xylene	B22-Se0029125	CP	%	119			70-130	Pass	
Xylenes - Total*	B22-Se0029125	CP	%	121			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	B22-Se0029125	CP	%	127			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	B22-Se0029125	CP	%	110			70-130	Pass	
Acenaphthylene	B22-Se0029125	CP	%	96			70-130	Pass	
Anthracene	B22-Se0029125	CP	%	119			70-130	Pass	
Benz(a)anthracene	B22-Se0029125	CP	%	106			70-130	Pass	
Benzo(a)pyrene	B22-Se0029125	CP	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	B22-Se0029125	CP	%	94			70-130	Pass	
Benzo(g.h.i)perylene	B22-Se0029125	CP	%	76			70-130	Pass	
Benzo(k)fluoranthene	B22-Se0029125	CP	%	105			70-130	Pass	
Chrysene	B22-Se0029125	CP	%	119			70-130	Pass	
Fluoranthene	B22-Se0029125	CP	%	108			70-130	Pass	
Fluorene	B22-Se0029125	CP	%	103			70-130	Pass	
Naphthalene	B22-Se0029125	CP	%	105			70-130	Pass	
Phenanthrene	B22-Se0029125	CP	%	115			70-130	Pass	
Pyrene	B22-Se0029125	CP	%	108			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B22-Se0029125	CP	%	111			70-130	Pass	
4.4'-DDD	B22-Se0029125	CP	%	109			70-130	Pass	
4.4'-DDE	B22-Se0029125	CP	%	106			70-130	Pass	
a-HCH	B22-Se0029125	CP	%	101			70-130	Pass	
Aldrin	B22-Se0029125	CP	%	107			70-130	Pass	
b-HCH	B22-Se0029125	CP	%	103			70-130	Pass	
d-HCH	B22-Se0029125	CP	%	99			70-130	Pass	
Dieldrin	B22-Se0029125	CP	%	101			70-130	Pass	
Endosulfan I	B22-Se0029125	CP	%	95			70-130	Pass	
Endosulfan II	B22-Se0029125	CP	%	101			70-130	Pass	
Endosulfan sulphate	B22-Se0029125	CP	%	86			70-130	Pass	
Endrin aldehyde	B22-Se0029125	CP	%	83			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	B22-Se0029125	CP	%	115			70-130	Pass	
g-HCH (Lindane)	B22-Se0029125	CP	%	100			70-130	Pass	
Heptachlor	B22-Se0029125	CP	%	78			70-130	Pass	
Heptachlor epoxide	B22-Se0029125	CP	%	106			70-130	Pass	
Hexachlorobenzene	B22-Se0029125	CP	%	118			70-130	Pass	
Methoxychlor	B22-Se0029125	CP	%	71			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Bolstar	B22-Se0029125	CP	%	85			70-130	Pass	
Chlorpyrifos	B22-Se0029125	CP	%	108			70-130	Pass	
Chlorpyrifos-methyl	B22-Se0029125	CP	%	88			70-130	Pass	
Demeton-S	B22-Se0029125	CP	%	89			70-130	Pass	
Demeton-O	B22-Se0029125	CP	%	43			70-130	Fail	Q08
Diazinon	B22-Se0029125	CP	%	91			70-130	Pass	
Dichlorvos	B22-Se0029125	CP	%	93			70-130	Pass	
Dimethoate	B22-Se0029125	CP	%	71			70-130	Pass	
Disulfoton	B22-Se0029125	CP	%	98			70-130	Pass	
EPN	B22-Se0029125	CP	%	80			70-130	Pass	
Ethion	B22-Se0029125	CP	%	81			70-130	Pass	
Ethoprop	B22-Se0029125	CP	%	79			70-130	Pass	
Ethyl parathion	B22-Se0029125	CP	%	74			70-130	Pass	
Fenitrothion	B22-Se0029125	CP	%	79			70-130	Pass	
Fenthion	B22-Se0029125	CP	%	89			70-130	Pass	
Malathion	B22-Se0029125	CP	%	86			70-130	Pass	
Methyl parathion	B22-Se0029125	CP	%	77			70-130	Pass	
Mevinphos	B22-Se0029125	CP	%	58			70-130	Fail	Q08
Omethoate	B22-Se0016805	NCP	%	124			70-130	Pass	
Phorate	B22-Se0029125	CP	%	72			70-130	Pass	
Pirimiphos-methyl	B22-Se0029125	CP	%	84			70-130	Pass	
Ronnel	B22-Se0029125	CP	%	96			70-130	Pass	
Terbufos	B22-Se0029125	CP	%	78			70-130	Pass	
Tokuthion	B22-Se0029125	CP	%	82			70-130	Pass	
Trichloronate	B22-Se0029125	CP	%	97			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	B22-Se0029125	CP	%	94			30-130	Pass	
2.4-Dichlorophenol	B22-Se0029125	CP	%	89			30-130	Pass	
2.4.5-Trichlorophenol	B22-Se0029125	CP	%	72			30-130	Pass	
2.4.6-Trichlorophenol	B22-Se0029125	CP	%	106			30-130	Pass	
2.6-Dichlorophenol	B22-Se0029125	CP	%	91			30-130	Pass	
4-Chloro-3-methylphenol	B22-Se0029125	CP	%	88			30-130	Pass	
Pentachlorophenol	B22-Se0006045	NCP	%	72			30-130	Pass	
Tetrachlorophenols - Total	B22-Se0029125	CP	%	72			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Nitrophenol	B22-Se0029125	CP	%	80			30-130	Pass	
2.4-Dimethylphenol	B22-Se0029125	CP	%	89			30-130	Pass	
2-Methylphenol (o-Cresol)	B22-Se0029125	CP	%	93			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	B22-Se0029125	CP	%	100			30-130	Pass	
Phenol	B22-Se0029125	CP	%	95			30-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	B22-Se0029125	CP	%	91			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heavy Metals				Result 1					
Arsenic	B22-Se0030537	NCP	%	118			75-125	Pass	
Cadmium	B22-Se0029125	CP	%	92			75-125	Pass	
Chromium	B22-Se0029125	CP	%	83			75-125	Pass	
Copper	B22-Se0029125	CP	%	88			75-125	Pass	
Lead	B22-Se0030537	NCP	%	114			75-125	Pass	
Mercury	B22-Se0029125	CP	%	97			75-125	Pass	
Nickel	B22-Se0029125	CP	%	89			75-125	Pass	
Zinc	B22-Se0029125	CP	%	87			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	B22-Se0029133	CP	%	98			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	B22-Se0029133	CP	%	99			70-130	Pass	
Acenaphthylene	B22-Se0029133	CP	%	94			70-130	Pass	
Anthracene	B22-Se0029133	CP	%	97			70-130	Pass	
Benz(a)anthracene	B22-Se0029133	CP	%	88			70-130	Pass	
Benzo(a)pyrene	B22-Se0029133	CP	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	B22-Se0029133	CP	%	92			70-130	Pass	
Benzo(g.h.i)perylene	B22-Se0029133	CP	%	91			70-130	Pass	
Benzo(k)fluoranthene	B22-Se0029133	CP	%	95			70-130	Pass	
Chrysene	B22-Se0029133	CP	%	93			70-130	Pass	
Dibenz(a.h)anthracene	B22-Se0029133	CP	%	85			70-130	Pass	
Fluoranthene	B22-Se0029133	CP	%	90			70-130	Pass	
Fluorene	B22-Se0029133	CP	%	97			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B22-Se0029133	CP	%	83			70-130	Pass	
Naphthalene	B22-Se0029133	CP	%	96			70-130	Pass	
Phenanthrene	B22-Se0029133	CP	%	93			70-130	Pass	
Pyrene	B22-Se0029133	CP	%	90			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B22-Se0029133	CP	%	97			70-130	Pass	
4.4'-DDD	B22-Se0029133	CP	%	92			70-130	Pass	
4.4'-DDE	B22-Se0029133	CP	%	93			70-130	Pass	
4.4'-DDT	B22-Se0029133	CP	%	82			70-130	Pass	
a-HCH	B22-Se0029133	CP	%	91			70-130	Pass	
Aldrin	B22-Se0029133	CP	%	95			70-130	Pass	
b-HCH	B22-Se0029133	CP	%	88			70-130	Pass	
d-HCH	B22-Se0029133	CP	%	91			70-130	Pass	
Dieldrin	B22-Se0029133	CP	%	88			70-130	Pass	
Endosulfan I	B22-Se0029133	CP	%	90			70-130	Pass	
Endosulfan II	B22-Se0029133	CP	%	93			70-130	Pass	
Endosulfan sulphate	B22-Se0029133	CP	%	82			70-130	Pass	
Endrin	B22-Se0029133	CP	%	98			70-130	Pass	
Endrin aldehyde	B22-Se0029133	CP	%	98			70-130	Pass	
Endrin ketone	B22-Se0029133	CP	%	92			70-130	Pass	
g-HCH (Lindane)	B22-Se0029133	CP	%	90			70-130	Pass	
Heptachlor	B22-Se0029133	CP	%	90			70-130	Pass	
Heptachlor epoxide	B22-Se0029133	CP	%	92			70-130	Pass	
Hexachlorobenzene	B22-Se0029133	CP	%	102			70-130	Pass	
Methoxychlor	B22-Se0029133	CP	%	95			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Azinphos-methyl	B22-Se0029133	CP	%	94			70-130	Pass	
Bolstar	B22-Se0029133	CP	%	80			70-130	Pass	
Chlorfenvinphos	B22-Se0029133	CP	%	82			70-130	Pass	
Chlorpyrifos	B22-Se0029133	CP	%	103			70-130	Pass	
Chlorpyrifos-methyl	B22-Se0029133	CP	%	91			70-130	Pass	
Coumaphos	B22-Se0029133	CP	%	95			70-130	Pass	
Demeton-S	B22-Se0029133	CP	%	75			70-130	Pass	
Demeton-O	B22-Se0029133	CP	%	80			70-130	Pass	
Diazinon	B22-Se0029133	CP	%	84			70-130	Pass	
Dichlorvos	B22-Se0029133	CP	%	88			70-130	Pass	
Dimethoate	B22-Se0029133	CP	%	83			70-130	Pass	
Disulfoton	B22-Se0029133	CP	%	92			70-130	Pass	
EPN	B22-Se0029133	CP	%	90			70-130	Pass	
Ethion	B22-Se0029133	CP	%	92			70-130	Pass	
Ethoprop	B22-Se0029133	CP	%	85			70-130	Pass	
Ethyl parathion	B22-Se0029133	CP	%	75			70-130	Pass	
Fenitrothion	B22-Se0029133	CP	%	93			70-130	Pass	
Fensulfothion	B22-Se0029133	CP	%	83			70-130	Pass	
Fenthion	B22-Se0029133	CP	%	91			70-130	Pass	
Malathion	B22-Se0029133	CP	%	94			70-130	Pass	
Methyl parathion	B22-Se0029133	CP	%	92			70-130	Pass	
Mevinphos	B22-Se0029133	CP	%	89			70-130	Pass	
Monocrotophos	B22-Se0029133	CP	%	111			70-130	Pass	
Phorate	B22-Se0029133	CP	%	79			70-130	Pass	
Pirimiphos-methyl	B22-Se0029133	CP	%	86			70-130	Pass	
Pyrazophos	B22-Se0029133	CP	%	90			70-130	Pass	
Ronnel	B22-Se0029133	CP	%	92			70-130	Pass	
Terbufos	B22-Se0029133	CP	%	95			70-130	Pass	
Tetrachlorvinphos	B22-Se0029133	CP	%	83			70-130	Pass	
Tokuthion	B22-Se0029133	CP	%	79			70-130	Pass	
Trichloronate	B22-Se0029133	CP	%	89			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	B22-Se0029133	CP	%	83			30-130	Pass	
2.4-Dichlorophenol	B22-Se0029133	CP	%	86			30-130	Pass	
2.4.5-Trichlorophenol	B22-Se0029133	CP	%	76			30-130	Pass	
2.4.6-Trichlorophenol	B22-Se0029133	CP	%	108			30-130	Pass	
2.6-Dichlorophenol	B22-Se0029133	CP	%	82			30-130	Pass	
4-Chloro-3-methylphenol	B22-Se0029133	CP	%	80			30-130	Pass	
Tetrachlorophenols - Total	B22-Se0029133	CP	%	74			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	B22-Se0029133	CP	%	83			30-130	Pass	
2-Methyl-4.6-dinitrophenol	B22-Se0029133	CP	%	75			30-130	Pass	
2-Nitrophenol	B22-Se0029133	CP	%	87			30-130	Pass	
2.4-Dinitrophenol	B22-Se0029133	CP	%	92			30-130	Pass	
2-Methylphenol (o-Cresol)	B22-Se0029133	CP	%	73			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	B22-Se0029133	CP	%	72			30-130	Pass	
4-Nitrophenol	B22-Se0029133	CP	%	82			30-130	Pass	
Dinoseb	B22-Se0029133	CP	%	83			30-130	Pass	
Phenol	B22-Se0029133	CP	%	79			30-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	B22-Se0029133	CP	%	96			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Cadmium	B22-Se0029136	CP	%	114			75-125	Pass	
Chromium	B22-Se0029136	CP	%	122			75-125	Pass	
Copper	B22-Se0029136	CP	%	120			75-125	Pass	
Mercury	B22-Se0029136	CP	%	112			75-125	Pass	
Nickel	B22-Se0029136	CP	%	120			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	B22-Se0029147	CP	%	99			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B22-Se0029147	CP	%	75			70-130	Pass	
Toluene	B22-Se0029147	CP	%	78			70-130	Pass	
Ethylbenzene	B22-Se0029147	CP	%	78			70-130	Pass	
m&p-Xylenes	B22-Se0029147	CP	%	82			70-130	Pass	
o-Xylene	B22-Se0029147	CP	%	80			70-130	Pass	
Xylenes - Total*	B22-Se0029147	CP	%	81			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	B22-Se0029147	CP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	B22-Se0029150	CP	%	99			70-130	Pass	
TRH C10-C14	B22-Se0029150	CP	%	103			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B22-Se0029150	CP	%	90			70-130	Pass	
Toluene	B22-Se0029150	CP	%	90			70-130	Pass	
Ethylbenzene	B22-Se0029150	CP	%	92			70-130	Pass	
m&p-Xylenes	B22-Se0029150	CP	%	97			70-130	Pass	
o-Xylene	B22-Se0029150	CP	%	96			70-130	Pass	
Xylenes - Total*	B22-Se0029150	CP	%	97			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	B22-Se0029150	CP	%	96			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	B22-Se0029150	CP	%	108			70-130	Pass	
Acenaphthylene	B22-Se0029150	CP	%	107			70-130	Pass	
Anthracene	B22-Se0029150	CP	%	125			70-130	Pass	
Benz(a)anthracene	B22-Se0029150	CP	%	95			70-130	Pass	
Benzo(a)pyrene	B22-Se0029150	CP	%	99			70-130	Pass	
Benzo(b&j)fluoranthene	B22-Se0029150	CP	%	94			70-130	Pass	
Benzo(g.h.i)perylene	B22-Se0029150	CP	%	94			70-130	Pass	
Benzo(k)fluoranthene	B22-Se0029150	CP	%	125			70-130	Pass	
Chrysene	B22-Se0029150	CP	%	115			70-130	Pass	
Dibenz(a.h)anthracene	B22-Se0029150	CP	%	90			70-130	Pass	
Fluoranthene	B22-Se0029150	CP	%	105			70-130	Pass	
Fluorene	B22-Se0029150	CP	%	113			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B22-Se0029150	CP	%	89			70-130	Pass	
Naphthalene	B22-Se0029150	CP	%	102			70-130	Pass	
Phenanthrene	B22-Se0029150	CP	%	113			70-130	Pass	
Pyrene	B22-Se0029150	CP	%	111			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	B22-Se0029150	CP	%	103			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Total Organic Carbon	S22-Se0030718	NCP	%	1.0	1.0	2.8	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	B22-Se0029135	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	B22-Se0029135	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	B22-Se0029135	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	B22-Se0029135	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B22-Se0029135	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	B22-Se0029135	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	B22-Se0029135	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	B22-Se0029135	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	B22-Se0029135	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	B22-Se0029135	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B22-Se0029135	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endosulfan I	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	B22-Se0029135	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	B22-Se0029135	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	B22-Se0029135	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	B22-Se0029135	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	B22-Se0029135	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	B22-Se0029135	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
4-Chloro-3-methylphenol	B22-Se0029135	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	B22-Se0029135	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	B22-Se0029135	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	B22-Se0029135	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	B22-Se0029135	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	B22-Se0029135	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	B22-Se0029135	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	B22-Se0029135	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	B22-Se0029135	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	B22-Se0029135	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	B22-Se0029135	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	B22-Se0029135	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	B22-Se0029135	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	B22-Se0029135	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	B22-Se0029135	CP	mg/kg	2.0	2.1	6.1	30%	Pass	
Cadmium	B22-Se0029135	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chromium	B22-Se0029135	CP	mg/kg	13	13	<1	30%	Pass	
Copper	B22-Se0029135	CP	mg/kg	17	18	9.3	30%	Pass	
Lead	B22-Se0029135	CP	mg/kg	11	12	5.7	30%	Pass	
Mercury	B22-Se0029135	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	B22-Se0029135	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	B22-Se0029135	CP	mg/kg	61	73	17	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Clay	M22-Se0018404	NCP	%	11	11	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	B22-Se0029144	CP	%	24	24	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	B22-Se0029146	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	B22-Se0029146	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	B22-Se0029146	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	B22-Se0029146	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B22-Se0029146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	B22-Se0029146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	B22-Se0029146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	B22-Se0029146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	B22-Se0029146	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	B22-Se0029146	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B22-Se0029146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	B22-Se0029146	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	B22-Se0029146	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Ethoprop	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	B22-Se0029146	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	B22-Se0029146	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	B22-Se0029146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	B22-Se0029146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	B22-Se0029146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	B22-Se0029146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	B22-Se0029146	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	B22-Se0029146	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	B22-Se0029146	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	B22-Se0029146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	B22-Se0029146	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	B22-Se0029146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	B22-Se0029146	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	B22-Se0029146	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	B22-Se0029146	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	B22-Se0029146	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	B22-Se0029146	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	B22-Se0029146	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	B22-Se0029146	CP	mg/kg	2.6	3.0	13	30%	Pass	
Cadmium	B22-Se0029146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chromium	B22-Se0029146	CP	mg/kg	< 5	5.3	16	30%	Pass	
Copper	B22-Se0029146	CP	mg/kg	32	32	1.4	30%	Pass	
Lead	B22-Se0029146	CP	mg/kg	< 5	< 5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	B22-Se0029146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	B22-Se0029146	CP	mg/kg	10.0	8.8	12	30%	Pass	
Zinc	B22-Se0029146	CP	mg/kg	120	130	8.5	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	B22-Se0029149	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	B22-Se0029149	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	B22-Se0029149	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	B22-Se0029149	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B22-Se0029149	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	B22-Se0029149	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	B22-Se0029149	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	B22-Se0029149	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	B22-Se0029149	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	B22-Se0029149	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B22-Se0029149	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endrin aldehyde	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	B22-Se0029149	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	B22-Se0029149	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	B22-Se0029149	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	B22-Se0029149	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	B22-Se0029149	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	B22-Se0029149	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	B22-Se0029149	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	B22-Se0029149	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	B22-Se0029149	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	B22-Se0029149	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	B22-Se0029149	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	B22-Se0029149	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	B22-Se0029149	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	B22-Se0029149	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	B22-Se0029149	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	B22-Se0029149	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	B22-Se0029149	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	B22-Se0029149	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	B22-Se0029149	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	B22-Se0029149	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	B22-Se0029149	CP	mg/kg	6.1	5.7	7.0	30%	Pass	
Cadmium	B22-Se0029149	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chromium	B22-Se0029149	CP	mg/kg	20	19	3.0	30%	Pass	
Copper	B22-Se0029149	CP	mg/kg	8.3	8.0	3.1	30%	Pass	
Lead	B22-Se0029149	CP	mg/kg	16	14	7.0	30%	Pass	
Mercury	B22-Se0029149	CP	mg/kg	0.1	0.1	8.0	30%	Pass	
Nickel	B22-Se0029149	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	B22-Se0029149	CP	mg/kg	97	95	2.3	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	B22-Se0029149	CP	%	24	24	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	B22-Se0029151	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	B22-Se0029151	CP	mg/kg	< 200	< 200	<1	30%	Pass	
TRH C15-C28	B22-Se0029151	CP	mg/kg	< 500	< 500	<1	30%	Pass	
TRH C29-C36	B22-Se0029151	CP	mg/kg	< 500	< 500	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B22-Se0029151	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	B22-Se0029151	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	B22-Se0029151	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	B22-Se0029151	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	B22-Se0029151	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	B22-Se0029151	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	B22-Se0029151	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(g.h.i)perylene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	B22-Se0029151	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	B22-Se0029151	CP	mg/kg	< 500	< 500	<1	30%	Pass	
TRH >C16-C34	B22-Se0029151	CP	mg/kg	< 1000	< 1000	<1	30%	Pass	
TRH >C34-C40	B22-Se0029151	CP	mg/kg	< 1000	< 1000	<1	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
G01	The LORs have been raised due to matrix interference
I12	Where sampling date has not been provided, Eurofins | Environment Testing is not able to determine whether analysis has been performed within recommended holding times.
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Zoe Flynn	Analytical Services Manager
Scott Beddoes	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Inorganic
Jonathon Angell	Senior Analyst-Organic
Jonathon Angell	Senior Analyst-Inorganic
Jonathon Angell	Senior Analyst-Volatile
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-Metal



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.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Douglas Partners Pty Ltd
439 Montague Road
West End
QLD 4101

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Dawit Bekele**

Report **923154-W**
Project name 216829.00.
Project ID 216829.00.
Received Date Sep 14, 2022

Client Sample ID			**TRIP SPIKE**
Sample Matrix			**Trip Spike (liquid)**
Eurofins Sample No.			**B22-Se0029153**
Date Sampled			**Not Provided**[I12]
Test/Reference	LOR	Unit	
Naphthalene	1	%	88
TRH C6-C10	1	%	66
TRH C6-C9	1	%	64
BTEX			
Benzene	1	%	98
Ethylbenzene	1	%	99
m&p-Xylenes	1	%	100
o-Xylene	1	%	100
Toluene	1	%	100
Xylenes - Total	1	%	100
4-Bromofluorobenzene (surr.)	1	%	99

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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

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NATA# 1261 Site# 1254

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NATA# 1261 Site# 1254

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Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101

Project Name: 216829.00.
Project ID: 216829.00.

Order No.: 216829.00.
Report #: 923154
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Sep 14, 2022 10:15 AM
Due: Sep 15, 2022
Priority: 1 Day
Contact Name: Dawit Bekele

Eurofins Analytical Services Manager : Peter Brand

Sample Detail						HOLD	Suite B14: OCP/OPP	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	1 / 0.1	Sep 12, 2022		Soil	B22-Se0029125		X	X			X		
2	2 / 0.3	Sep 12, 2022		Soil	B22-Se0029126		X	X			X		
3	3 / 0.1	Sep 12, 2022		Soil	B22-Se0029127		X	X			X		
4	3 / 1.0	Sep 12, 2022		Soil	B22-Se0029128			X	X				
5	5 / 0.1	Sep 12, 2022		Soil	B22-Se0029129		X	X			X		
6	6 / 0.2	Sep 12, 2022		Soil	B22-Se0029130		X	X			X		
7	7 / 0.1	Sep 12, 2022		Soil	B22-Se0029131		X	X			X		
8	8 / 0.1	Sep 12, 2022		Soil	B22-Se0029132		X	X			X		
9	9 / 0.1	Sep 12, 2022		Soil	B22-Se0029133		X	X			X		
10	10 / 0.1	Sep 12, 2022		Soil	B22-Se0029134		X	X			X		
11	11 / 0.1	Sep 12, 2022		Soil	B22-Se0029135		X	X			X		
12	12 / 0.1	Sep 12, 2022		Soil	B22-Se0029136		X	X			X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
13	12 / 0.6	Sep 12, 2022		Soil	B22-Se0029137			X	X				
14	13 / 0.5	Sep 12, 2022		Soil	B22-Se0029138		X	X			X		
15	14 / 0.1	Sep 12, 2022		Soil	B22-Se0029139		X	X			X		
16	15 / 0.1	Sep 12, 2022		Soil	B22-Se0029140		X	X			X		
17	16 / 0.1	Sep 12, 2022		Soil	B22-Se0029141		X	X			X		
18	17 / 0.1	Sep 12, 2022		Soil	B22-Se0029142		X	X			X		
19	18 / 0.4	Sep 12, 2022		Soil	B22-Se0029143		X	X			X		
20	19 / 0.1	Sep 12, 2022		Soil	B22-Se0029144		X	X			X		
21	20 / 0.1	Sep 12, 2022		Soil	B22-Se0029145		X	X			X		
22	21 / 0.1	Sep 12, 2022		Soil	B22-Se0029146		X	X			X		
23	22 / 0.1	Sep 13, 2022		Soil	B22-Se0029147		X	X			X		
24	22 / 0.2	Sep 13, 2022		Soil	B22-Se0029148		X	X			X		
25	23 / 0.1	Sep 13, 2022		Soil	B22-Se0029149		X	X			X		
26	R1	Sep 12, 2022		Soil	B22-Se0029150			X		X			
27	R4	Sep 13, 2022		Soil	B22-Se0029151			X		X			

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
28	TRIP BLANK	Not Provided		Trip Blank (solid)	B22-Se0029152							X	
29	TRIP SPIKE	Not Provided		Trip Spike (liquid)	B22-Se0029153								X
30	1 / 0.5	Sep 12, 2022		Soil	B22-Se0029154	X							
31	2 / 0.1	Sep 12, 2022		Soil	B22-Se0029155	X							
32	2 / 0.6	Sep 12, 2022		Soil	B22-Se0029156	X							
33	3 / 0.5	Sep 12, 2022		Soil	B22-Se0029157	X							
34	4 / 0.1	Sep 12, 2022		Soil	B22-Se0029158	X							
35	6 / 0.1	Sep 12, 2022		Soil	B22-Se0029159	X							
36	8 / 0.3	Sep 12, 2022		Soil	B22-Se0029160	X							
37	9 / 0.4	Sep 12, 2022		Soil	B22-Se0029161	X							
38	10 / 0.3	Sep 12, 2022		Soil	B22-Se0029162	X							
39	10 / 0.5	Sep 12, 2022		Soil	B22-Se0029163	X							
40	11 / 0.3	Sep 12, 2022		Soil	B22-Se0029164	X							

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Sample Detail						HOLD	Suite B14: OCP/OPP	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7	Eurofins Suite B7A	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X	X
41	12 / 0.3	Sep 12, 2022		Soil	B22-Se0029165	X							
42	13 / 0.1	Sep 12, 2022		Soil	B22-Se0029166	X							
43	13 / 1.0	Sep 12, 2022		Soil	B22-Se0029167	X							
44	14 / 0.5	Sep 12, 2022		Soil	B22-Se0029168	X							
45	14 / 1.0	Sep 12, 2022		Soil	B22-Se0029169	X							
46	17 / 0.5	Sep 12, 2022		Soil	B22-Se0029170	X							
47	17 / 1.0	Sep 12, 2022		Soil	B22-Se0029171	X							
48	18 / 0.1	Sep 12, 2022		Soil	B22-Se0029172	X							
49	23 / 0.4	Sep 13, 2022		Soil	B22-Se0029173	X							
50	23 / 1.0	Sep 13, 2022		Soil	B22-Se0029174	X							
51	R2	Sep 12, 2022		Soil	B22-Se0029175	X							
52	R3	Sep 12, 2022		Soil	B22-Se0029176	X							
53	R4	Sep 12, 2022		Soil	B22-Se0029244	X							
54	S4	Sep 12, 2022		Soil	B22-Se0029245	X							
Test Counts						25	23	27	2	2	23	1	1

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.

Units

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

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
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.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

.

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. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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
I12	Where sampling date has not been provided, Eurofins | Environment Testing is not able to determine whether analysis has been performed within recommended holding times.

Authorised by:

Zoe Flynn	Analytical Services Manager
Jonathon Angell	Senior Analyst-Volatile



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.

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CHAIN OF CUSTODY RECORD

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Company	Douglas Partners	**Project №**	216829.00.	**Project Manager**	Dawit Bekele
Address	439 Montague Road West End	**Project Name**	216829.00.	**EDD Format** ESdat, EQuIS etc	Esdat
Contact Name	Dawit Bekele				
Phone №	07 3237 8900				
Special Directions					
Purchase Order	216829.00.				
Quote ID №					

Sampler(s)	Jesse Wotton
Handed over by	Courier
Email for Invoice	Brisbane@douglaspartners.com.au
Email for Results	Dawit.Bekele@douglaspartners.com.au and Jesse.Wotton@douglaspartners.com.au

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

Containers Change container type & size if necessary

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

♦Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☑ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Suite M8	Suite B14	Suite B19E	TRHC6-C10/BTEX	500mL 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	SW1	13/09/22	W	X	X	X		1			1	2			2	
2	SW2	13/09/22	W	X	X	X		1			1	2			2	
3	SW3	13/09/22	W	X	X	X		1			1	2			2	
4	SW4	13/09/22	W	X	X	X		1			1	2			2	
5	SW5	13/09/22	W	X	X	X		1			1	2			2	
6	SW6	13/09/22	W	X	X	X		1			1	2			2	
7	SW7	13/09/22	W	X	X	X		1			1	2			2	
8	WR1	13/09/22	W					1			1	2			2	
9	Trip Blank	13/09/22	W									1				
10																
		Total Counts		7	7	7		8			8	17			16	

Date/Time 14/9/22 10:15am
Chilled: Yes
Temp: 3.0 0.2 2.8
Correction: Final Temp:

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	J.Wotton	Signature		Date	14.09.2022	Time	
Eurofins | mgt Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	923181

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.

eurofins | Environment Testing

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Eurofins Environment Testing Australia Pty Ltd

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Christchurch 7675
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IANZ# 1290

Sample Receipt Advice

Company name:	Douglas Partners (Qld) Pty Ltd
Contact name:	Dawit Bekele
Project name:	216829.00.
Project ID:	216829.00.
Turnaround time:	1 Day
Date/Time received	Sep 14, 2022 10:15 AM
Eurofins reference	923181

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

SW3 has now been received and analysis has been added.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Peter Brand on phone : 0436 360 123 or by email: PeterBrand@eurofins.com

Results will be delivered electronically via email to Dawit Bekele - Dawit.Bekele@douglaspartners.com.au.

Note: A copy of these results will also be delivered to the general Douglas Partners (Qld) Pty Ltd email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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Tel: 0800 856 450
IANZ# 1290

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101

Project Name: 216829.00.
Project ID: 216829.00.

Order No.: 216829.00.
Report #: 923181
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Sep 14, 2022 10:15 AM
Due: Sep 15, 2022
Priority: 1 Day
Contact Name: Dawit Bekele

Eurofins Analytical Services Manager : Peter Brand

Sample Detail						HOLD	Metals M8 filtered	Suite B14: OCP/OPP	Eurofins Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P
Melbourne Laboratory - NATA # 1261 Site # 1254							X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X		
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	SW1	Sep 13, 2022		Water	B22-Se0029308		X	X	X
2	SW2	Sep 13, 2022		Water	B22-Se0029309		X	X	X
3	SW4	Sep 13, 2022		Water	B22-Se0029310		X	X	X
4	SW5	Sep 13, 2022		Water	B22-Se0029311		X	X	X
5	SW6	Sep 13, 2022		Water	B22-Se0029312		X	X	X
6	SW7	Sep 13, 2022		Water	B22-Se0029313		X	X	X
7	WR1	Sep 13, 2022		Water	B22-Se0029314	X			
8	TRIP BLANK	Sep 13, 2022		Water	B22-Se0029315	X			
9	SW3	Sep 13, 2022		Water	B22-Se0030786		X	X	X
Test Counts						2	7	7	7

Douglas Partners Pty Ltd
439 Montague Road
West End
QLD 4101

Attention: **Dawit Bekele**

Report **923181-W**
Project name 216829.00.
Project ID 216829.00.
Received Date Sep 14, 2022

Client Sample ID			**SW1**	**SW2**	**SW4**	**SW5**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**B22-Se0029308**	**B22-Se0029309**	**B22-Se0029310**	**B22-Se0029311**
Date Sampled			**Sep 13, 2022**	**Sep 13, 2022**	**Sep 13, 2022**	**Sep 13, 2022**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4.4'-DDD	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4.4'-DDE	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4.4'-DDT	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
a-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
b-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
d-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Toxaphene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dibutylchlorendate (surr.)	1	%	76	101	71	121
Tetrachloro-m-xylene (surr.)	1	%	89	61	57	88
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Chlorpyrifos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-S	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002

Client Sample ID			SW1	SW2	SW4	SW5
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B22-Se0029308	B22-Se0029309	B22-Se0029310	B22-Se0029311
Date Sampled			Sep 13, 2022	Sep 13, 2022	Sep 13, 2022	Sep 13, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Omethoate	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	119	55	112	135
Ammonia (as N)	0.01	mg/L	< 0.01	< 0.01	< 0.01	0.01
Nitrate & Nitrite (as N)	0.05	mg/L	< 0.05	< 0.05	0.21	0.32
Nitrate (as N)	0.02	mg/L	< 0.02	< 0.02	0.21	0.32
Nitrite (as N)	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Phosphate total (as P)	0.01	mg/L				
Phosphorus reactive (as P)	0.01	mg/L	0.01	< 0.01	< 0.01	< 0.01
Total Kjeldahl Nitrogen (as N)	0.2	mg/L	2.9	0.4	0.2	0.2
Total Nitrogen (as N)*	0.2	mg/L	2.9	0.4	0.41	0.52
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.005	0.003	< 0.001	0.003
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005	0.012

Client Sample ID			SW6	SW7	SW3
Sample Matrix			Water	Water	Water
Eurofins Sample No.			B22-Se0029312	B22-Se0029313	B22-Se0030786
Date Sampled			Sep 13, 2022	Sep 13, 2022	Sep 13, 2022
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Chlordanes - Total	0.002	mg/L	< 0.002	< 0.002	< 0.002
4.4'-DDD	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
4.4'-DDE	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
4.4'-DDT	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
a-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
b-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
d-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Endrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Toxaphene	0.005	mg/L	< 0.005	< 0.005	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002
Dibutylchlorendate (surr.)	1	%	104	138	94
Tetrachloro-m-xylene (surr.)	1	%	103	65	126
Organophosphorus Pesticides					
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.02	mg/L	< 0.02	< 0.02	< 0.02
Chlorpyrifos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02
Demeton-S	0.002	mg/L	< 0.002	< 0.002	< 0.002
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002

Client Sample ID			SW6	SW7	SW3
Sample Matrix			Water	Water	Water
Eurofins Sample No.			B22-Se0029312	B22-Se0029313	B22-Se0030786
Date Sampled			Sep 13, 2022	Sep 13, 2022	Sep 13, 2022
Test/Reference	LOR	Unit			
Organophosphorus Pesticides					
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002
Omethoate	0.02	mg/L	< 0.02	< 0.02	< 0.02
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	62	131	131
Ammonia (as N)	0.01	mg/L	< 0.01	0.02	< 0.01
Nitrate & Nitrite (as N)	0.05	mg/L	< 0.05	0.30	0.10
Nitrate (as N)	0.02	mg/L	< 0.02	0.28	0.09
Nitrite (as N)	0.02	mg/L	< 0.02	0.02	< 0.02
Phosphate total (as P)	0.01	mg/L			
Phosphorus reactive (as P)	0.01	mg/L	0.01	< 0.01	0.01
Total Kjeldahl Nitrogen (as N)	0.2	mg/L	0.4	0.5	0.5
Total Nitrogen (as N)*	0.2	mg/L	0.4	0.8	0.6
Heavy Metals					
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	0.005	0.002
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005

DRAFT

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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
Suite B14: OCP/OPP			
Organochlorine Pesticides	Melbourne	Sep 15, 2022	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Organophosphorus Pesticides	Melbourne	Sep 15, 2022	7 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8270)			
Eurofins Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P			
Ammonia (as N)	Melbourne	Sep 15, 2022	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate & Nitrite (as N)	Melbourne	Sep 15, 2022	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Nitrate (as N)	Melbourne	Sep 15, 2022	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Nitrite (as N)	Melbourne	Sep 15, 2022	2 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Phosphate total (as P)	Melbourne	Sep 15, 2022	28 Days
- Method: LTM-INO-4040 Phosphate by CFA			
Phosphorus reactive (as P)	Melbourne	Sep 15, 2022	2 Days
- Method: APHA 4500-P			
Total Kjeldahl Nitrogen (as N)	Melbourne	Sep 15, 2022	28 Days
- Method: APHA 4500-Norg B,D Total Kjeldahl Nitrogen by FIA			
Metals M8 filtered	Brisbane	Sep 14, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101

Project Name: 216829.00.
Project ID: 216829.00.

Order No.: 216829.00.
Report #: 923181
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Sep 14, 2022 10:15 AM
Due: Sep 15, 2022
Priority: 1 Day
Contact Name: Dawit Bekele

Eurofins Analytical Services Manager : Peter Brand

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Sample Detail						HOLD	Metals M8 filtered	Suite B14: OCP/OPP	Eurofins Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P
Melbourne Laboratory - NATA # 1261 Site # 1254							X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X		
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	SW1	Sep 13, 2022		Water	B22-Se0029308		X	X	X
2	SW2	Sep 13, 2022		Water	B22-Se0029309		X	X	X
3	SW4	Sep 13, 2022		Water	B22-Se0029310		X	X	X
4	SW5	Sep 13, 2022		Water	B22-Se0029311		X	X	X
5	SW6	Sep 13, 2022		Water	B22-Se0029312		X	X	X
6	SW7	Sep 13, 2022		Water	B22-Se0029313		X	X	X
7	WR1	Sep 13, 2022		Water	B22-Se0029314	X			
8	TRIP BLANK	Sep 13, 2022		Water	B22-Se0029315	X			
9	SW3	Sep 13, 2022		Water	B22-Se0030786		X	X	X
Test Counts						2	7	7	7

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.

Units

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

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
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.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

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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. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Nitrate & Nitrite (as N)	mg/L	< 0.05			0.05	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Nitrite (as N)	mg/L	< 0.02			0.02	Pass	
Phosphorus reactive (as P)	mg/L	< 0.01			0.01	Pass	
Total Kjeldahl Nitrogen (as N)	mg/L	< 0.2			0.2	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Ammonia (as N)	%	95			70-130	Pass	
Nitrate & Nitrite (as N)	%	86			70-130	Pass	
Nitrate (as N)	%	86			70-130	Pass	
Nitrite (as N)	%	102			70-130	Pass	
Phosphorus reactive (as P)	%	72			70-130	Pass	
Total Kjeldahl Nitrogen (as N)	%	111			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	100			80-120	Pass	
Cadmium (filtered)	%	101			80-120	Pass	
Chromium (filtered)	%	104			80-120	Pass	
Copper (filtered)	%	106			80-120	Pass	
Lead (filtered)	%	99			80-120	Pass	
Mercury (filtered)	%	115			80-120	Pass	
Nickel (filtered)	%	105			80-120	Pass	
Zinc (filtered)	%	98			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M22-Se0032455	NCP	%	86			70-130	Pass	
Nitrate & Nitrite (as N)	M22-Se0032455	NCP	%	79			70-130	Pass	
Total Kjeldahl Nitrogen (as N)	M22-Se0032455	NCP	%	102			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	B22-Se0029312	CP	%	94			75-125	Pass	
Cadmium (filtered)	B22-Se0029312	CP	%	103			75-125	Pass	
Chromium (filtered)	B22-Se0029312	CP	%	108			75-125	Pass	
Copper (filtered)	B22-Se0029312	CP	%	107			75-125	Pass	
Lead (filtered)	B22-Se0029312	CP	%	97			75-125	Pass	
Mercury (filtered)	B22-Se0029312	CP	%	101			75-125	Pass	
Nickel (filtered)	B22-Se0029312	CP	%	107			75-125	Pass	
Zinc (filtered)	B22-Se0029312	CP	%	101			75-125	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M22-Se0031463	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Nitrate & Nitrite (as N)	M22-Se0031463	NCP	mg/L	0.64	0.65	<1	30%	Pass	
Nitrate (as N)	M22-Se0031463	NCP	mg/L	0.64	0.64	<1	30%	Pass	
Nitrite (as N)	M22-Se0031463	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	B22-Se0015283	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	B22-Se0020506	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	B22-Se0015283	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	B22-Se0015283	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Copper (filtered)	B22-Se0029313	CP	mg/L	0.005	0.005	<1	30%	Pass	
Lead (filtered)	B22-Se0029313	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Nickel (filtered)	B22-Se0029313	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	B22-Se0029313	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4.4'-DDD	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDE	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDT	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
a-HCH	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-HCH	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-HCH	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin aldehyde	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin ketone	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
g-HCH (Lindane)	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor epoxide	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Hexachlorobenzene	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Methoxychlor	B22-Se0030786	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Toxaphene	B22-Se0030786	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Bolstar	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorfenvinphos	B22-Se0030786	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Chlorpyrifos	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorpyrifos-methyl	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Coumaphos	B22-Se0030786	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-S	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Demeton-O	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Diazinon	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dichlorvos	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dimethoate	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Disulfoton	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
EPN	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethion	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethoprop	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethyl parathion	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenitrothion	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fensulfothion	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenthion	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Malathion	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Merphos	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Methyl parathion	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Mevinphos	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Monocrotophos	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Naled	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Omethoate	B22-Se0030786	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Phorate	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Pirimiphos-methyl	B22-Se0030786	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Pyrazophos	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ronnel	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Terbufos	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tetrachlorvinphos	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tokuthion	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Trichloronate	B22-Se0030786	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Kjeldahl Nitrogen (as N)	B22-Se0030786	CP	mg/L	0.5	0.5	6.4	30%	Pass	

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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

Authorised by:

Jonathon Angell	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Inorganic

Glenn Jackson
General Manager

- 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.

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CHAIN OF CUSTODY

ALS Laboratory: **please tick** →

☐ **Sydney**: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E:samples.sydney@alsenviro.com
☐ **Newcastle**: 5 Rosegum Rd, Warabrook NSW 2304 Ph:02 4968 9433 E:samples.newcastle@alsenviro.com
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☐ **Townsville**: 14-15 Desma Ct, Bohle QLD 4818 Ph:07 4796 0600 E: townsville.environmental@alsenviro.com
☐ **Melbourne**: 2-4 Westall Rd, Springvale VIC 3171 Ph:03 8549 9600 E: samples.melbourne@alsenviro.com
☐ **Adelaide**: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E:adelaide@alsenviro.com
☐ **Perth**: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ **Launceston**: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

CLIENT:	Douglas Partners Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☒ Standard TAT **(List due date):** ☐ Non Standard or urgent TAT **(List due date):**
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	216829.00.	**ALS QUOTE NO.:**	EN / 222 / 18
ORDER NUMBER:			
PROJECT MANAGER:	Dawit Bekele	CONTACT PH:	(07) 3237 8900
SAMPLER:	Jesse Wotton	**SAMPLER MOBILE:**	0437 251 041
COC emailed to ALS? (YES / NO)		**EDD FORMAT (or default):**	
Email Reports to (will default to PM if no other addresses are listed):	Dawit.Bekele@douglaspartners.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	brisbane@douglaspartners.com.au		

COC SEQUENCE NUMBER (Circle)

COC: (1) 2 3 4 5 6 7

OF: (1) 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Freeze / Ice on Ice packs present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt		°C	
Other Comment:			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
J.Wotton	SP		
DATE/TIME: 14/09/2022	DATE/TIME: 14/9/22 1243	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	Suite S-26								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	S1	12/09/2022	S	Jar	1	X								
	S2	12/09/2022	S	Jar	1									
	S3	12/09/2022	S	Jar	1									
	S4	13/09/2022	S	Jar	1									

Environmental Division
Brisbane
Work Order Reference
EB2227129
Telephone - +61-7-3243 7222

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EB2227129**	Page	: 1 of 6
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: DAWIT BEKELE	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 216829.00.	Date Samples Received	: 14-Sep-2022 12:43
Order number	: ----	Date Analysis Commenced	: 14-Sep-2022
C-O-C number	: ----	Issue Date	: 20-Sep-2022 18:25
Sampler	: JESSE WOTTON		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 4		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Morgan Lennox	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T (Total Metals by ICP-AES): EB2227095-014 shows poor duplicate results due to sample heterogeneity. This has been confirmed by visual inspection.
- EG005T (Total Metals by ICP-AES): EB2226990-001 shows poor duplicate results due to sample heterogeneity. This has been confirmed by visual inspection.
- EP071 Semivolatile TPH: Sample 'EB2227095_004' shows poor matrix spike recovery due to sample heterogeneity. Confirmed by visual inspection.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	S1	----	----	----	----
			Sampling date / time	12-Sep-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2227129-001	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**41.8**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**13**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**7**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**10**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**5**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**30**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.2**	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	S1	----	----	----	----
				Sampling date / time	12-Sep-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2227129-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**113**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**105**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**87.7**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**94.1**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**108**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**76.4**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**62.2**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	S1	----	----	----	----
				Sampling date / time	12-Sep-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2227129-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**60.4**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	35	154
2-Chlorophenol-D4	93951-73-6	42	153
2.4.6-Tribromophenol	118-79-6	26	157
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	34	156
Anthracene-d10	1719-06-8	37	153
4-Terphenyl-d14	1718-51-0	42	172
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	53	134
Toluene-D8	2037-26-5	60	131
4-Bromofluorobenzene	460-00-4	59	127

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EB2227129**	Page	: 1 of 7
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: DAWIT BEKELE	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 216829.00.	Date Samples Received	: 14-Sep-2022
Order number	: ----	Date Analysis Commenced	: 14-Sep-2022
C-O-C number	: ----	Issue Date	: 20-Sep-2022
Sampler	: JESSE WOTTON		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 4		
No. of samples analysed	: 1		

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Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Morgan Lennox	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4580689)									
EB2227095-014	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	5	8	49.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	11	59.5	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	14	52.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	7	28.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	19	30	44.9	No Limit
EB2226990-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	19	76.9	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	9	67.6	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	20	47	80.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	6	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	35	# 72	69.3	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4580678)									
EB2226990-001	Anonymous	EA055: Moisture Content	----	0.1	%	28.6	27.9	2.4	0% - 20%
EB2227095-014	Anonymous	EA055: Moisture Content	----	0.1	%	36.5	35.7	2.2	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4580688)									
EB2227095-014	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EB2226990-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4580683)									
EB2227095-024	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4580683) - continued									
EB2227095-024	Anonymous	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EB2227056-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4580675)									
EB2227095-014	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EB2226990-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4580684)									
EB2227095-002	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4580684) - continued									
EB2227095-002	Anonymous	EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EB2227095-032	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4580675)									
EB2227095-014	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EB2226990-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4580684)									
EB2227095-002	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EB2227095-032	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 4580675)									
EB2227095-014	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EB2226990-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4580689)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	99.8648 mg/kg	85.0	84.0	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
EG005T: Chromium	7440-47-3	2	mg/kg	<2	15.2146 mg/kg	94.9	83.0	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	47.9207 mg/kg	95.6	86.0	122
EG005T: Lead	7439-92-1	5	mg/kg	<5	53.6027 mg/kg	110	84.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	13.348 mg/kg	90.7	81.5	118
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	86.1	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4580688)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	101	70.0	125
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4580683)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	100	72.6	133
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	110	63.2	144
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	108	66.0	132
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	112	76.2	134
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	106	71.8	137
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	88.0	77.1	143
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	105	74.1	140
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	106	72.0	139
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	108	58.0	145
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	107	63.0	147
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	112	70.5	142
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	101	75.5	138
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	103	68.5	140
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	110	58.4	143
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	52.1	149
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	109	64.6	140
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4580675)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	18 mg/kg	86.6	64.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4580684)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	310 mg/kg	105	79.4	125
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	490 mg/kg	104	78.8	122
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4580675)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4580675) - continued								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	22.5 mg/kg	85.4	58.1	124
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4580684)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	450 mg/kg	103	81.0	132
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	320 mg/kg	109	67.2	130
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080: BTEXN (QCLot: 4580675)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	97.4	68.0	107
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	100	69.0	108
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	91.2	68.0	109
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.2	70.0	114
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	94.9	74.0	116
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	109	74.0	109

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4580689)							
EB2226990-002	Anonymous	EG005T: Arsenic	7440-38-2	100 mg/kg	91.1	70.0	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	80.6	70.0	130
		EG005T: Chromium	7440-47-3	100 mg/kg	89.5	70.0	130
		EG005T: Copper	7440-50-8	100 mg/kg	106	70.0	130
		EG005T: Lead	7439-92-1	100 mg/kg	80.1	70.0	130
		EG005T: Nickel	7440-02-0	100 mg/kg	80.0	70.0	130
		EG005T: Zinc	7440-66-6	100 mg/kg	97.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4580688)							
EB2226990-002	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	88.2	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4580683)							
EB2227056-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	1.5 mg/kg	99.7	66.0	132
		EP075(SIM): Pyrene	129-00-0	1.5 mg/kg	112	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4580675)							
EB2226990-002	Anonymous	EP080: C6 - C9 Fraction	----	8 mg/kg	79.3	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4580684)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4580684) - continued							
EB2227095-004	Anonymous	EP071: C10 - C14 Fraction	----	310 mg/kg	# 69.8	70.0	130
		EP071: C15 - C28 Fraction	----	490 mg/kg	# 38.2	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4580675)							
EB2226990-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	8 mg/kg	78.1	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4580684)							
EB2227095-004	Anonymous	EP071: >C10 - C16 Fraction	----	450 mg/kg	# 69.7	70.0	130
		EP071: >C16 - C34 Fraction	----	320 mg/kg	# Not Determined	70.0	130
EP080: BTEXN (QCLot: 4580675)							
EB2226990-002	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	93.6	70.0	130
		EP080: Toluene	108-88-3	2 mg/kg	87.0	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2227129**	Page	: 1 of 5
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: DAWIT BEKELE	Telephone	: +61 7 3552 8634
Project	: 216829.00.	Date Samples Received	: 14-Sep-2022
Site	: ----	Issue Date	: 20-Sep-2022
Sampler	: JESSE WOTTON	No. of samples received	: 4
Order number	: ----	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EB2226990--001	Anonymous	**Zinc**	7440-66-6	69.3 %	0% - 50%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP080/071: Total Petroleum Hydrocarbons	EB2227095--004	Anonymous	**C10 - C14 Fraction**	----	69.8 %	70.0-130%	**Recovery less than lower data quality objective**
EP080/071: Total Petroleum Hydrocarbons	EB2227095--004	Anonymous	**C15 - C28 Fraction**	----	38.2 %	70.0-130%	**Recovery less than lower data quality objective**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EB2227095--004	Anonymous	**>C10 - C16 Fraction**	----	69.7 %	70.0-130%	**Recovery less than lower data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
S1	**12-Sep-2022**	**----**	----	----	**14-Sep-2022**	26-Sep-2022	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
S1	**12-Sep-2022**	**15-Sep-2022**	11-Mar-2023	✓	**15-Sep-2022**	11-Mar-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
S1	**12-Sep-2022**	**15-Sep-2022**	10-Oct-2022	✓	**16-Sep-2022**	10-Oct-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
S1	**12-Sep-2022**	**15-Sep-2022**	26-Sep-2022	✓	**15-Sep-2022**	25-Oct-2022	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071)							
S1	**12-Sep-2022**	**15-Sep-2022**	26-Sep-2022	✓	**15-Sep-2022**	25-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
S1	**12-Sep-2022**	**15-Sep-2022**	26-Sep-2022	✓	**16-Sep-2022**	26-Sep-2022	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP071)							
S1	**12-Sep-2022**	**15-Sep-2022**	26-Sep-2022	✓	**15-Sep-2022**	25-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
S1	**12-Sep-2022**	**15-Sep-2022**	26-Sep-2022	✓	**16-Sep-2022**	26-Sep-2022	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
S1	**12-Sep-2022**	**15-Sep-2022**	26-Sep-2022	✓	**16-Sep-2022**	26-Sep-2022	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Appendix I

Summary of Results

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Table 1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH

			Metals								TRH						BTEX				PAH		
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ
		PQL	2	0.5	5	5	5	0.1	5	5	20	50	20	50	100	100	0.1	0.1	0.1	0.1	0.5	0.5	0.5
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
1 / 0.1	0 - 0.1 m	12 Sep 2022	**5.1**	<0.5	**20**	**12**	**12**	<0.1	**10**	**85**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
2 / 0.3	0.2 - 0.3 m	12 Sep 2022	**4.5**	<0.5	**14**	**21**	**14**	**0.1**	**9**	**160**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
3 / 0.1	0 - 0.1 m	12 Sep 2022	**2.1**	<0.5	**5.3**	**9.4**	**8.2**	<0.1	<5	**56**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
5 / 0.1	0 - 0.1 m	12 Sep 2022	**2.2**	<0.5	**5.7**	**18**	**5.7**	<0.1	**6.5**	**91**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
6 / 0.2	0.1 - 0.2 m	12 Sep 2022	**2.4**	<0.5	**5.4**	**16**	**22**	<0.1	**5.8**	**100**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
7 / 0.1	0 - 0.1 m	12 Sep 2022	**3.8**	<0.5	**7.8**	**16**	**6**	<0.1	**7.6**	**42**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
8 / 0.1	0 - 0.1 m	12 Sep 2022	**5.1**	<0.5	**24**	**14**	**19**	**0.4**	<5	**77**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
9 / 0.1	0 - 0.1 m	12 Sep 2022	**7.2**	<0.5	**6**	**21**	**18**	<0.1	**9**	**71**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
10 / 0.1	0 - 0.1 m	12 Sep 2022	**6.5**	**0.6**	**27**	**38**	**95**	**0.4**	**11**	**450**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
11 / 0.1	0 - 0.1 m	12 Sep 2022	**2**	<0.5	**13**	**17**	**11**	<0.1	<5	**61**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
12 / 0.1	0 - 0.1 m	12 Sep 2022	**3.5**	<0.5	**41**	**23**	**42**	**0.3**	**8.8**	**220**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
R1	0 - 0.1 m	12 Sep 2022	**2.9**	<0.5	**32**	**15**	**20**	**0.2**	**7.1**	**77**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
S1	0 - 0.1 m	12-Sep-22 18:38	<5	<1	**13**	**7**	**10**	**0.2**	**5**	**30**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
13 / 0.5	0.4 - 0.5 m	12 Sep 2022	**4.6**	<0.5	**16**	**12**	**15**	<0.1	**7.1**	**140**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
14 / 0.1	0 - 0.1 m	12 Sep 2022	**5.8**	<0.5	**16**	**24**	**15**	**0.2**	**9.9**	**130**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
15 / 0.1	0 - 0.1 m	12 Sep 2022	**4.4**	<0.5	**6.4**	**23**	**11**	<0.1	**7.7**	**74**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
16 / 0.1	0 - 0.1 m	12 Sep 2022	**4.9**	<0.5	**5.6**	**24**	**9.5**	<0.1	**7.3**	**81**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
17 / 0.1	0 - 0.1 m	12 Sep 2022	**5.9**	<0.5	**42**	**17**	**21**	**0.1**	**9.1**	**85**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
18 / 0.4	0.3 - 0.4 m	12 Sep 2022	**4.4**	<0.5	**12**	**9.3**	**16**	<0.1	<5	**150**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
19 / 0.1	0 - 0.1 m	12 Sep 2022	**4.1**	<0.5	**13**	**15**	**8.2**	<0.1	**5.5**	**120**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
20 / 0.1	0 - 0.1 m	12 Sep 2022	**4.3**	<0.5	**8.7**	**20**	**9.6**	<0.1	**6.8**	**130**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
21 / 0.1	0 - 0.1 m	12 Sep 2022	**2.6**	<0.5	<5	**32**	<5	<0.1	**10**	**120**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
22 / 0.1	0 - 0.1 m	13 Sep 2022	**2**	<0.5	**5.6**	**13**	<5	<0.1	<5	**77**	<20	<1000	<20	<1000	<2000	<2000	<0.1	<0.1	<0.1	<0.1	<10	<10	<10
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
R4	0 - 0.1 m	13 Sep 2022	<2	<0.5	<5	**11**	<5	<0.1	<5	**66**	<20	<500	<20	<500	<1000	<1000	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
22 / 0.2	0.1 - 0.2 m	13 Sep 2022	**7.7**	<0.5	**14**	**46**	**16**	<0.1	**15**	**70**	<20	<1000	<20	<1000	<2000	<2000	<0.1	<0.1	<0.1	<0.1	<10	<10	<10
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
23 / 0.1	0 - 0.1 m	13 Sep 2022	**6.1**	<0.5	**20**	**8.3**	**16**	**0.1**	<5	**97**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 620	240000 150	1500 1800	730 -	6000 55	400000 370	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -

Lab result

HIL/HSL value EIL/ESL value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting AD = Asbestos detected NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Reported naphthalene laboratory result obtained from BTEXN suite

c Criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Commercial/ industrial D

HIL D	Commercial / Industrial (NEPC, 2013)
HSL D	Commercial / Industrial (vapour intrusion) (NEPC, 2013)
DC HSL D	Direct contact HSL D Commercial/Industrial (direct contact) (CRC CARE, 2011)
EIL/ESL C/Ind	Commercial and Industrial (NEPC, 2013)
ML C/Ind	Commercial and Industrial (NEPC, 2013)

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Table 2: Summary of Laboratory Results – OCP, OPP

			OCP										OPP
			DDD	DDT+DDE+DDD [c]	DDE	DDT	Aldrin & Dieldrin	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyriphos
		PQL	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
1 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
2 / 0.3	0.2 - 0.3 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
3 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
6 / 0.2	0.1 - 0.2 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
7 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
8 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
9 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
10 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
11 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
12 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
13 / 0.5	0.4 - 0.5 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
14 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
15 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
16 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
17 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
18 / 0.4	0.3 - 0.4 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
19 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
20 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
21 / 0.1	0 - 0.1 m	12 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
22 / 0.1	0 - 0.1 m	13 Sep 2022	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
22 / 0.2	0.1 - 0.2 m	13 Sep 2022	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
			- -	3600 640	- -	- 640	45 -	100 -	2000 -	50 -	80 -	2500 -	2000 -
23 / 0.1	0 - 0.1 m	13 Sep 2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2

[illegible]	[illegible]	[illegible]	-	-	3600	640	-	-	-	640	45	-	100	-	2000	-	50	-	80	-	2500	-	2000	-

Lab result

HIL/HSL value EIL/ESL value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting AD = Asbestos detected NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Reported naphthalene laboratory result obtained from BTEXN suite

c Criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Commercial/ industrial D

HIL D	Commercial / Industrial (NEPC, 2013)
HSL D	Commercial / Industrial (vapour intrusion) (NEPC, 2013)
DC HSL D	Direct contact HSL D Commercial/Industrial (direct contact) (CRC CARE, 2011)
EIL/ESL C/Ind	Commercial and Industrial (NEPC, 2013)
ML C/Ind	Commercial and Industrial (NEPC, 2013)

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Table 3: Summary of Field Parameters

Sample ID	Date Sampled	Parameters								
		pH		EC (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (%Sat)		Dissolved Oxygen (mg/L)	Redox (mV)	TDS (mg/L)
		Lower Limit	Upper Limit			Lower Limit	Upper Limit			
SW1	13/09/2022	8.5		116.4	4.4	114.4		10.48	93	82
SW2	13/09/2022	8.2		111.7	8.8	113.8		10.5	82	82
SW3	13/09/2022	4.6		108.7	19.5	39.4		3.84	194.6	84
SW4	13/09/2022	6.2		78.1	4.9	96.5		8.5	162.3	54
SW5	13/09/2022	6.1		75.3	8.1	92.7		8.82	120.5	57
SW6	13/09/2022	8.3		109.9	4.4	116.4		10.96	109.1	82
SW7	13/09/2022	6.2		75.2	2.87	96.3		9.03	115.3	56
Site Assessment Criteria										
ADWG[1]		6.5	8.5	~	5	85	~	~	~	600
ANZECC[2]		6.5	8.0	125 - 2200	6 - 50	85	110	~	~	~

Notes

1	ADWG (2011), v 3.5, updated August 2018, Table 10.5, guideline values for physical and chemical characteristics
2	ANZECC (2000) Tables 3.3.2 and 3.3.3 Default trigger values for slightly disturbed ecosystems for south-east Australia, Lowland River
N/A	Not applicable
~	No guideline available at time of investigation
#	Bore unable to be located
Purple	cells contain levels of an analyte greater than EPP (2009)
Green	cells contain levels of an analyte greater than ANZECC (2000)

This table has been produced in colour to indicate exceedences of relevant criteria. Reproduction should be carried out in colour.

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Table 4: Summary of Heavy Metal/Metalloid Results (µg/L)

Sample ID	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
SW1	13/09/2022	<1	<0.2	<1	**5**	<1	<0.01	<1	<5
SW2	13/09/2022	<1	<0.2	<1	**3**	<1	<0.01	<1	<5
SW3	13/09/2022	<1	<0.2	<1	**2**	<1	<0.01	<1	<5
SW4	13/09/2022	<1	<0.2	<1	<1	<1	<0.01	<1	<5
SW5	13/09/2022	<1	<0.2	<1	**3**	<1	<0.01	<1	**12**
SW6	13/09/2022	<1	<0.2	<1	<1	<1	<0.01	<1	<5
SW7	13/09/2022	<1	<0.2	<1	**5**	<1	<0.01	<1	<5
LOR		*1*	*0.2*	*1*	*1*	*1*	*0.1*	*1*	*5*
Site Assessment Criteria									
GIL[1]		24*	0.2	~	1.4	3.4	0.06	11	8
ADWG[2]		10	2	50**	2,000	10	1	20	~
ANZG[3]		24*	0.2	1**	1.4	3.4	0.6^	11	8

Notes	
1	NEPM Schedule B1 Table 1C Groundwater Investigation Levels (GILs), Fresh waters
2	ADWG (2011), v 3.5, updated August 2018, Part 5, health considerations for drinking water
3	ANZG (2018) - Trigger values for freshwaters, 95% level of protection
LOR	Laboratory's limit of reporting
*	Values for As(III)
**	Value for Cr (VI), hexavalent chromium
^	Inorganic Mercury
~	No guideline available at time of investigation
Orange	cells contain levels of an analyte greater than GIL
Blue	cells contain levels of an analyte greater than ADWG
Green	cells contain levels of an analyte greater than ANZG
	This table has been produced in colour to indicate exceedences of relevant criteria. Reproduction should be carried out in colour.

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Table 5: Summary of Organochlorine Pesticide Results (µg/L)

Sample ID	Sample Date	Analyte																					
		Aldrin	a-HCH	b-HCH	d-HCH	g-HCH	Total Chlordane (sum)	Dieldrin	Aldrin & Dieldrin (sum)	4.4`-DDE	4.4`-DDD	4.4`-DDT	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endosulfan (sum)	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor
SW1	13/09/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.2	<0.2	<0.2	<0.2
SW2	13/09/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.2	<0.2	<0.2	<0.2
SW3	13/09/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.2	<0.2	<0.2	<0.2
SW4	13/09/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.2	<0.2	<0.2	<0.2
SW5	13/09/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.2	<0.2	<0.2	<0.2
SW6	13/09/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.2	<0.2	<0.2	<0.2
SW7	13/09/2022	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.2	<0.2	<0.2	<0.2
LOR		*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*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*	*0.2*	*0.2*	*0.2*	*0.2*
Site Assessment Criteria																							
GIL[1]		~	~	~	~	~	0.03	~	~	~	~	0.006	~	~	~	0.03	0.01	~	~	0.01	~	~	~
ADWG[2]		~	~	~	~	~	2	~	3	~	~	9	~	~	~	20	~	~	~	0.3	~	~	~
ANZG[3]		~	~	~	~	~	0.08	~	~	~	~	0.01	~	~	~	0.2	0.02	~	~	0.09	~	~	~

Notes

1	NEPM Schedule B1 Table 1C Groundwater Investigation Levels (GILs), Fresh waters
2	ADWG (2011), v 3.5, updated August 2018, Part 5, health considerations for drinking water
3	ANZG (2018) - Trigger values for freshwaters, 95% level of protection
<LOR	Less than the laboratory's limit of reporting
-	Not tested
~	No guideline available at time of investigation
Orange	cells contain levels of an analyte greater than GIL
Blue	cells contain levels of an analyte greater than ADWG (2011)
Green	cells contain levels of an analyte greater than ANZG (2018)

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Table 6: Summary of Organophosphorus Pesticide Results (µg/L)

Sample ID	Sample Date	Analyte												
		Azinphos Methyl	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Monocrotophos	Pirimphos-methyl
SW1	13/09/2022	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
SW2	13/09/2022	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
SW3	13/09/2022	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
SW4	13/09/2022	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
SW5	13/09/2022	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
SW6	13/09/2022	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
SW7	13/09/2022	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
LOR		*2*	*20*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*20*
Site Assessment Criteria														
GIL[1]		~	~	0.01	~	~	0.01	~	0.15	~	~	0.05	~	~
ADWG[2]		30	2	10	~	~	4	5	7	4	7	70	2	90
ANZG[3]		0.02	~	0.01	~	~	0.01	~	0.15	~	~	0.05	~	~

Notes

1	NEPM Schedule B1 Table 1C Groundwater Investigation Levels (GILs), Fresh waters
2	ADWG (2011), v 3.5, updated August 2018, Part 5, health considerations for drinking water
3	ANZG (2018) - Trigger values for freshwaters, 95% level of protection
<LOR	Less than the laboratory's limit of reporting
-	Not tested
~	No guideline available at time of investigation
Orange	cells contain levels of an analyte greater than GIL
Blue	cells contain levels of an analyte greater than ADWG (2011)
Green	cells contain levels of an analyte greater than ANZG (2018)

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Table 7: Summary of Nutrient Results (mg/L)

Sample ID	Date Sampled	Analyte						
		Ammonia (as N)	Nitrate & Nitrite	Nitrate (as N)	Nitrite (as N)	Total Kjeldahl Nitrogen (as N)	Total Nitrogen	Phosphorus reactive (as P)
SW1	13/09/2022	<0.01	<0.05	<0.02	<0.02	**2.9**	**2.9**	**0.1**
SW2	13/09/2022	<0.01	<0.05	<0.02	<0.02	**0.4**	**0.4**	<0.01
SW3	13/09/2022	<0.01	**0.1**	**0.09**	<0.02	**0.5**	**0.6**	<0.01
SW4	13/09/2022	<0.01	**0.21**	**0.21**	<0.02	**0.2**	**0.41**	<0.01
SW5	13/09/2022	<0.01	**0.32**	**0.32**	<0.02	**0.2**	**0.52**	<0.01
SW6	13/09/2022	<0.01	<0.05	<0.02	<0.02	**0.4**	**0.4**	**0.01**
SW7	13/09/2022	**0.02**	**0.3**	**0.28**	**0.02**	**0.5**	**0.8**	<0.01
Site Assessment Criteria								
ANZECC[1]		0.02	~	~	~	~	500	50
Laboratory Limit of Reporting		*0.01*	*0.05*	*0.02*	*0.02*	*0.2*	*0.2*	*0.01*

Notes

1 ANZECC (2000) Tables 3.3.2 and 3.3.3 Default trigger values for slightly disturbed ecosystems for south-east Australia, Lowland River

~ No guideline available at time of investigation

Purple cells contain levels of an analyte greater than EPP (2009)

Green cells contain levels of an analyte greater than ANZECC (2000)

This table has been produced in colour to indicate exceedences of relevant criteria. Reproduction should be carried out in colour.