Preliminary Site Investigation

507 Raymond Terrace Road, Chisholm, NSW

Prepared for: Allam Property Group
EP1977.001 8 April 2021

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Preliminary Site Investigation

507 Raymond Terrace Road, Chisholm, NSW

Allam Property Group
27 Lawson Street
Penrith NSW 2751

8 April 2021

Our Ref: EP1977.001

LIMITATIONS

This Preliminary Site Investigation was conducted on the behalf of Allam Property Group for the purpose/s stated in **Section 1**.

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It is not possible in a Preliminary Site Investigation to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

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Executive Summary

Introduction

EP Risk Management Pty Ltd (EP Risk) was engaged by Allam Property Group (Allam) to undertake a Preliminary Site Investigation (PSI) of a property located at 507 Raymond Terrace Road, Chisholm, New South Wales (NSW). The property is legally described as Part Lot 31 in deposited plan (DP) 778111. It is understood that the Property is proposed to be separated into a two-lot subdivision identified as Lot 310 and 311 in DP 77811 and that Allam only require the Assessment to be undertaken on the larger Lot (Lot 311) in the northern portion (the Site). The Site comprises of an area covering 7.15 ha and is shown on **Figure 1**.

Objective

The objective of the PSI was to assess whether contaminating activities are likely to have occurred at the Site which may present a risk to the proposed future low-density residential development and to provide further assessment of the nature and extent of soil, surface water and sediment contamination (if present).

Site Condition and Surrounding Environment

The Site comprised of a large rectangle shaped lot situated to the north of Raymond Terrace Road. The land use comprised of rural lifestyle living with some of the Site cleared of vegetation. Large mature eucalypt trees were scattered across the Site. The Site is located within an area of R1 General Residential zoned land.

Topographically the Site had gentle sloping gradients facing north and south with a gulley transecting the centre with elevations ranging from 17 metres above Australian Height Datum (m AHD) in the centre of the gulley to 28 m AHD in the north and south portions of the Site. A small creek enters the site from the east and flows into the dam which is located in the centre of the Site. The Site drainage is considered to consist of surface runoff migrating across the Site as overland flow into the dam and creek on the Site.

the Site is underlain by the Palaeozoic aged Maitland Group, Mulbring Siltstone which typically comprises siltstone and sandstone. The Maitland LEP (2011) identified the Site to be within a Class 5 acid sulfate soil classification, where acid sulfate soils are not typically found. It is noted a Class 3 area is located within 500 m north of the Site.

No groundwater bores located on the Site with fractured or fissured, extensive aquifers of low to moderate productivity likely to be present. Regional groundwater flow direction is expected to be predominantly to the west. With reference to the Mining Subsidence District Data Source (2016), the Site is not located within a mining subsidence district, however historical exploration leases were identified.

Site History Review

The review of site history information identified the Site to have been used for rural lifestyle land use sometime prior to 1954 and up to 2021 and also compromised of native eucalypt bushland and an easement. No major potentially contaminating activities, with the exception of rural land use were identified from the historical land ownership review. A search of former business directories spanning circa 1950 to 1991 identified no adjacent commercial uses during this period.

Fieldwork

Fieldwork investigations comprised the collection of soil samples from 10 grid and / or targeted based locations across the Site and the collection of one surface water and one sediment sample from the farm dam at the Site. Several stockpiles of wood and anthropogenic materials were observed across the Site. The anthropogenic

material comprised of concrete, brick and wood. There were a bonded (non-friable) asbestos containing material (ACM) fragment identified on the soil surface in the south east portion of the Site. There was no visual or olfactory evidence of hydrocarbon or other contamination. Subsurface conditions at the Site generally comprised of silty SAND topsoil overlying residual sandy CLAY overlying extremely weathered sandstone.

Results of Analytical Testing

Results of soil analytical testing reported concentrations of the contaminants of potential concern (COPC) below the laboratory limit of reporting (LOR) or adopted health and/or ecological based criteria except for one bonded (non-friable) ACM location on the soil surface and potential acid sulfate soil in the sandy CLAY layer across the Site. E. coli and faecal coliform impact was identified in sediment and surface water samples collected from the on-site dam. Anthropogenic material including bricks, concrete, wood and tiles were identified in stockpiles scattered across the Site.

Conclusion and Recommendations

Based on the results of the Site history review, site inspection and analytical results, the Site is considered to present a low risk of contamination. The results of analytical testing have been reported at levels that would not preclude the proposed development of the Site for residential land use, subject to completion of the following recommended works:

- The area where the bonded (non-friable) ACM fragment was identified should be raked (top 10cm) and any further fragments removed. At the completion of ACM removal a clearance certificate must be provided in accordance with SafeWork NSW (2019*) Code of Practice How to Safely Remove Asbestos*.
- Removal and disposal of anthropogenic waste in areas identified in **Figure 2**.
- Development of an acid sulfate soil management plan should redevelopment involve disturbance of the residual sandy CLAY horizon across the entire Site.
- An unexpected finds protocol should be implemented during redevelopment to address any unidentified contamination that may be encountered during the proposed redevelopment works.
- Should the onsite dam not be decommissioned during redevelopment works, then additional sediment water monitoring will be required.

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1 Introduction

EP Risk Management Pty Ltd (EP Risk) was engaged by Allam to undertake a Preliminary Site Investigation (PSI) of a property located at 507 Raymond Terrace Road, Chisholm, NSW (the Site). The Site location and regional map is presented in **Figure 1**.

It is understood that the Site is proposed to be redeveloped into a low-density residential development (Proposed Development), and that the Assessment is required to assist in the Development Application (DA) process in accordance with *State Environmental Planning Policy No. 55 – Remediation of Land* (SEPP 55).

1.1 Objective

The objective of the PSI was to assess whether contaminating activities are likely to have occurred at the Site which may present a human health or ecological risk with respect to the Proposed Development.

1.2 Scope of Work

The scope of work completed to achieve the objective was:

- Conduct a site visit to observe on-site and off-site conditions.
- Undertake a desktop study for a Site history review, based upon:
  - Historical title deed search.
  - Historical aerial photography.
  - Historical business directories.
- Identification of areas and contaminants of potential concern (COPC) for the Site based upon the site history information and site inspection.
- Collection of soil samples from 10 grid and targeted based locations across the Site, one (1) sediment and one (1) surface water sample from the farm dam at the Site.
- Submission of selected soil, sediment and surface water samples to a National Association of Testing Authorities (NATA) accredited laboratory for analysis of the identified COPC.
- Preparation of a report summarising the findings for preliminary site classification and supplementary contamination assessment in accordance with the New South Wales Environment Protection Authority (NSW EPA) (2020) Guideline for Consultants Reporting on Contaminated Land, the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended April 2013 (ASC NEPM) and in accordance with Maitland City Council (Council) Development Guidelines.

1.3 Site Identification

The Site Identification details are presented in **Table 1**.

Table 1 – Site Identification

Item	Description
Address	507 Raymond Terrace Road, Chisholm, NSW (**Figure 1**)
Legal description	Part Lot 31 in Deposited Plan (DP) 77811
Approximate Area	7.15 hectares (ha)
Municipality	Maitland City Council (Council)
Zoning	The Maitland Local Environment Plan (LEP) 2014 identifies the Site as R1 General Residential

2 Technical Framework

The PSI was conducted in general accordance with:

- ASC NEPM (2013).
- Maitland Local Environment Plan (LEP) 2014 and Maitland City Council (Council) Development Guidelines.
- Australian Standard (AS) 4482.1-2005: Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds.
- AS 4482.2-1999: Guide to the investigation and sampling of sites with potentially contaminated soil, Part 2: Volatile substances.
- Department of Urban Affairs and Planning and Environment Protection Authority ('EPA') (1998) *Managing Land Contamination, Planning Guidelines, SEPP 55 – Remediation of Land.*
- Friebel, E & Nadebaum, P 2011, Health Screening Levels for Petroleum Hydrocarbons in soil and Groundwater. Part 1: Technical development document, CRC CARE Technical Report no. 10, CRC for Contamination Assessment and Remediation of the Environment ('CRC CARE'), Adelaide, Australia.
- ANZG (2018) *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.
- National Health and Medical Research Council ('NHMRC') (2008) *Guidelines for Managing Risk in Recreational Waters.*
- NHMRC and National Resource Management Ministerial Council ('NRMMC') (2011) National Water Quality Management Strategy, Australian Drinking Water Guidelines 6, 2011 (version 3.5 updated August 2018) ('ADWG 2011').
- NSW EPA (1995) *Sampling Design Guidelines*.
- NSW EPA (2017) Guidelines for the NSW Auditor Scheme (3rd Edition) ('NSW Auditor Guidelines').
- NSW EPA 2020.
- United State Environment Protection Agency ('USEPA') (2006) Guidance on Systematic Planning Using the Data Quality Objectives Process, ref: EPA QA/G-4.
- Acid Sulfate Soil Manual (1998), *NSW Acid Sulfate Soils Management Advisory Committee* ('NSW ASS Manual').
- National Acid Sulfate Soils Guidance (2018) National Acid Sulfate Soils Sampling and Identification Methods Manual), Water Quality Australia ('National ASS Guidance').
- Western Australian ('WA') Department of Health ('DOH') (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia ('DOH 2009').
- SafeWork NSW (2014) Managing Asbestos in or on Soil.
- SafeWork Australia (2018) How to Manage and Control Asbestos in the Workplace.

3 Site Condition and Surrounding Environment

The majority of information provided in the following sections was obtained from Lotsearch Environmental Risk and Planning Report (Lotsearch 2021). A copy of the Lotsearch (2021) report is attached as **Appendix A**.

3.1 Land Use and Layout

As of 25th February 2021, the Site comprised of a large rectangle shaped lot situated to the north of Raymond Terrace Road. The land use comprised of rural lifestyle living with some of the Site cleared of vegetation with the exception of large mature eucalypt trees scattered across the Site. The Site is located with an area of R1 General Residential zoned land. EP Risk undertook a site inspection on 25th February 2021 comprising of a site walkover and visual assessment. The general Site features and infrastructure observed during the inspection are presented in **Figure 2**. Site features observed during the site inspection are summarised below with photos attached as **Appendix B**.

- Timber stockpiles across the Site (**Plate 5, 6, 7, 8, 9, 10, 11**);
- Anthropogenic waste stockpile (**Plate 12,13**);
- Access track (**Plate 14, 15**);
- Onsite dam (**Plate 16**);
- Native eucalyptus trees and bushland (**Plate 17)**;

3.2 Surrounding Land Use

The Site is located within an area R1 General Residential zone. As of 25th February 2021, surrounding land uses comprised:

- North: General Residential zoned land adjacent and Environmental Management zoned land beyond.
- South: Raymond Terrace Road with General Residential zoned land beyond.
- East: General Residential zoned land adjacent.
- West: General Residential zoned land adjacent and Environmental Management zoned land beyond.

3.3 Proposed Land Use

The Proposed Development consists of a staged low-density residential development consisting of 231 residential lots and a park. The layout for the Proposed Development and subdivision of Lot 31 is provided as **Appendix F**.

3.4 Topography and Drainage

Topographically the Site had gentle sloping gradients facing north and south with a gulley transecting the centre of the Site with elevations ranging from 17 metres above Australian Height Datum (m AHD) in the centre of the gulley to 28 m AHD in the north and south portions of the Site. A small creek enters the site from the east and flows into the dam which is located in the centre of the Site. The Site drainage is considered to consist of surface runoff migrating across the Site as overland flow into the dam and creek at the Site. A plan showing the topographical contours of the Site is provided within the Lotsearch (2020) Report in **Appendix A**.

3.5 Geology

Based on the information contained in the Newcastle Coalfield Regional Geological Map 9231 (Edition 1, 1995) the Site is underlain by the Palaeozoic aged Maitland Group, Mulbring Siltstone which typically comprises siltstone and sandstone.

3.6 Soil Landscapes

Based on the Soil Landscapes of Central and Eastern NSW database sourced from the NSW OEH (Lotsearch, 2021) the Site is located within the Beresfield soil landscape. The Atlas of Australian soils identifies the predominant soils at the Site to be hard acidic yellow mottled soils.

3.7 Natural Occurring Asbestos Potential

No reported naturally occurring asbestos potential has been identified within 1 km of the Site.

3.8 Acid Sulfate Soils

The Maitland LEP (2011) identified most of the Site to be within a Class 5 acid sulfate soil classification, where works within 500 metres of adjacent Class 1, 2, 3, or 4 land that is below 5 metres AHD and by which the watertable is likely to be lowered below 1 m AHD on adjacent Class 1, 2, 3 or 4 land, present an environmental risk. acid sulfate soils are not typically found. It is noted a Class 3 area is located within 500 m of the Site to the north, however the elevation of the land is found above 5 m AHD.

The Atlas of Australian Acid Sulfate Soils identifies the Site to be within a Class C zone where three is an extremely low probability of occurrence, with a 1-5% chance of occurrence in small, localised areas.

3.9 Salinity

Based upon a review of the National Land and Water Resources Audit a risk of salinity was not identified at the Site. The southern portion of Lot 31 to the south of the Site adjacent to Raymond Terrace Road is located within a high hazard or risk zone for salinity.

3.10 Hydrology and Hydrogeology

A search of the NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation undertaken by Lotsearch (2021) indicated that there are no boreholes located on the Site.

Review of the Hydrogeology Map of Australia, Lotsearch (2021) identified Fractured or fissured, extensive aquifers of low to moderate productivity. Regional groundwater flow direction is expected to be predominantly to the west following the creek.

3.11 Mining Subsidence and Exploration Titles

With reference to the Mining Subsidence District Data Source (2016), the Site is not located within a mining subsidence district.

However, a number of historical mining and exploration titles were identified at the Site which include:

- Planet Exploration Company Pty Ltd – petroleum (PEL0088);
- NSW Oil and Gas Company NL – petroleum (PEL0174);

- NSW Oil Co (NSW) Pty Ltd, Manivare Pty Ltd Australian NL, Base Resources Ltd, Seahawk Oil Australia NL, Reading and Bates (1994 – 2015) – Petroleum (PEL0267); and
- AGL Upstream Investments Pty Ltd – minerals (PEL267).

3.12 Regulatory Searches

A summary of the regulatory searches performed by Lotsearch (2021) are summarised in Table 2.

Table 2 – Regulatory Searches

Search	Results
SEPP Protected Areas	No SEPP State Significant Precincts have been identified at or within 1 km of the Site.
SEPP Major Developments	No SEPP Major Development Areas have been identified at or within 1 km of the Site.
Contaminated Sites Notified to the NSW EPA	As of 25th February 2021, there is no record of a contaminated site within 1 km of the Site that has been notified to the NSW EPA in accordance with the *Contaminated Land Management Act 1979* ('CLM Act').
Contaminated Land: Records of Notice	No contaminated land records of notices have been identified within 1 km of the Site.
Former Gasworks	No former gasworks have been identified within 1 km of the Site.
NSW EPA per- and poly-fluoroalkyl substances ('PFAS') Investigation and Management Programs	No sites under the NSW PFAS Investigation Program, Defence PFAS Investigation Program, Defence PFAS Management Program or Airservices Australian National PFAS Management Program were identified within 1 km of the Site.
Defence 3 Year Regional Contamination Investigation Program	No sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program were identified within 1 km of the Site.
Waste Management Facilities	No records of waste management facilities were reported at or within 1 km of the Site.
National Liquid Fuel Facilities	One (1) National Liquid Fuel Facilities was identified within 100 m of the Site. This site is Caltex Morisset.

3.13 Licensed Activities Under the Protection of the Environment Operations Act 1997

A summary of the licensed activities under the *Protection of the Environment Operations Act 1997* ('POEO Act') being undertaken within 1 km of the Site is provided in **Table 3**.

Table 3 – Licensed Activities Under the POEO Act

EPL[1]	Organisation	Name	Activity
10393	Council	All waterbodies in the Maitland local government area (LGA)	Other activities

EPL 10393 identified in **Table 3** is for the application of herbicides in all waterbodies in the Maitland LGA and is also found across other LGAs in NSW.

3.14 Delicensed Activities Still Regulated by the NSW EPA

Delicensed activities still regulated by the NSW EPA have not been identified within 1 km of the Site.

Table 4 – Delicensed Activities still regulated by the NSW EPA

Licence No.	Organisation	Location	Activity	Distance from Site
N/A	No Records identified within 1 km of the Site	-	-	-

3.15 Former Licensed Activities under the POEO Act, now Surrendered

Former licensed activities under the POEO Act, now surrendered identified within 1 km of the Site are provided in **Table 5.**

Table 5 – Former licensed activities under the POEO Act, now surrendered

Licence No.	Organisation	Location	Activity	Distance from Site
4653	Luhrmann Environment Management Pty Ltd	Waterways throughout NSW	Other activities - Application of herbicides	Onsite
4838	Robert Orchard			
6630	Sydney Weed and Pest Management Pty Ltd			

The former licensed activities in **Table 5** relate to the application of herbicides adjacent waterbodies in the Maitland LGA. The current licence for this activity was provided in **Table 3**.

[1] EPL – Environment Protection License.

4 Site History

The Site history sources utilised during the review included:

- Historical title deed search.
- Historical aerial photography.
- Historical business directories.

4.1 Historical Title Deed Search

Historical certificates of title details were reviewed and identified the title being created in 1928 with the proprietor of the Site being John Francis O'Brien and Christopher O'Brien (farmer). Since the title's creation, the title had been transferred seven (7) times with the current owners of the Site holding the titles since 2001. No major potentially contaminating Site activities were identified from the historical land ownership review. Certificates of title, plans of subdivision/title plans and title history search documents are attached as **Appendix C**.

4.2 Review of Historical Aerial Photos

Aerial photographs from 1954, 1965, 1976, 1984, 1994, 2002, 2005, 2010, 2015 and 2012 were reviewed to identify past land uses of the Site and surroundings. **Table 6** provides a summary of the review.

Table 6 – Historical Aerial Photograph Review

Year	Description
1954	**Site:** The Site comprises of native bushland. **Surroundings:** Raymond Terrace Road is visible to the south, with surrounding land comprising of native bushland.
1965	**Site:** No significant changes. **and Surroundings:** No significant changes.
1977	**Site:** No significant changes. **and Surroundings:** A structure has been constructed to the south east corner of the Site and clearing of land has occurred on the adjacent land to the east.
1984	**Site:** No significant changes. **and surroundings:** A building constructed to the south east of the site, additional land clearing to the east of the site and creation of a dam.
1993	**Site:** Most of the site has been cleared of native vegetation and a dam has been constructed on the site. **Surroundings:** Structures have been built on the southern portion of Lot 31. Structures have been built to the west of the Site and land clearing has occurred to all adjacent sides of the Site. A dam gas also been constructed to the west of the Site.
2007	**Site:** No significant changes. **and Surroundings:** Structures have been built to the south of the Site.
2010	**Site:** Some land clearing has occurred on the centre of the Site. **and Surroundings:** No significant changes.
2015	**Site:** The extent of vegetation has increased at the Site. **and surroundings:** No significant changes.

Table 6 – Historical Aerial Photograph Review	
Year	**Description**
2020	**Site:** No significant changes. **and Surroundings:** No significant changes.

Based on the review of historical aerial photography, rural land use was identified as the primary potentially contaminating activity undertaken at the Site. The aerial photographs reviewed are provided in the Lotsearch (2021) report provided as **Appendix A**.

4.3 Business Directory Search

A search of the Universal Business Directory (UBD) (Lotsearch 2021), spanning circa 1950 to 1991 identified the following commercial land uses within the Raymond Terrace Road Corridor during this period. These are provided in **Table 7.**

Table 7 – Business Directory Records 1950-1991 Road or Area Matches					
Business Activity	**Premise**	**Ref No.**	**Year**	**Location Confidence**	**Distance to road Corridor or Area**
BRICK MFRS. &/OR DISTS.	Thornton Fire & Building Brick Co. Pty. Ltd., Raymond Terrace Rd., Thornton Maitland	167859	1982	Road Match	0 m
FIRE CLAY MFRS.	Thornton Fire & Building Brick Co. Pty. Ltd., Raymond Terrace Rd., Thornton Maitland	638477	1970	Road Match	0 m
REFRACTORY MATERIALS MFRS. &/OR DISTS.	Thornton Fire & Building Brick Co. Pty. Ltd., Raymond Terrace Rd., Thornton Maitland	639081	1970	Road Match	0 m
BRICK, PIPE & TILE MANUFACTURERS	Thornton Fire & Building Brick Co. Pty. Ltd., Raymond Terrace Rd., Thornton Maitland	174273	1961	Road Match	0 m

The Thornton Fire and Building Brisk Co. Pty Ltd is located at 51 Brickworks Road, Thornton, NSW, which is approximately 1.5 km to the south west of the Site. Based upon the separation distance from the Site, the operation of this facility is unlikely to be an off-site source of contamination to the Site.

5 Sampling and Analysis

5.1 Data Quality Objectives

To assess whether an appropriate sampling strategy was adopted for the PSI, EP Risk adopted the data quality objectives (DQOs) planning process as:

- Recommended in the ASC NEPM 2013.
- Required within the NSW EPA (2017), *Guidelines for the NSW Site Auditors Scheme (3rd edition)*.
- With consideration to technical details outlined in US EPA (2006) *Guidance on Systematic Planning Using the Data Quality Objectives Process, ref: EPA QA/G-4* and AS 4482.1-2005 *Guide to the investigation and sampling of sites with potentially contaminated soil – Part 1: Non-volatile and semi-volatile compounds*.

State the Problem

The PSI was required to assess whether any contaminating activities are likely to have occurred at the Site which may present a human health or ecological risk to the proposed development of the Site for low-density residential land use.

Identify the Decision

Given that the Site it to be redeveloped from rural land use to low-density residential land use, the decision-making process for urban redevelopment Site provided by the NSW EPA (2017) was considered in the development of the following decisions that need to be addressed:

- Has soil been assessed against relevant health-based investigation levels and potential for migration of contamination from soil to groundwater been considered?
- Have any aesthetic issues relating to site soils been adequately addressed?
- Has groundwater (where relevant) been assessed against relevant investigation levels?
- Have hazardous ground gases (where relevant) been assessed against relevant health-based investigation levels and screening values?
- Any issues relating to local area background soil concentrations that exceed relevant investigation levels have been adequately addressed?
- Are there any impacts of chemical mixtures?
- Are there any potential human health and/or ecological risks to the identified receptors?
- Is there any evidence of, or potential for, migration of contaminants off-site?

Identify Inputs into the Decision

The inputs required to make the decision include the following:

- Site history investigation.
- Environmental data as collected by sampling and analysis and site observations made during this investigation.

- Assessment criteria to be achieved on the Site as based on the proposed development of the Site for low density residential land use and project objectives, as defined by the Tier 1 assessment criteria nominated in **Section 6**.
- Confirmation that data generated by sampling and analysis are of an acceptable quality to allow reliable comparison to adopted assessment criteria as undertaken by assessment of quality assurance / quality control (QA/QC) as per the data quality indicators (DQIs) established in **Section 5.2**.

Define the Boundaries of the Study

The spatial boundaries of the PSI comprised Lot 31, DP 778111 with the maximum proposed depth for the investigation set at 2.5 meters below ground level (m BGL) with the approximate boundaries identified in **Figure 2**.

Due to the project objectives, seasonality was not assessed as part of this investigation. Data was therefore representative of the timing and duration of the current investigation.

Develop a Decision Rule to Identify the Decision

The assessment criteria for the contaminants of concern are presented in **Section 6.** These criteria have been adopted to determine whether additional assessment is required and whether the Site is suitable for the proposed land use. The decision making process for assessing urban redevelopment sites was adopted and summarised in **Table 8**.

Table 8 – Summary of Decision Rules

Decision	Rule
1. Has soil been assessed against relevant health-based investigation levels and potential for migration of contamination from soil to groundwater been considered?	The nature and extent of soil impacts was assessed, and soil analytical data was compared against the adopted health and ecological criteria (refer to **Section 6**). Assessment of the potential for migration of contamination from soil to groundwater includes further assessment of soil leachate and / or assessment of groundwater where Tier 1 criteria have been exceeded. The following statistical criteria was adopted with respect to soil and soil leachate (where applicable): Either: the reported concentrations are all below the adopted site criteria; Or: the average site concentration for each analyte must be below the adopted site criterion; no single analyte concentration exceeds 250% of the adopted site criterion; and the standard deviation of the results must be less than 50% of the site criteria. And: the 95% upper confidence limit of the arithmetic mean (UCL_{mean}) for each analyte must be below the adopted site criterion. If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No. Otherwise, the decision is Yes.

Table 8 – Summary of Decision Rules	
Decision	**Rule**
2. Have any aesthetic issues relating to site soils been adequately addressed?	The following criteria was adopted with respect to aesthetic issues relating to site soils: Either: the reported concentrations are all below the adopted physical and aesthetic management limits; Or: Were any chemically discoloured or stained soils, chemical residues, putrescible refuse, anthropogenic materials, hydrocarbon sheens on groundwater identified? If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No. Otherwise, the decision is Yes.
3. Has groundwater (where relevant) been assessed against relevant investigation levels?	Where there is the potential for migration of contamination from soil to groundwater then assessment of groundwater will be required and analytical data compared against the adopted criteria. The following statistical criteria was adopted with respect to groundwater where assessment is required: Either: the reported concentrations are all below the adopted site criteria; Or: The reported concentrations are below upgradient concentrations and are therefore considered representative of background data. If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No. Otherwise, the decision is Yes.
4. Have hazardous ground gases (where relevant) been assessed against relevant health-based investigation levels and screening values?	Where there is the potential for hazardous ground gases to be present then they will need to be assessed and analytical data compared against the adopted criteria. The following statistical criteria was adopted with respect to ground gases (where likely to be present): Either: the reported soil vapour concentrations (where relevant) are all below the adopted site criteria; Or: The reported soil and groundwater concentrations were below the criteria for vapour intrusion. If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No. Otherwise, the decision is Yes.

Table 8 – Summary of Decision Rules	
Decision	**Rule**
5. Any issues relating to local area background soil concentrations that exceed relevant investigation levels have been adequately addressed?	Where there is the potential for local area background soil concentrations to be present then they will need to be addressed. Are background soil concentrations exceeding the relevant investigation levels present? Either: the reported soil concentrations are considered to be representative of naturally occurring soil concentrations; Or: The reported soil concentrations are representative of a potential off-site source of contamination. If the soil concentrations are representative of naturally occurring background conditions, then the decision is No. Otherwise, the decision is Yes.
6. Are there any impacts of chemical mixtures?	The following criteria was adopted with respect to chemical mixtures: The impacts of chemical mixtures have been considered and are not present. If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No. Otherwise, the decision is Yes.
7. Are there any potential human health and/or ecological risks to the identified receptors?	Are the statistical criteria stated above satisfied, and has an assessment of risk indicated no unacceptable risks? If yes, the decision is No. Otherwise, the decision is Yes.
8. Is there any evidence of, or potential for, migration of contaminants off-site?	Were soil and groundwater concentrations exceeding the adopted health and ecological criteria identified near the site boundary and found off-site. If so, the decision is Yes. Otherwise the decision is No.
9. Is further assessment or a site management strategy required?	Is the answer to any of the above decisions Yes? If yes, a DSI, further Tier 2 and / or Tier 3 assessment and a site management strategy may be required to be developed. If no, a site management strategy is not required.

Specify Acceptable Limits of Decision Errors

The acceptable limits were as follows:

I. Individual or 95% UCL_{mean} concentrations to be below the adopted criteria or background concentrations.

II. 95% of the data must satisfy the data quality indicators (DQIs) which were determined for completeness, representativeness, precision and accuracy of both field and laboratory data. Therefore, the limit on the decision error was 5% that a conclusive statement may be incorrect.

III. A comprehensive quality assurance/quality control (QA/QC) program was undertaken including representative sampling and sampling at an appropriate density for the purpose of the investigation.

The acceptable limit of error for sampling techniques and laboratory analysis was defined by the DQIs as follows:

Data Representativeness

Expresses the accuracy and precision with which sample data represents an environmental condition. Data representativeness was achieved by the collection of samples at an appropriate pattern and density as well as consistent and repeatable sampling techniques and procedures.

Completeness

Refers to, the percentage of data that can be considered valid data. Sufficient data was required to enable an assessment of the Decision Rules.

Comparability

A qualitative comparison of the confidence with which one data set can be compared to another. This was achieved through consistent sampling and analytical testing and reporting techniques.

Precision

A measure of the reproducibility of on measurements under a given set of conditions. The relative percent difference (RPD) has been adopted to assess the precision of data between duplicate sample pairs according to the following equation.

$$RPD\% = \frac{[\mathrm{Cp} - \mathrm{Cd}]}{\mathrm{Cp} + \mathrm{Cd}} \times 200$$

Where:
Cp = Primary sample
Cd = Duplicate Sample

An acceptance criterion of ±30% had been adopted for inorganic field duplicates and triplicates and ±50% for organic field duplicates and triplicates. However, it should be noted that exceedances of these criteria are common for heterogeneous soil or fill or for low analyte concentrations.

Accuracy

A measure of the bias in the analytical results and can often be attributed to field contamination; insufficient preservation or sample preparation; or inappropriate analytical techniques. Accuracy of the analytical data is assessed by consideration of laboratory control samples and laboratory spikes.

Optimise the Design for Obtaining Data

A grid-based sampling pattern was designed based on the Site inspection. A comprehensive suite of COPC was selectively adopted for the assessment to provide characterisation of the status of soil and groundwater at the Site. The adopted sampling approach is consistent with AS4482.1 (2005).

5.2 Data Quality Indicators

The DQOs, requirements and indicators for the assessment are presented in **Table 9**.

Table 9 – DQO, Requirements and Indicators

DQO	Requirement	DQI
Precision		
Standard operating procedures appropriate and complied with	The sampling methods comply with industry standards and guidelines	Meet requirement
Intra-laboratory duplicates	1 per 20 samples	RPDs < 50%
Inter-laboratory duplicates	1 per 20 samples	RPDs < 50%
Laboratory duplicates	Minimum of 1 per batch per analyte	RPDs < 50%
Accuracy		
Laboratory matrix spikes	1 per batch per volatile/semi-volatile analyte	Recoveries 50% to 150%
Laboratory surrogate spikes	1 per volatile/semi-volatile analyte sample (as appropriate)	Recoveries 70% to 130%
Laboratory control samples	At least 1 per batch per analyte tested for	Result < laboratory reporting limit
Representativeness		
Sampling methodology - preservation	Appropriate for the sample type and analytes	Meet requirement
Samples extracted and analysed within holding times	Specific to each analyte	Meet requirement
Laboratory method blanks	At least 1 per batch per analyte tested for	Result < laboratory reporting limit
Trip blanks	1 per lab batch for volatile analytes	Result < laboratory reporting limit
Trip spikes	1 per lab batch for volatile analytes	Recoveries 60-100%
Rinsate	1 per lab batch for volatile analytes	Result < laboratory reporting limit
Comparability		
Sampling approach	Consistent for each sample	Meet requirement

Table 9 – DQO, Requirements and Indicators		
DQO	**Requirement**	**DQI**
Analysis methodology	Consistent methodology for each sample	Meet requirement
Handling conditions and sampler	Consistent for each sample	Meet requirement
Field observations and analytical	Field observations to support analytical results	Meet requirement
Consistent laboratory reporting limit	Consistent between primary and secondary laboratories	Meet requirement
Completeness		
Sampling staff	Consistent sampling staff used.	Meet requirement
Laboratory accreditation	NATA Accredited laboratory for methods used	Meet requirement
Accredited methods	NATA accredited methods used appropriate for each analyte.	Meet requirement
ASC NEPM (2013) lab methods	Lab methods consistent with the ASC NEPM (2013).	Meet requirement
Laboratory reporting limit	Laboratory reporting limit consistent and appropriate	Meet requirement
Consistent weather / field conditions	Consistent	Meet requirement
Chain of custody documentation	Appropriately completed	Meet requirement
Field sampling documentation	Appropriately completed	Meet requirement

5.3 Sampling and Analysis Methodology

5.3.1 Soil Sampling Methodology

The methodology for soil sampling was outlined as follows:

1 Soil samples were collected from 10 test pit locations.
2 Test pits were advanced via a 5-tonne excavator fitted with a 450mm bucket to a maximum depth of 2.5 m BGL.
3 Soils were logged for type, colour, texture, other characteristics and indications of contamination as presented in the bore logs attached as **Appendix D.**
4 All sampling equipment was decontaminated with phosphate free detergent and a dedicated pair of nitrile gloves was used for each sample to prevent cross contamination.
5 Sufficient soil samples were collected and placed into laboratory prepared sampling jars with a unique sample ID added to the label on each jar.
6 The sample jars were preserved on ice immediately after sampling and during shipment to the laboratories. The laboratory chain of custody documentation was completed and accompanied the samples during shipment.

5.3.2 Sediment Sampling Methodology

The methodology for sediment sampling was outlined as follows:

1 One sediment sample was collected from the dam located at the Site.
2 A dedicated pair of nitrile gloves was used for the sample to prevent cross contamination.
3 Sufficient samples were collected and placed into laboratory prepared sampling containers with the sample details added to the label on the container.
4 The sample jar was preserved in an ice-chilled container immediately after sampling and during shipment to the laboratories. The laboratory chain of custody documentation was completed and accompanied the samples during shipment.

5.3.3 Surface Water Sampling Methodology

The surface water sampling methodology was as follows:

1 One surface water sample was collected from the dam located at the Site.
2 The surface water sample that was proposed to be analysed for dissolved metals were filtered in the field through a dedicated, disposable 0.45 micron (µm) mesh filter to remove suspended solids.
3 The surface water sample was collected in preserved bottles specific to each analyte with a unique sample ID added to the label on each bottle.
4 The surface water sample was preserved on ice immediately after sampling and during shipment to the laboratories. The laboratory chain of custody documentation was completed and accompanied the samples during shipment.

5.4 Analytical Testing

EP Risk used Eurofins MGT and ALS Global as the primary and secondary laboratories, both of which are NATA accredited for the required analysis. The laboratory analysis was undertaken in accordance with **Table 10**.

Table 10 – Analytical Testing of Primary Samples

Media	Sampling Locations	Number of Analysis[2]
Soil	10	• Heavy metals 8 / TRH / BTEXN / PAH / OCP / PCB – 10 • pH field tests – 20 • Chromium reducible sulfur suite tests – 6 • Asbestos w/w % – 5 • Faecal Coliforms and E. coli – 6 • NEPM Screen for Soil Classification – 1
Sediment	1	• Heavy metals 8 (low level Hg) / TRH / BTEXN / PAH / OCP / PCB / Faecal Coliforms and E. coli – 1
Water	1	• Heavy metals 8 / TRH / BTEXN / PAH (super trace) / OCP / OPP / Faecal Coliforms and E. coli – 1
Rinsate blank	-	• Heavy metals / TRH / BTEXN / PAH / OCP / PCB – 3
Trip blank Trip spike	-	• TRH (C6-C9) / BTEXN – 1 • TRH (C6-C9) / BTEXN – 1

5.5 Field and Laboratory Quality Assurance and Quality Control (QA/QC)

An assessment of the field and laboratory DQI results is presented in **Table 11**.

Table 11 – DQI Results Summary

Parameter	Requirement	Objective Met
Precision		
Standard operating procedures appropriate and complied with	The sampling methods comply with industry standards and guidelines.	Yes
Field duplicates	• 1 per 20 samples; and • RPDs < 50%.	Yes Yes[3]
Field triplicates	• 1 per 20 samples; and • RPDs < 50%.	Yes Yes[4]

[2] Excluding duplicates and triplicates.
[3] Exceedances of the adopted RPD criteria for heavy metals were observed in one (1) of the soil duplicate samples which was attributed to the low concentrations observed and / or the heterogeneous distribution of contaminants. Exceedances of the adopted RPD criteria for heavy metals, PAH and TRH were observed in four (4) of the sediment quality control samples which were attributed to the low concentrations observed and / or the heterogeneous distribution of contaminants.
[4] Exceedances of the adopted RPD criteria for Heavy Metals were observed in four (4) of the soil triplicates samples which was attributed to the low concentrations observed and / or the heterogeneous distribution of contaminants. Exceedances of the adopted RPD criteria for heavy metals, PAH and TRH were observed in Twelve (12) of the sediment quality control samples which were attributed to the low concentrations observed and / or the heterogeneous distribution of contaminants. Exceedances of the adopted RPD criteria for TPH, TRH and Heavy Metals were observed in five (5) of the analytes tested for water. These are attributed to the low sample concentration in the water samples.

Table 11 – DQI Results Summary		
Parameter	**Requirement**	**Objective Met**
Laboratory duplicates	• Minimum of 1 per batch per analyte; • RPDs < 50%; and • >10%, laboratory specified.	Yes Yes[5] Yes[6]
Accuracy		
Laboratory matrix spikes	• 1 per batch per volatile/semi-volatile analyte; and • Recoveries >70% to 130%	Yes Yes[7]
Laboratory surrogate spikes	• 1 per volatile/semi-volatile analyte sample (as appropriate); and • Recoveries 70% to 130%	Yes Yes
Laboratory control samples	• At least 1 per batch for analyte tested; and • 70-130%	Yes Yes
Representativeness		
Sample collection - preservation	Appropriate for the sample type and analytes	Yes
Decontamination procedures	All sampling equipment to be decontaminated between each sample	Yes
Holding times	Samples extracted and analysed within laboratory prescribed holding times	Yes
Trip blanks	• 1 per field laboratory reporting limit	Yes Yes
Trip spikes	• 1 per field batch for volatile analytes; and • Recoveries 70-130%	Yes Yes
Rinsate	• 1 per field batch for volatile analytes; and • Result < laboratory reporting limit	Yes Yes
Laboratory Method Blanks	• At least 1 per batch per analyte tested for; and • Result < laboratory reporting limit	Yes Yes
Completeness		
Sample logs and groundwater field sheets	Provided	Yes
Chain of custody	Provided	Yes

[5] Laboratory duplicate RPDs were greater than the LOR based limits for iron in SED01. Since iron was not compared to any guidelines, its low concentration and slight exceedance over the laboratories LOR this is considered to have not impacted the results of the PSI.
[6] The frequency of quality control samples was less than 10% for TRH volatiles/BTEX in soil. The frequency of quality control samples was less than 10% in PAH/Phenols, Pesticides, PCBs, Semi volatile compounds, TRH for both the laboratory duplicates and matric spikes. This has been attributed to the low sample quantity submitted to the lab and is not considered to impact the results of the PSI.
[7] Laboratory matrix spike outliers exist for Benzo(k)Fluoranthene however this was considered not to impact on the outcome of the PSI as the recoveries were only marginally outside the upper recovery target of 129 % and given the low concentrations recorded in the samples.

Table 11 – DQI Results Summary		
Parameter	**Requirement**	**Objective Met**
Sample receipt acknowledgement	Provided	Yes
Laboratory reports	Provided	Yes
Comparability		
Sampling staff	Consistent sampling staff used	Yes
Laboratory accreditation	NATA accredited laboratory for methods used	Yes
Accredited methods	NATA accredited methods used appropriate for each analyte	Yes
ASC NEPM (2013) lab methods	Lab methods consistent with the ASC NEPM (2013)	Yes
Laboratory reporting limit consistent and appropriate	Meet Requirement	Yes
Consistent weather / field conditions	Consistent	Yes

On the basis of the information provided in **Table 11**, EP Risk considers that the DQIs for the project have been met and the data is appropriate for the purposes of this assessment.

6 Environmental Quality Criteria

6.1 Soil Criteria

For the purposes of assessing the results of analytical testing of soils at the Site, the following guidelines were considered:

- ASC NEPM 2013.
- NSW EPA Auditor Guidelines (2017).
- CRC CARE.
- National Acid Sulfate Soil Guidance (2018).

EP Risk has adopted the ASC NEPM (2013) Tier 1 Guidelines in accordance with NSW EPA (2017). In accordance with the decision-making process for assessing urban redevelopment sites (Appendix A, NSW EPA, 2017), soil concentrations were compared against the following soil investigation levels (SILs):

- **Health-based Criteria for the current and proposed land use**: ASC NEPM 2013 Health-based Investigation Levels (HILs) and Health Based Screening Levels (HSLs) for residential and recreational land use and the CRC Care (2011) HSLs for intrusive maintenance worker (shallow trench) and direct contact.
- **Ecological Criteria**: ASC NEPM 2013 Ecological-based Investigation Levels (EILs) and Ecological based Screening Levels (ESLs) for residential and recreational land use.
- **Management Limits**: ASC NEPM 2013 management limits are based upon the physical properties of petroleum hydrocarbons to form observable light non-aqueous phase liquid (LNAPL); create fire and explosion hazards or penetrate or damage underground services. The management limits for residential / parkland use based on fine soil have been adopted.
- **Aesthetics**: The consultant should also consider the need for remediation based on the 'aesthetic' contamination as outlined in Schedule B (1) of the ASC NEPM 2013 that states that *'there are no numeric Aesthetic Guidelines however site assessment requires balanced consideration of the quality, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity*'. Soil odour, discolouration and the presence of anthropogenic materials will need to be assessed during the assessment.

The adopted soil criteria for the site are presented in **Table 12**.

Table 12 – Adopted Soil Criteria

Guidelines	COPC	Adopted Criteria
ASC NEPM 2013	Heavy metals/OCP/PCB /asbestos	• HIL A (residential).
	Heavy metals/OCP/PAH	• EIL (urban residential and public open space); < 2 m
	TRH and BTEXN	• Vapour intrusion HSL A (urban residential and public open space); • 0 - <1m; clay • ESLs (urban residential and public open space); <2m
	TRH	• Management limits (urban residential and public open space); fine soil.

Table 12 – Adopted Soil Criteria		
Guidelines	**COPC**	**Adopted Criteria**
CRC Care (2011)	TRH and BTEXN	• Direct contact and intrusive maintenance workers HSLs • Vapour Intrusion HSLs for Intrusive Maintenance Workers (Shallow Trench)
National Acid Sulfate Soils Guidance (2018)	pH (field/fox)	• pH_f and pH_{fox} reaction
	Net acidity	• Criteria for fine textured soil >1000 tonnes

On the basis of the proposed development and likely future land use, EP Risk has adopted the HILs, HSLs, EILs and ESLs for a residential land use setting, which is appropriate for the future land use.

6.2 Sediment Criteria

For the purposes of assessing the results of analytical testing of sediments at the Site, the following guidelines were considered:

- ANZG (2018) *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.
- Simpson et al (2005) CSIRO Handbook for Sediment Quality Assessment.

The adopted criteria for initial screening of sediments were the ANZG (2018) toxicant default guidelines values for sediment quality. In absence of locally applicable sediment guidelines for a number of analytes, the results were compared to the laboratory limits of reporting and / or upstream (background) values (where applicable).

6.3 Surface Water Criteria

For the purposes of assessing the results of analytical testing of surface water at the Site, the following guidelines were considered:

- ANZG (2018);
- ASC NEPM (2013);
- ANZECC (2000);
- NSW EPA Auditor Guidelines (2017); and

Where the default criteria are exceeded, additional investigations may be required. Where no criterion is available, the background levels (if known) or the laboratory limit of reporting (LOR) can be adopted as the surface water criteria.

7 Results

7.1 Subsurface Conditions

The subsurface conditions encountered in the test pits advanced across the Site are detailed on the report log sheets, attached in **Appendix D** with locations shown on **Figure 3**. A summary of subsurface conditions is presented in **Table 13**. In general, the subsurface can be summarised as follows:

Table 13 – Geotechnical Units

Unit	Material	Description / Depth Encountered	Comment
1a	Topsoil	Dry, loose, fine to coarse grained silty SAND from 0.0 to 0.4 m BGL.	-
2a	Residual.	Natural sandy CLAY from 0.2 to 2.4 m BGL	-
3b	XW Sandstone	Fine to coarse grained, low to moderate strength, dry from 1.5 m to 2.4 m BGL	-

A general summary of the subsurface conditions encountered across the site is presented in **Table 14**.

Table 14 – Summary of subsurface conditions

Test Pit ID	Depth of Topsoil/ **Fill** (m BGL)	Depth to Rock (m BGL)	Summary of subsurface profile
TB01	0.3	2.0	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TB02	0.2	1.5	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TP03	0.2	2.1	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TP04	0.3	1.8	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TP05	0.2	2.1	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TP06	0.2	2.2	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TP07	0.4	2.3	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TP08	0.3	2.1	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TP09	0.3	2.4	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TP10	0.3	2.0	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE
TP20	0.3	2.0	TOPSOIL (Silty SAND) / Sandy CLAY / XW SANDSTONE

No groundwater or seepage was encountered in the test pits at the time of fieldwork. It should be noted that groundwater levels are likely to fluctuate with variations in climatic and site conditions. Detailed soil profile logs are attached as **Appendix D.**

7.2 Soil Vapour Screening

No signs of visual staining or odours were observed in any sample collection with PID readings all recorded at <1 ppm.

7.3 Analytical Testing – Soil

The results of soil analytical testing are contained in the analytical summary tables section at the rear of the report and the laboratory Certificates of Analysis are attached as **Appendix E.**

7.3.1 TRH / BTEXN / PAH / OCP / PCB / Heavy Metals

TRH / BTEXN / OCP / PCB / PAH / Heavy metal concentrations of the soil samples analysed were reported below the adopted environmental criteria and/or laboratory reporting limits.

7.3.2 Asbestos

The following asbestos results were reported:

- Asbestos was detected in one material sample (ACM01_ID) collected from the surface of the Site.
- ACM (as 15% asbestos in ACM >7mm) was reported in excess of the ASC NEPM HSL A w/w% criteria at ACM01.
- All asbestos fines (AF) / fibrous asbestos (FA) concentrations were reported below the adopted criteria.
- Respirable (free) fibres were not reported in any asbestos sample collected.

7.3.3 Acid Sulfate Soil

The following acid sulfate soil results were reported:

- pH_F results were recorded all greater than the adopted criteria.
- pH_{FOX} results were recorded all greater than the adopted criteria.
- The difference between pH_F and pH_{fox} was recorded greater than 1 in all ASS samples collected with the exception of ASS02. This suggested that there are potential acid sulfate soils within the residual sandy clay layer across the Site. Therefore, chromium suite testing was conducted to determine the type of acidity present.
- Results for chromium reducible sulfur suite analysis were above the adopted action criteria for net acidity of the soil at TP01_0.5, TP4_0.5, TP06_1.0, TP07_1.0 and TP09_1.0, should any amount of material volume be disturbed that originated from the residual sandy clay layer.

7.3.4 Microbiological

Faecal coliform and *E. coli* concentrations were reported below the adopted assessment criteria.

7.4 Analytical Testing – Sediment

The results of sediment analytical testing are contained in the analytical summary tables at the rear of the report and laboratory Certificates of Analysis are attached as **Appendix E.**

7.4.1 BTEX / TPH / PAH / OCP / PCB / Heavy Metals

All BTEX / TPH / PAH / OCP / PCB and heavy metal concentrations were reported below the adopted screening value criteria and / or laboratory LOR in all samples.

7.4.2 Microbiological

Concentrations of faecal coliform and *E. coli* were reported above the laboratory LOR.

7.5 Analytical Testing – Surface Water

The results of surface water analytical testing are contained in the analytical summary tables at the rear of the report and laboratory Certificates of Analysis are attached as **Appendix E.**

7.5.1 TRH / BTEXN / PAH / OCP / OPP / Heavy Metals

All TRH / BTEXN / PAH / OCP / OPP and heavy metal concentrations were reported below the adopted assessment criteria in all samples.

7.5.2 Microbiological

Faecal coliform and *E. coli* concentrations were reported below the adopted assessment criteria except for SW01 which exceeded the adopted ANZECC 2000 guidelines for Recreational Water Quality and Aesthetics: Primary Contact. The recorded concentration of Faecal Coliforms was 840 CFU/100 mL which exceeded the criteria value of 600 CFU/100 mL. Although, since the dam water is not currently used for recreational purposes and will be dewatered as part of the future development, this exceedance is not considered to pose a current or future health risk.

8 Site Characterisation

Based on the decision-making process for assessing urban redevelopment sites detailed in NSW EPA Auditor Guidelines (2017) and discussed in **Section 6**, the decisions required to be made are detailed below.

8.1 Soil Assessment and potential for migration to groundwater

The results of the analytical soil testing were reported either below the adopted health-based assessment criteria or the laboratory LOR, with the exception of:

- A bonded (non-friable) ACM fragment observed on the surface of the Site above the adopted criteria.

Therefore soil has been assessed against the relevant health-based investigation levels and there is a low risk for the migration of contamination from soil to groundwater as the likelihood of the migration of asbestos fibres to groundwater from a bonded (non-friable) fragment is considered to be low.

8.2 Aesthetic issues

Several stockpile mounds comprising of anthropogenic material were observed across the Site that will require management during redevelopment. The anthropogenic material comprised of concrete, brick, wood and bricks. There was no visual or olfactory evidence of hydrocarbon or other contamination. The locations of the stockpile mounds are shown in **Figure 2**.

8.3 Groundwater

As shallow groundwater was not encountered to the maximum depth of the investigation (2.5 m BGL), and the risk of migration of contaminants from soil to groundwater was considered to be low, assessment of groundwater was not considered to be warranted.

8.4 Hazardous Ground Gases

As field screening with the PID reported volatile organic compound (VOC) readings less than 1 ppm and all soil concentrations were reported below the adopted criteria, assessment of hazardous ground gases was not considered to be warranted.

8.5 Local Area Background Conditions

As no off-site potential sources of contamination were identified in the site history review and soil concentrations were reported below the adopted criteria, local area background conditions have been adequately addressed.

8.6 Impacts of Chemical mixtures

As all soil concentrations were reported below the adopted criteria, there were not impacts of chemical mixtures identified.

8.7 Human Health or Ecological Risks

The following potential human health and ecological risks were identified:

- An observed bonded (non-friable) ACM fragment above the adopted criteria on the surface of the Site and elevated ACM in soil concentrations above the adopted criteria at one location.
- Elevated net acidity concentrations reported above the adopted soil criteria in the sandy CLAY layer across the Site.
- Detectable E-coli and faecal coliform concentrations in the sediment sample collected from the dam.
- Detectable E-coli and faecal coliform concentrations in the water sample collected from the dam.

8.8 Potential for Migration Off-site

An assessment of the potential for migration is provided below:

- Based upon, the localised area of bonded (non-friable) ACM and the absence of any detected friable asbestos, there is a low risk for the generation of airborne asbestos fibres and migration off-site.
- Whilst the sandy CLAY layer remains undisturbed, there is a low risk of acid generation and leaching to waterways and migration off-site. Any future disturbance works of the sandy CLAY will require the development and implementation of an acid sulfate soil management plan.
- The E-coli and faecal coliform impact to sediment and surface water in the dam is considered representative of the rural land use at the Site and surrounding land. Therefore, whilst surface water is likely to flow off-site from the dam during high rainfall events, these concentrations are considered to be representative of background conditions and are unlikely to present an additional risk to human health or the environment.

8.9 Is further assessment or a site management strategy required ?

Based on the number of sampling locations and outcomes of the DQI and QA/QC assessment, it is considered sufficient data was collected of an adequate quality to enable the decision questions to be answered.

The site history review and soil sampling program identified a localised area of bonded (non-friable) ACM at the site surface and the potential for the generation of acid sulfate soils during soil disturbance works.

Given the localised nature of impacted areas, further assessment is not warranted. The characterisation of acid sulfate soil is considered sufficient to enable the development of an acid sulfate soil management plan. The bonded (non-friable) ACM fragment should be removed and a clearance certificate provided in accordance with SafeWork NSW (2019*) Code of Practice How to Safely Remove Asbestos*.

The E. coli and faecal coliform impact to sediment and surface water in the on-site dam are not considered to be a risk to human health for the Proposed Development as it is proposed to be redeveloped. Should the dam be retained then the concentrations will likely decrease over time and these trends should be confirmed by future monitoring.

9 Conceptual Site Model

A CSM has been developed based upon the information provided in previous sections of this report.

9.1 Contaminating Activities

The main contaminating activity undertaken at the Site is:

- Rural land use.
- Stockpiling of anthropogenic material in stockpiles scattered across the Site.
- Acid sulfate soil across the Site.

9.2 Affected Media

The potential affected media at the Site are soil, sediment and water.

9.3 Human and Ecological Receptors

Sensitive receptors identified at and near the Site were considered to be:

- Future residents of the proposed subdivision (ASC NEPM 2013 HIL A and HSL A – residential with garden accessible soil)
- Future construction and sub-surface maintenance workers at the Site (ASC NEPM 2013 HIL D – commercial / industrial; CRC CARE 2011 Direct contact and intrusive maintenance workers HSLs and Vapour Intrusion HSLs for Intrusive Maintenance Workers (Shallow Trench)).
- Recreational users of the future residential development (ASC NEPM 2013 HIL C and HSL C – Recreational)
- Terrestrial fauna and flora at the Site and on adjoining land (ASC NEPM EIL and ESLs).

9.4 Potential and Complete Exposure Pathways

An analysis of the potential exposure pathways between the COPC and the identified human and ecological receptors are presented in **Table 15**.

Table 15 – Source-Pathway-Receptor Linkages

Sources				Pathways	Receptors	Linkages	Comments
Primary	**Secondary**	**Contaminants**	**Affected Media**	**Exposure Pathways**			
Stockpiled Anthropogenic material	Building and demolition waste	Bonded (non-friable) ACM	Soil and air	Human Health: • Inhalation	Future residents and construction workers	Potentially complete	The bonded (non-friable) ACM impact should be removed and a clearance report provided.
	Presence of anthropogenic materials	Aesthetic	Soil	Visual amenity	Future residents	Potentially complete	Will need to remove these stockpiles from the Site prior to completion of the future development.
Acid Sulfate Soil	Generation of acidity	Net acidity	Soil and water	Ecological: • Acidification of soil and water	Terrestrial and aquatic fauna and flora at the Site	Potentially complete	Based on the ASS results, it is considered that the sandy CLAY soil profile located across the Site is an acid sulfate soil. Where disturbance of the sandy CLAY is proposed, an Acid Sulfate Soil management Plan should be developed and implemented.
Rural land use	Microbiological impact	E. coli and faecal coliforms	Sediment and water	Human health: • ingestion	Recreational users of waterbodies	Potentially complete	The dam is to be decommissioned during redevelopment and therefore the source – pathway – receptor linkage is incomplete. Should the dam be retained in the Proposed Development then additional monitoring will be required.

10 Conclusion

This report presents the findings of a PSI undertaken at the Site, located at 507 Raymond Terrace Road, Chisholm, NSW. The Site is currently zoned as R1 residential and it is understood that the Site is proposed to be redeveloped into a low density residential development. The Site is legally identified as Lot 31 in Deposited Plan (DP) 77811 and is approximately 7.15 ha in area. The PSI comprised of a site history review and the collection of soil, sediment and surface water samples from a grid based and targeted sampling pattern across the Site.

The review of site history information identified the Site to have been used for rural lifestyle land use sometime prior to 1954 and up to 2021 and also compromised of native eucalypt bushland and an easement. No major potentially contaminating activities, with the exception of rural land use were identified from the historical land ownership review. A search of former business directories spanning circa 1950 to 1991 identified no adjacent commercial uses during this period.

The Site comprised of a large rectangle shaped lot situated to the north of Raymond Terrace Road. The land use comprised of rural lifestyle living with some of the Site cleared of vegetation. Large mature eucalypt trees were scattered across the Site. The Site is located within an area of R1 General Residential zoned land.

Topographically the Site had gentle sloping gradients facing north and south with a gulley transecting the centre with elevations ranging from 17 metres m AHD in the centre of the gulley to 28 m AHD in the north and south portions of the Site. A small creek enters the site from the east and flows into the dam which is located in the centre of the Site. The Site drainage is considered to consist of surface runoff migrating across the Site as overland flow into the dam and creek on the Site.

the Site is underlain by the Palaeozoic aged Maitland Group, Mulbring Siltstone which typically comprises siltstone and sandstone. The Maitland LEP (2011) identified the Site to be within a Class 5 acid sulfate soil classification, where acid sulfate soils are not typically found. It is noted a Class 3 area is located within 500 m north of the Site.

No groundwater bores located on the Site with fractured or fissured, extensive aquifers of low to moderate productivity likely to be present. Regional groundwater flow direction is expected to be predominantly to the west. With reference to the Mining Subsidence District Data Source (2016), the Site is not located within a mining subsidence district, however historical exploration leases were identified.

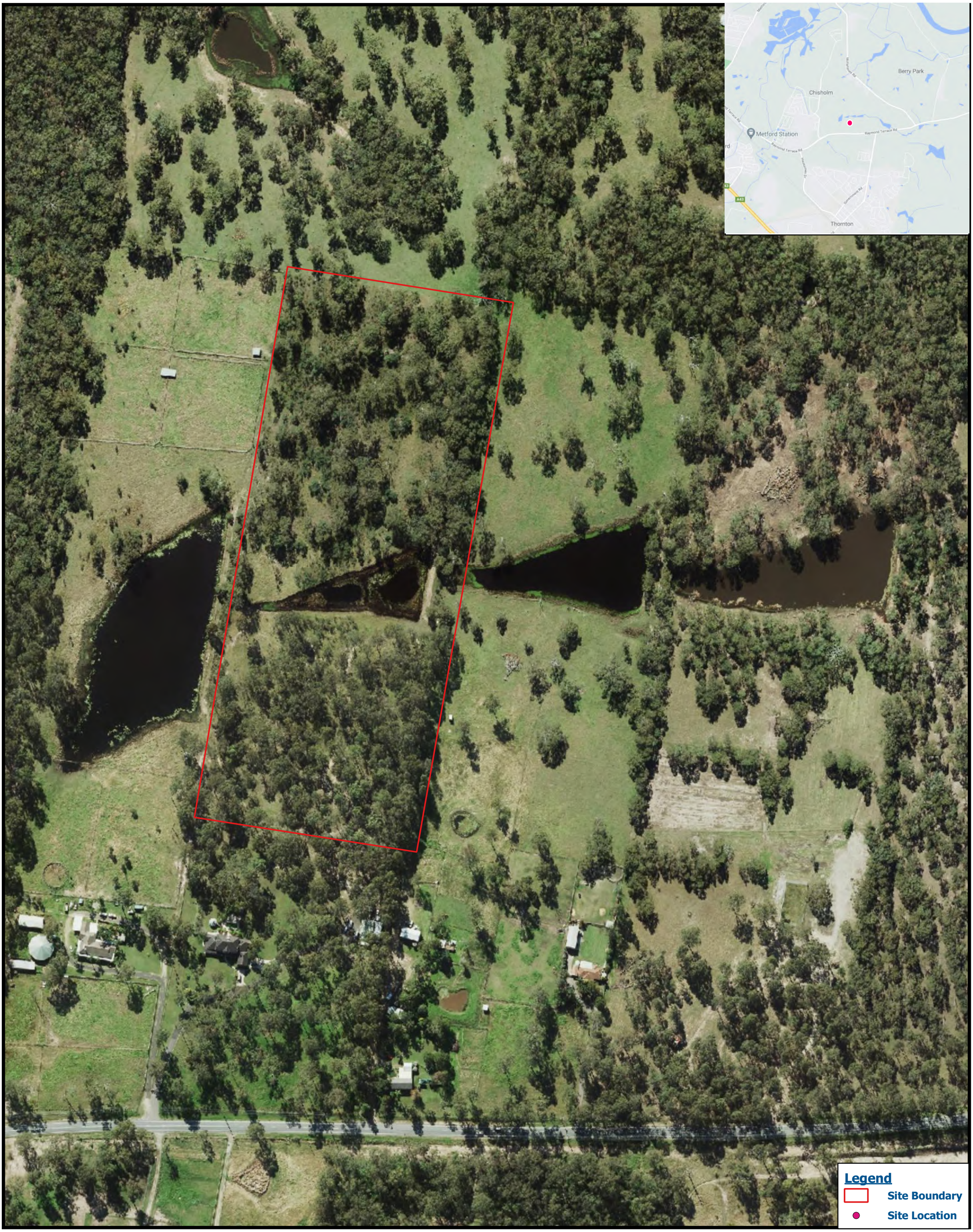
Fieldwork investigations for the PSI comprised the collection of soil samples from 10 grid and/or targeted based locations across the Site and the collection of one surface water and one sediment sample from the dam located at the Site. Several stockpile mounds comprising of anthropogenic material were observed across the Site. The anthropogenic material comprised of concrete, brick, wood and bricks. There was no visual or olfactory evidence of hydrocarbon or other contamination.

Results of soil analytical testing reported concentrations of the COPC below the laboratory LOR or adopted health and/or ecological based criteria except for one bonded (non-friable) ACM location on the soil surface and potential acid sulfate soil in the sandy CLAY layer across the Site. E. coli and faecal coliform impact was identified in sediment and surface water samples collected from the on-site dam. Anthropogenic material including bricks, concrete, wood and tiles were identified in stockpiles scattered across the Site.

Based on the results of the Site history review, site inspection and analytical results, the Site is considered to present a low risk of contamination. The results of analytical testing have been reported at levels that would not preclude the proposed development of the Site for residential land use, subject to completion of the following recommended works:

- The area where the bonded (non-friable) ACM fragment was identified should be raked (top 10cm) and any further fragments removed. At the completion of ACM removal a clearance certificate must be provided in accordance with SafeWork NSW (2019*) Code of Practice How to Safely Remove Asbestos*.
- Removal and disposal of anthropogenic waste in areas identified in **Figure 2**.
- Development of an acid sulfate soil management plan should redevelopment involve disturbance of the residual sandy CLAY horizon across the entire Site.
- An unexpected finds protocol should be implemented during redevelopment to address any unidentified contamination that may be encountered during the proposed redevelopment works.
- Should the onsite dam not be decommissioned during redevelopment works, then additional sediment water monitoring will be required.

Figures



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507 Raymond Terrace Road, Chisholm, NSW

Figure 1 - Site Location

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Job No: EP1977.001
Date: 29/03/2021
Drawing Ref: Fig 1
Version No: v1

N

0 40 80 120 m

Approximate Scale Only

Coordinate System: MGA 56
Drawn by: LK Checked by: PS
Scale of regional map not shown
Source: Near Maps

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

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507 Raymond Terrace Road, Chisholm, NSW

Figure 2 - Site Features

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Job No: EP1977.001
Date: 29/03/2021
Drawing Ref: Fig 2
Version No: v1

N

0 40 80 120 m

Approximate Scale Only

Coordinate System: MGA 56
Drawn by: LK Checked by: PS
Scale of regional map not shown
Source: Near Maps

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

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Figure 3 - Sampling Locations

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Drawing Ref: Fig 3
Version No: v1

N

0 40 80 120 m

Approximate Scale Only

Coordinate System: MGA 56
Drawn by: LK Checked by: PS
Scale of regional map not shown
Source: Near Maps

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

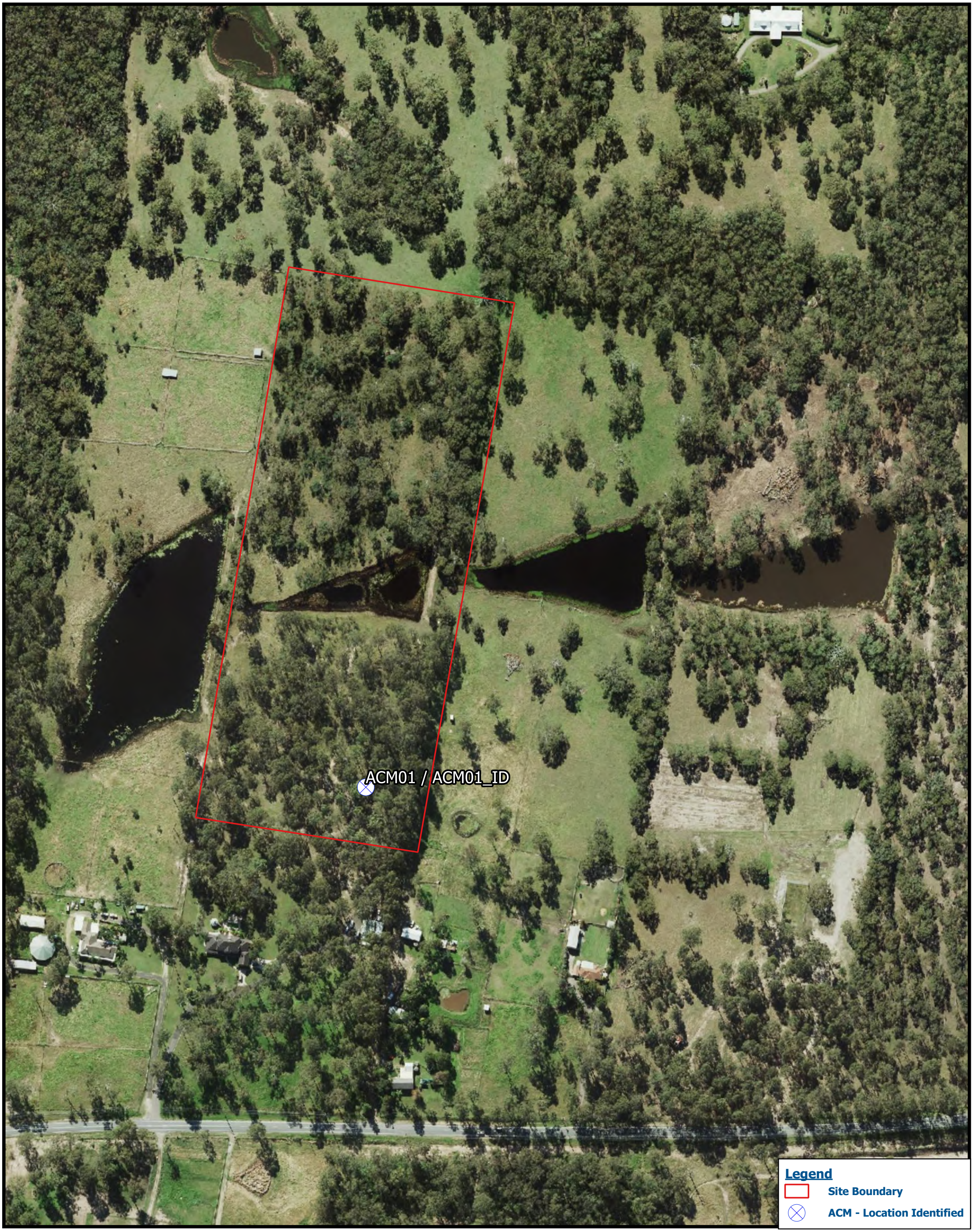

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Figure 4 - Identified Asbestos Location

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Job No: EP1977.001
Date: 29/03/2021
Drawing Ref: Fig 4
Version No: v1

N

0 40 80 120 m

Approximate Scale Only

Coordinate System: MGA 56
Drawn by: LK Checked by: PS
Scale of regional map not shown
Source: Near Maps

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Analytical Tables

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Table 1 A - Soil Analytical Results

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		BTEX							TRH							Halogenated Benzenes	Inorganics	Metals								Organochlorine Pesticides																			
		Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Hexachlorobenzene	% Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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
EQL		0.2	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	0.0005	0.1	5	1	2	5	5	0.01	2	5	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil									800		1,000		3,500	10,000																															
CRC Care - Soil Vapour HSL for intrusive maintenance workers (shallow trench)																																												
0<2m		350																																										
CRC Care - Soil Vapour HSL-A residential direct contact		100	14,000	4,500			12,000		4,400		3,300		4,500	6,300																															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																																												
0-1m		3000																																										
1-2m		20000																																										
2-4m		40000																																										
>=4m		81000																																										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay		0.7 | 1 | 2 | 3	480				110 | 310			50 | 90 | 150 | 290		280																															
0-1m		0.7	480				110			50		280																															
1-2m		1					310			90																																	
2-4m		2								150																																	
>=4m		3								290																																	
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																		100		320	20	1100		320	160											180								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil		65	105	125			45			180	120	120	1,300	5,600																													
0-2m				125			45				120	120																																
NEPM 2013 Table 1A(1) HILs Res A Soil																10		100	20		6,000	300	40	400	7,400				6		50					240		270					
NEPM 2013 Table 1A(1) HILs Res B Soil																15		500	150		30,000	1,200	120	1,200	60,000				10		90					600		400					
NEPM 2013 Table 1A(1) HILs Rec C Soil																10		300	90		17,000	600	80	1,200	30,000				10		70					400		340					
Field ID	**Date**																																												
TP01_0.1	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	220	140	360	<0.05	21.5	<5	<1	7	<5	16	<0.1	4	22	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP02_0.5	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	16.7	9	<1	18	12	20	<0.1	4	26	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP03_0.1	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	10.9	11	<1	21	<5	16	<0.1	2	9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP04_0.5	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	18.9	9	<1	20	<5	16	<0.1	2	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP05_0.1	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	12.0	22	<1	25	<5	35	<0.1	3	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP06_0.5	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	18.4	8	<1	25	<5	13	<0.1	3	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP07_0.1	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	13.0	15	<1	50	<5	18	<0.1	2	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP08_0.5	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	17.1	8	<1	11	6	17	<0.1	<2	7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP09_0.1	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	13.8	<5	<1	9	<5	11	<0.1	2	9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP10_0.5	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	19.3	7	<1	17	<5	14	<0.1	<2	6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Res A Soil
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Rec C Soil

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Table 1 A - Soil Analytical Results

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									PAH																	PCBs	TPH				
		Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	PCBs (Sum of total)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.0005	0.0005	0.0005	0.00025	0.0005	0.0005	0.0005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.1	10	50	100	100	50
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																															
CRC Care - Soil Vapour HSL for intrusive maintenance workers (shallow trench)																															
0<2m																															
CRC Care - Soil Vapour HSL- A residential direct contact																															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																															
0-1m																															
1-2m																															
2-4m																															
>=4m																															
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																						5									
0-1m																						5									
1-2m																															
2-4m																															
>=4m																															
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																						170									
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil													0.7																		
0-2m													0.7																		
NEPM 2013 Table 1A(1) HILs Res A Soil		10				6		300																	300	1					
NEPM 2013 Table 1A(1) HILs Res B Soil		20				10		500																	400	1					
NEPM 2013 Table 1A(1) HILs Rec C Soil		20				10		400																	300	1					
Field ID	**Date**																														
TP01_0.1	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	130	170	300
TP02_0.5	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	<100	<100	<50
TP03_0.1	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	<100	<100	<50
TP04_0.5	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	<100	<100	<50
TP05_0.1	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	<100	<100	<50
TP06_0.5	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	<100	<100	<50
TP07_0.1	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	<100	<100	<50
TP08_0.5	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	<100	<100	<50
TP09_0.1	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	<100	<100	<50
TP10_0.5	**25/02/2021**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<10	<50	<100	<100	<50

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Res A Soil
2013, NEPM 2013 Table 1A(1) HILs Res B Soil
2013, NEPM 2013 Table 1A(1) HILs Rec C Soil

Table 1B - Acid Sulfate Soils

	Acid Sulphate Soils - Field screen				
	pHF	pHFox	pHF - pHFox	Net Acidity*	Net Acidity*
	pH	pH		% S-equiv	Mol H+/t
PASS and ASS Screen Indicators	<4	<3	>1		
Fine Material 1- 1000 Tonne disturbed				> 0.1	>62
Fine Material >1 000 Disturbed				>0.03	>18

Field ID	Date					
ASS01 (TP01_0.5 - sandy clay)	**25/02/2021**	5.4	4.1	1.3	-	-
ASS02 (TP01_1.0 - sandy clay)	**25/02/2021**	5.0	4.1	0.9	0.13	81
ASS03 (TP02_0.5 - sandy clay)	**25/02/2021**	5.1	3.7	1.4	-	-
ASS04 (TP02_1.0 - sandy clay)	**25/02/2021**	5.0	3.8	1.2	-	-
ASS05 (TP03_0.5 - sandy clay)	**25/02/2021**	4.9	3.8	1.1	-	-
ASS06 (TP03_1.0 - sandy clay)	**25/02/2021**	5.1	4.0	1.1	-	-
ASS07 (TP04_0.5 - sandy clay)	**25/02/2021**	5.4	3.8	1.6	0.19	120
ASS08 (TP04_1.0 - sandy clay)	**25/02/2021**	4.9	3.9	1	-	-
ASS09 (TP05_0.5 - sandy clay)	**25/02/2021**	5.5	4.0	1.5	-	-
ASS10 (TP05_1.0 - sandy clay)	**25/02/2021**	5.2	4.0	1.2	-	-
ASS11 (TP06_0.5 - sandy clay)	**25/02/2021**	5.0	3.6	1.4	-	-
ASS12 (TP06_1.0 - sandy clay)	**25/02/2021**	4.9	3.5	1.4	0.14	88
ASS13 (TP07_0.5 - sandy clay)	**25/02/2021**	5.0	3.7	1.3	-	-
ASS14 (TP07_1.0 - sandy clay)	**25/02/2021**	4.8	3.5	1.3	0.14	86
ASS15 (TP08_0.5 - sandy clay)	**25/02/2021**	4.8	3.8	1	-	-
ASS16 (TP08_1.0 - sandy clay)	**25/02/2021**	5.0	3.9	1.1	-	-
ASS17 (TP09_0.5 - sandy clay)	**25/02/2021**	5.0	3.4	1.6	-	-
ASS18 (TP09_1.0 - sandy clay)	**25/02/2021**	5.3	3.8	1.5	0.14	90
ASS19 (TP10_0.5 - sandy clay)	**25/02/2021**	5.1	4.0	1.1	-	-
ASS20 (TP10_1.0 - sandy clay)	**25/02/2021**	5.3	4.0	1.3	-	-

Notes:

*** Excludes acid netralising capacity**

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Table 1 C - Asbestos in Soil and Asbestos ID Results

EP1977.001

		Asbestos												
		Asbestos (Fines and Fibrous <7mm)	Asbestos (Trace)	Asbestos Containing Material	Asbestos Containing Material (as 15% Asbestos in ACM)	Asbestos from FA & AF	Fibrous Asbestos >7mm	Synthetic Mineral Fibre	Unknown Mineral Fibre	APPROVED IDENTIFIER:	Asbestos Type	Asbestos fibres	Asbestos fibres
		g	Fibres	g	% (w/w)	%w/w	g	g/kg	g/kg	-	Detect	Detect	g/kg
EQL		0.0004	5	0.1	0.01	0.001	0.0004	0.1	0.1				
NEPM 2013 FA + AF (friable asbestos)						<0.001							
NEPM 2013 Bonded ACM residential A					<0.01								
NEPM 2013 Bonded ACM residential B					<0.04								
Field ID	**Date**												
ACM01	**25/02/2021**	<0.0004	No	<0.1	0.015	<0.001	<0.0004	No	-	Yes	N/A	-	No
ACM02	**25/02/2021**	<0.0004	No	<0.1	<0.01	<0.001	<0.0004	No	-	Yes	N/A	-	No
ACM03	**25/02/2021**	<0.0004	No	<0.1	<0.01	<0.001	<0.0004	No	-	Yes	N/A	-	No
ACM04	**25/02/2021**	<0.0004	No	<0.1	<0.01	<0.001	<0.0004	No	-	Yes	N/A	-	No
ACM05	**25/02/2021**	<0.0004	No	<0.1	<0.01	<0.001	<0.0004	No	-	Yes	N/A	-	No
ACM01_ID	**25/02/2021**	-	Yes	-	-	-	-	No	Yes	Yes	N/A	Yes	-
ACM03_ID	**25/02/2021**	-	No	-	-	-	-	No	-	Yes	N/A	-	No

	Date	BTEX: Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		1	2	2	2	2	2	1
ANZG 2000 FW 95%		950				350		
ANZG 2000 FW 99%		600				200		
ANZECC 2000 Irrigation Long Term Trigger Values								
ANZECC 2000 Irrigation Short Term Trigger Values								
ANZECC 2000 Livestock DW Low Risk Trigger Values								
ANZECC 2000 Recreational water quality and aesthetics		10						
Field ID	**Date**							
SW01	**25/02/2021**	<1	<2	<2	<2	<2	<2	<1

	TRH: C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Halogenate: Hexachlorobenzene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	20	20	100	100	100	100	100	0.5
ANZG 2000 FW 95%								
ANZG 2000 FW 99%								
ANZECC 2000 Irrigation Long Term Trigger Values								
ANZECC 2000 Irrigation Short Term Trigger Values								
ANZECC 2000 Livestock DW Low Risk Trigger Values								
ANZECC 2000 Recreational water quality and aesthetics								
SW01	<20	<20	<100	<100	<100	<100	<100	<0.5

	Metals: Arsenic (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005
ANZG 2000 FW 95%		0.0002		0.0014	0.0034	0.0006	0.011	0.008
ANZG 2000 FW 99%		0.00006		0.001	0.001	0.00006	0.008	0.0024
ANZECC 2000 Irrigation Long Term Trigger Values	0.1	0.01	0.1	0.2	2	0.002	0.2	2
ANZECC 2000 Irrigation Short Term Trigger Values	2	0.05	1	5	5	0.002	2	5
ANZECC 2000 Livestock DW Low Risk Trigger Values	0.5	0.01	1	0.4	0.1	0.002	1	20
ANZECC 2000 Recreational water quality and aesthetics	0.05	0.005	0.05	1	0.05	0.001	0.1	5
SW01	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005

	Organochlorine Pesticides: 4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5
ANZG 2000 FW 95%						0.08					0.01	
ANZG 2000 FW 99%						0.03					0.006	
ANZECC 2000 Irrigation Long Term Trigger Values												
ANZECC 2000 Irrigation Short Term Trigger Values												
ANZECC 2000 Livestock DW Low Risk Trigger Values												
ANZECC 2000 Recreational water quality and aesthetics			1			6					3	
SW01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5

	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2
ANZG 2000 FW 95%					0.02			0.2	0.09		
ANZG 2000 FW 99%					0.01			0.07	0.01		
ANZECC 2000 Irrigation Long Term Trigger Values											
ANZECC 2000 Irrigation Short Term Trigger Values											
ANZECC 2000 Livestock DW Low Risk Trigger Values											
ANZECC 2000 Recreational water quality and aesthetics	1				1			10	3		
SW01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0

	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos
	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.5	0.5	0.5	0.5	0.5
ANZG 2000 FW 95%	0.02				0.01
ANZG 2000 FW 99%	0.01				0.00004
ANZECC 2000 Irrigation Long Term Trigger Values					
ANZECC 2000 Irrigation Short Term Trigger Values					
ANZECC 2000 Livestock DW Low Risk Trigger Values					
ANZECC 2000 Recreational water quality and aesthetics	10	20	1	10	2
SW01	<0.5	<0.5	<0.5	<0.5	<0.5

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 Rec Water Quality and Aesthetics: Primary contact
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

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Table 2 A - Water Analytical Results

EP1977.001

		Organophosphorous Pesticides										PAH																								Pesticides				TPH				
		Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Pirimiphos-ethyl	1-methylnaphthalene	2-methylnaphthalene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Carcinogenic PAH	Benz(a)anthracene	Benz(a)pyrene	Benzo(a)-/fluoranthene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)Pyrene	Naphthalene	Phenanthrene	Perylene	Pyrene	PAHs (sum of total)	Demeton-S-methyl	Fenamiphos	Parathion	Pirimiphos-ethyl	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
		mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.0005	0.5	0.5	0.5	0.5	0.5	0.5	2	2	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.0001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.05	0.5	0.5	2	0.5	20	50	100	50	50
ANZG 2000 FW 95%			0.01		0.15			0.05																						16							0.004							
ANZG 2000 FW 99%			0.00003		0.1			0.002																						2.5							0.0007							
ANZECC 2000 Irrigation Long Term Trigger Values																																											
ANZECC 2000 Irrigation Short Term Trigger Values																																											
ANZECC 2000 Livestock DW Low Risk Trigger Values																																											
ANZECC 2000 Recreational water quality and aesthetics			10	20	100	6		100	6	2										0.01																	30	1						
Field ID	**Date**																																											
SW01	25/02/2021	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.0001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<2.0	<0.5	<20	<50	<100	<50	<50

Environmental Standards

DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 Rec Water Quality and Aesthetics: Primary contact
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

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Table 3 A - Sediment Analytical Results

EP1977.001

		BTEX							TRH								Halogenated Benzenes	Inorganics	Metals								Organochlorine Pesticides																			
		Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Hexachlorobenzene	Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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
EQL		0.2	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	0.0005	0.1	5	1	2	5	5	0.01	2	5	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
ANZG 2018 Default Guideline Values (DGVs) - High level																		70	10	370	270	220	1	52	410	0.007					0.009				0.009	0.005		0.007					
ANZG 2018 DGV																		20	1.5	80	65	50	0.15	21	200	0.0014					0.0045				0.0035	0.0012		0.0028					
Field ID	**Date**																																										
SED01	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	140	120	260	<0.00050	43.6	<5	<1	10	<5	14	0.02	2	20	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

Environmental Standards

DoE, 2000, ANZECC 2000 Sediment ISGC-High

DoE, 2000, ANZECC 2000 Sediment ISGC-Low

Table 3 A - Sediment Analytical Results

										PAH																								PCBs	TPH	
		Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Oxychlordane	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Coronene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Perylene	Pyrene	PAHs (Sum of total)	PCBs (Sum of total)	C6-C9 Fraction	C10-C36 Fraction (Sum)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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
EQL		0.0005	0.0005	0.0005	0.00025	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.1	10	50
ANZG 2018 Default Guideline Values (DGVs) - High level		0.06			0.0014																											50	0.28	280	
ANZG 2018 DGV		0.0027			0.0009																											10	0.034	550	
Field ID	**Date**																																		
SED01	**25/02/2021**	<0.00050	<0.00050	<0.00050	<0.00025	<0.00050	<0.00050	<0.00050	<0.00050	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	<0.01	0.02	0.02	<0.01	0.03	<0.01	0.06	<0.01	0.02	<0.01	0.02	<0.01	0.05	0.27	<0.1	<10	150

Environmental Standards
DoE, 2000, ANZECC 2000 Sediment ISGC-High
DoE, 2000, ANZECC 2000 Sediment ISGC-Low

Table 4A - Soil, Sediment and Water Biological Analytical Results

EP1977.001

	Biological			
	Faecal Coliforms		E. Coli	E. Coli
	orgs/g	CFU/100mL	orgs/g	cfu/100 ml
EQL	2	1	2	1
ANZECC 2000 Rec Water Quality and Aesthetics: Primary contact		600		

Field ID	Media	Date				
SED01	Sediment	25/02/2021	41		41	
SW01	Water	25/02/2021		840		840
TP01_0.1	Soil	25/02/2021	2		2	
TP03_0.1	Soil	25/02/2021	<2		<2	
TP05_0.1	Soil	25/02/2021	<2		<2	
TP06_0.1	Soil	25/02/2021	2		2	
TP07_0.1	Soil	25/02/2021	2		2	
TP09_0.1	Soil	25/02/2021	<2		<2	

Environmental Standards

DoE, 2000, ANZECC 2000 Rec Water Quality and Aesthetics: Primary contact

		BTEX							TRH								Halogenated Benzenes	Inorganics	Metals							Organochlorine Pesticides																	
		Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Hexachlorobenzene	Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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
EQL		0.2	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	0.0005	0.1	5	1	2	5	5	0.01	2	5	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Field ID	**Date**																																								
TP06_0.5	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	18.4	8	<1	25	<5	13	<0.1	3	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05
QC01	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.05	18.2	15	<1	31	<5	16	<0.1	3	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05
RPD %	**25/02/2021**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	81%	0%	21%	0%	21%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
QC02	**25/02/2021**	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.1	<20	<20	<50	<50	<100	<100	<50	-	-	19	<0.4	45	6.2	21	<0.1	5.6	28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05
RPD %	**25/02/2021**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	81%	0%	57%	21%	47%	0%	60%	73%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SED01	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	140	120	260	<0.00050	43.6	<5	<1	10	<5	14	0.02	2	20	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
QC03	**25/02/2021**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.00050	48.8	<5	<1	15	<5	17	0.02	4	23	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
RPD %	**25/02/2021**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	18%	115%	0%	-	0%	0%	40%	0%	19%	0%	67%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
QC04	**25/02/2021**	-	-	-	-	-	-	-	<20	<20	<50	<50	<100	<100	<100	-	-	15	<0.4	40	5	24	-	<5	30	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
RPD %	**25/02/2021**	-	-	-	-	-	-	-	0%	0%	0%	0%	33%	18%	89%	-	-	100%	0%	120%	0%	53%	-	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

										PAH																							PCBs	SVOCs	TPH				
Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Oxychlordane	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Coronene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Perylene	Pyrene	∑PAHs (Sum of total)	∑PCBs (Sum of total)	2-Acetylaminofluorene	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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
0.0005	0.0005	0.0005	0.0005	0.0005	0.00025	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.1	0.1	10	50	100	100	50
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.1	-	<10	<50	<100	<100	<50
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.1	-	<10	<50	<100	<100	<50
0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	0%	0%
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	<20	<20	<50	<50	<50
0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	-	0%	0%	0%	-	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	-	-	0%	0%	0%	0%	0%
<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00025	<0.00050	<0.00050	<0.00050	<0.00050	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	<0.01	0.02	0.02	<0.01	0.03	<0.01	0.06	<0.01	0.02	<0.01	0.02	<0.01	0.05	0.27	<0.1	<0.1	<10	<50	<100	150	150
<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00025	<0.00050	<0.00050	<0.00050	<0.00050	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.04	0.06	0.02	<0.01	0.02	0.03	<0.01	0.07	<0.01	0.02	<0.01	0.03	0.01	0.07	0.4	<0.1	<0.1	<10	<50	<100	<100	<50
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	29%	143%	0%	67%	67%	0%	0%	15%	0%	0%	0%	40%	0%	33%	39%	0%	0%	0%	0%	0%	0%	0%
<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00025	<0.00050	<0.00050	<0.00050	<0.00050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	0.007	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	0.019	-	-	<20	<20	<50	<50	<50
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	120%	143%	0%	120%	120%	0%	133%	0%	158%	0%	120%	0%	120%	0%	164%	174%	-	-	0%	0%	0%	0%	0%

Table 5 B - Water Quality Control Analysis

		BTEX							TRH						
		Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		1	2	2	2	2	2	1	20	20	100	100	100	100	100
Field ID	**Date**														
SW01	**25/02/2021**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100
QC05	**25/02/2021**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100
RPD %	**25/02/2021**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
QC06	**25/02/2021**	-	-	-	-	-	-	-	<20	<20	70	70	200	<100	270
RPD %	**25/02/2021**	-	-	-	-	-	-	-	0%	0%	0%	0%	67%	0%	92%

		Halogenated Benzenes	Metals							
		Hexachlorobenzene	Arsenic (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)
		µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		0.5	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005
Field ID	**Date**									
SW01	**25/02/2021**	<0.5	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005
QC05	**25/02/2021**	<0.5	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005
RPD %	**25/02/2021**	0%	0%	0%	0%	0%	0%	0%	0%	0%
QC06	**25/02/2021**	-	0.002	<0.0002	0.001	<0.001	<0.001	<0.00001	<0.001	<0.005
RPD %	**25/02/2021**	-	67%	0%	0%	0%	0%	0%	0%	0%

		Organochlorine Pesticides											
		4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5
Field ID	**Date**												
SW01	**25/02/2021**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5
QC05	**25/02/2021**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5
RPD %	**25/02/2021**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
QC06	**25/02/2021**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RPD %	**25/02/2021**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

		Organochlorine Pesticides														
		Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5
Field ID	**Date**															
SW01	**25/02/2021**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
QC05	**25/02/2021**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
RPD %	**25/02/2021**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
QC06	**25/02/2021**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<2	<2
RPD %	**25/02/2021**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

		Organophosphorous Pesticides											PAH																								Pesticides				TPH				
		Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Coronene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Perylene	Pyrene	PAHs (Sum of total)	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
		µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.5	0.0005	0.5	0.5	0.5	0.5	0.5	0.5	2	2	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.0001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.5	0.5	2	0.5	20	50	100	50	50
Field ID	**Date**																																											
SW01	25/02/2021	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.0001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<2.0	<0.5	<20	<50	<100	<50	<50
QC05	25/02/2021	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.0001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<2.0	<0.5	<20	<50	<100	<50	<50
RPD %	25/02/2021	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
QC06	25/02/2021	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	<20	<50	200	<100	200
RPD %	25/02/2021	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	0%	120%

EP RISK

Table 5 C - Trip Spike and Trip Blank

EP1977.001

		BTEX														TRH				PAH		TPH	
		Benzene		Toluene		Ethylbenzene		Xylene (m & p)		Xylene (o)		Xylene Total		Total BTEX		C6-C10 Fraction (F1)		C6-C10 (F1 minus BTEX)		Naphthalene		C6-C9 Fraction	
		mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L
EQL		0.2	1	0.5	2	0.5	2	0.5	2	0.5	2	0.5	2	0.2	1	10	20	10	20	0.01	0.1	10	20
Field ID	**Date**																						
TB_S	**19/02/2021**	<0.2		<0.5		<0.5		<0.5		<0.5		<0.5		<0.2		<10		<10		<1		<10	
TB_W	**24/02/2021**		<1		<2		<2		<2		<2		<2		<1		<20		<20		<5		<20
TS_S	**15/02/2021**	0.3		16.2		2.4		13.3		5.4		18.7		37.6		73		35		<1		61	
TS_W	**24/02/2021**		17		16		16		16		17		33		82						18		
TSC	**15/02/2021**	0.2		17.4		2.8		14.5		6.2		20.7		41.1		78		37		<1		69	

Table 5 D - Rinsate

		BTEX							TRH							Halogenated Benzenes	Metals								Organochlorine Pesticides														
		Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Hexachlorobenzene	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		1	2	2	2	2	2	1	20	20	100	100	100	100	100	0.5	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5
Field ID	**Date**																																					
Rinsate 01	**25/02/2021**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100	<0.5	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
Rinsate 02	**25/02/2021**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100	<0.5	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
Rinsate 03	**25/02/2021**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100	<0.5	<0.001	<0.0001	0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5

EP RISK

Table 5 D - Rinsate

Field ID	Date	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2
Rinsate 01	**25/02/2021**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
Rinsate 02	**25/02/2021**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
Rinsate 03	**25/02/2021**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0

Field ID	PAH																
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)
	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.1	0.1	0.1	0.1	0.05	0.0001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05
Rinsate 01	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
Rinsate 02	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
Rinsate 03	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5

Field ID	PCBs	TPH				
	PCBs (Sum of total)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	20	50	100	50	50
Rinsate 01	<1	<20	<50	<100	<50	<50
Rinsate 02	<1	<20	<50	<100	<50	<50
Rinsate 03	<1	<20	<50	<100	<50	<50

Appendix A

LOT SEARCH ENVIRONMENTAL REPORT (2021)

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 25 Feb 2021 09:55:33

Reference: LS018149 EP

Address: 507 Raymond Terrace Road, Chisholm, NSW 2322

Dataset Listing

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

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Finance, Services & Innovation	13/11/2020	13/11/2020	Quarterly	-	-	-	-
Topographic Data	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	14/01/2021	14/01/2021	Monthly	1000	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	05/02/2021	05/02/2021	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	09/02/2021	11/10/2017	Monthly	1000	0	0	0
National Waste Management Facilities Database	Geoscience Australia	11/02/2021	07/03/2017	Quarterly	1000	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	15/02/2021	13/07/2012	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	15/02/2021	23/11/2020	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	05/02/2021	05/02/2021	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	05/02/2021	05/02/2021	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	03/02/2021	03/02/2021	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	15/02/2021	15/02/2021	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	02/02/2021	13/12/2018	Annually	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	08/02/2021	08/02/2021	Monthly	1000	1	1	1
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	08/02/2021	08/02/2021	Monthly	1000	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	08/02/2021	08/02/2021	Monthly	1000	3	3	3
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150	-	4	4
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500	-	0	0
Points of Interest	NSW Department of Finance, Services & Innovation	18/02/2021	18/02/2021	Quarterly	1000	0	0	5
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	16/02/2021	16/02/2021	Quarterly	1000	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	16/02/2021	16/02/2021	Quarterly	1000	0	0	0
Major Easements	NSW Department of Finance, Services & Innovation	17/02/2021	17/02/2021	Quarterly	1000	0	0	5
State Forest	Forestry Corporation of NSW	18/01/2018	18/01/2018	As required	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	22/01/2021	11/12/2020	Annually	1000	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	1	1	2
Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018	NSW Department of Planning, Industry and Environment	26/10/2020	21/02/2018	Annually	1000	0	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Groundwater Boreholes	NSW Dept. of Primary Industries - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000	0	0	0
Geological Units 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000	1	-	5
Geological Structures 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000	0	-	2
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000	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	1000	1	1	2
Soil Landscapes of Central and Eastern NSW	NSW Department of Planning, Industry and Environment	14/10/2020	27/07/2020	Annually	1000	1	-	4
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	22/02/2021	12/02/2021	Monthly	500	1	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	1	1	3
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000	1	1	1
Dryland Salinity Potential of Western Sydney	NSW Department of Planning, Industry and Environment	12/05/2017	01/01/2002	None planned	1000	-	-	-
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	16/02/2021	16/02/2021	Quarterly	1000	0	0	0
Current Mining Titles	NSW Department of Industry	05/02/2021	05/02/2021	Monthly	1000	0	0	0
Mining Title Applications	NSW Department of Industry	05/02/2021	05/02/2021	Monthly	1000	0	0	0
Historic Mining Titles	NSW Department of Industry	05/02/2021	05/02/2021	Monthly	1000	4	4	6
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	22/02/2021	07/12/2018	Monthly	1000	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	22/02/2021	12/02/2021	Monthly	1000	1	1	19
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	23/02/2021	20/11/2019	Quarterly	1000	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	23/02/2021	20/11/2019	Quarterly	1000	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	15/02/2021	30/11/2020	Quarterly	1000	0	0	0
Environmental Planning Instrument Heritage	NSW Department of Planning, Industry and Environment	22/02/2021	12/02/2021	Monthly	1000	0	0	0
Bush Fire Prone Land	NSW Rural Fire Service	22/02/2021	11/02/2021	Weekly	1000	2	2	2
Lower Hunter and Central Coast Regional Vegetation Survey	NSW Office of Environment & Heritage	28/02/2015	16/11/2009	As required	1000	2	3	9
Ramsar Wetlands of Australia	Department of the Agriculture, Water and the Environment	08/10/2014	24/06/2011	As required	1000	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Annually	1000	1	1	3
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	4	6	9
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	22/02/2021	22/02/2021	Weekly	10000	-	-	-

Site Diagram

507 Raymond Terrace Road, Chisholm, NSW 2322

Legend

- Site Boundary
- Internal Parcel Boundaries

Total Area: 101074m^2

Total Perimeter: 1596m

Scale: 0 25 50 100 150 Meters

Data Sources: 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: 25 February 2021

Contaminated Land

507 Raymond Terrace Road, Chisholm, NSW 2322

List of NSW contaminated sites notified to EPA

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

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

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

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

NSW EPA Contaminated Land List Data Source: Environment Protection Authority

Contaminated Land

507 Raymond Terrace Road, Chisholm, NSW 2322

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

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

Contaminated Land Records of Notice Data Source: Environment Protection Authority

Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm

Former Gasworks

Former Gasworks within the dataset buffer:

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

Former Gasworks Data Source: Environment Protection Authority

Waste Management & Liquid Fuel Facilities

507 Raymond Terrace Road, Chisholm, NSW 2322

National Waste Management Site Database

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

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

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 (m)	Direction
N/A	No records in buffer										

PFAS Investigation & Management Programs

507 Raymond Terrace Road, Chisholm, NSW 2322

EPA PFAS Investigation Program

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

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

EPA PFAS Investigation Program: Environment Protection Authority

Defence PFAS Investigation 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

507 Raymond Terrace Road, Chisholm, NSW 2322

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

507 Raymond Terrace Road, Chisholm, NSW 2322

EPA Other Sites with Contamination Issues

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

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

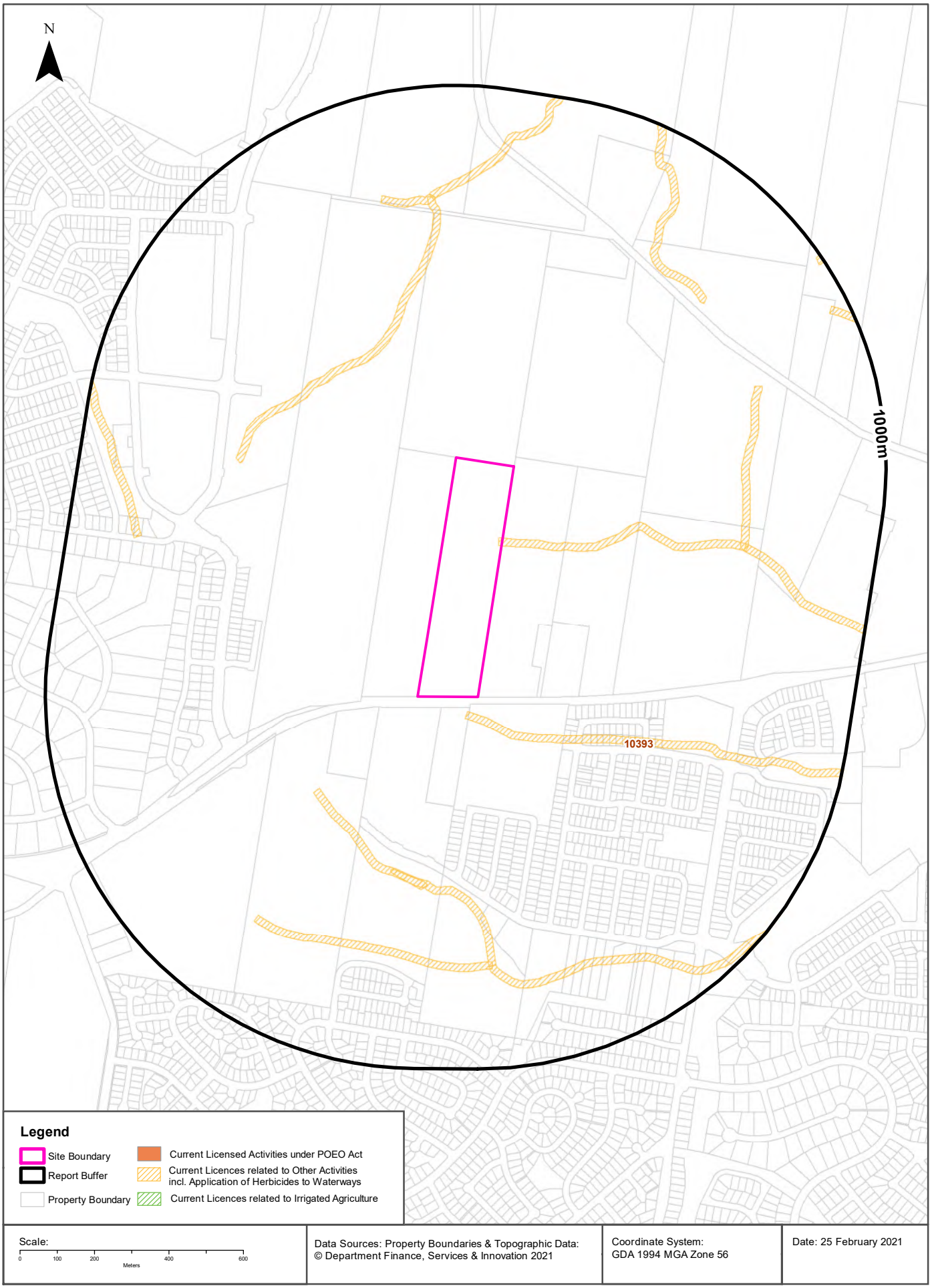
Sites within the dataset buffer:

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

EPA Other Sites with Contamination Issues: Environment Protection Authority

Current EPA Licensed Activities

507 Raymond Terrace Road, Chisholm, NSW 2322



EPA Activities

507 Raymond Terrace Road, Chisholm, NSW 2322

Licensed Activities under the POEO Act 1997

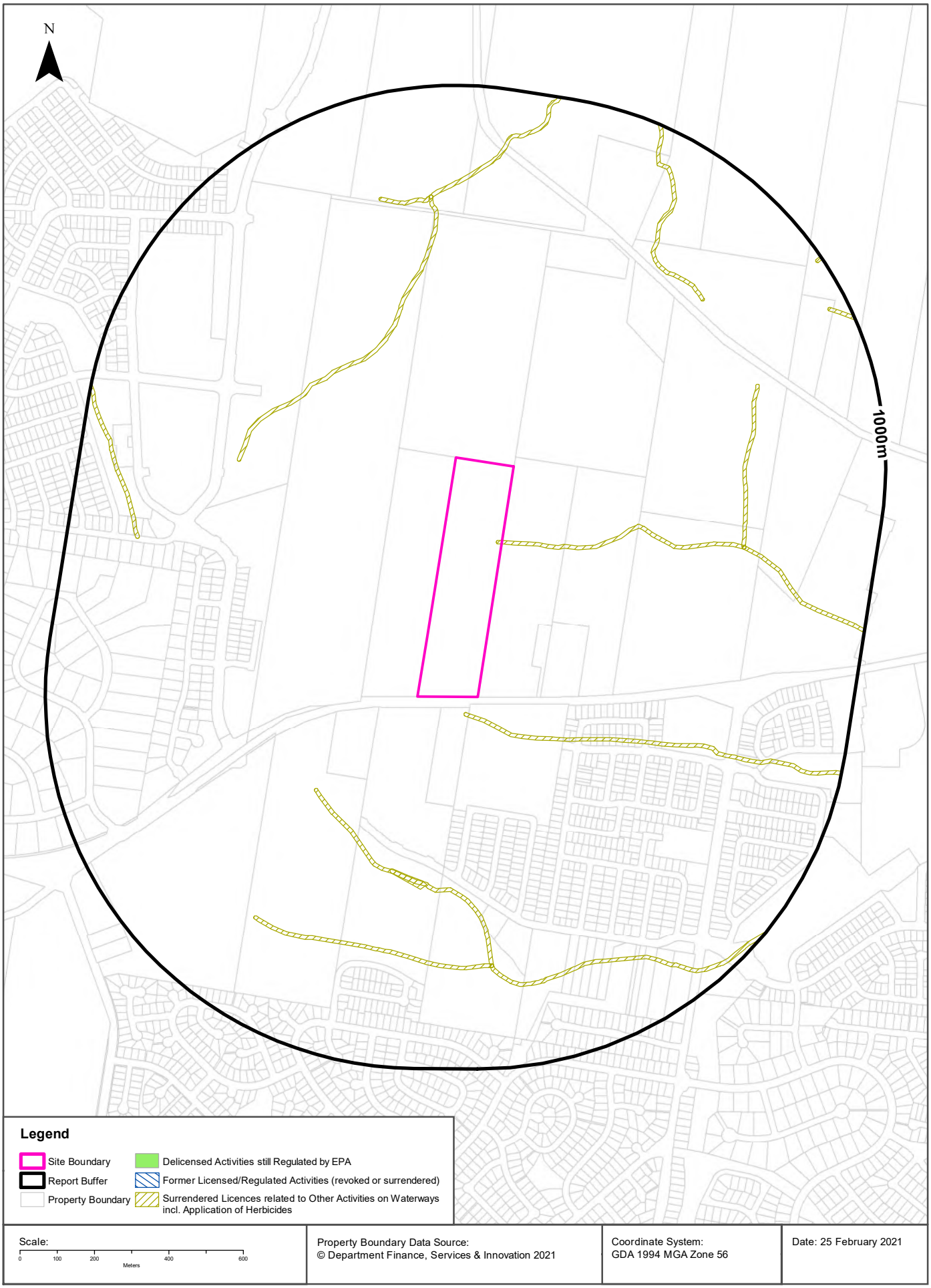
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
10393	MAITLAND CITY COUNCIL	ALL WATERBODIES IN THE MAITLAND LOCAL GOVERNMENT AREA	.	MAITLAND	Other activities	Network of Features	0m	Onsite

POEO Licence Data Source: Environment Protection Authority

Delicensed & Former Licensed EPA Activities

507 Raymond Terrace Road, Chisholm, NSW 2322



EPA Activities

507 Raymond Terrace Road, Chisholm, NSW 2322

Delicensed Activities still regulated by the EPA

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

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

Delicensed Activities Data Source: Environment Protection Authority

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

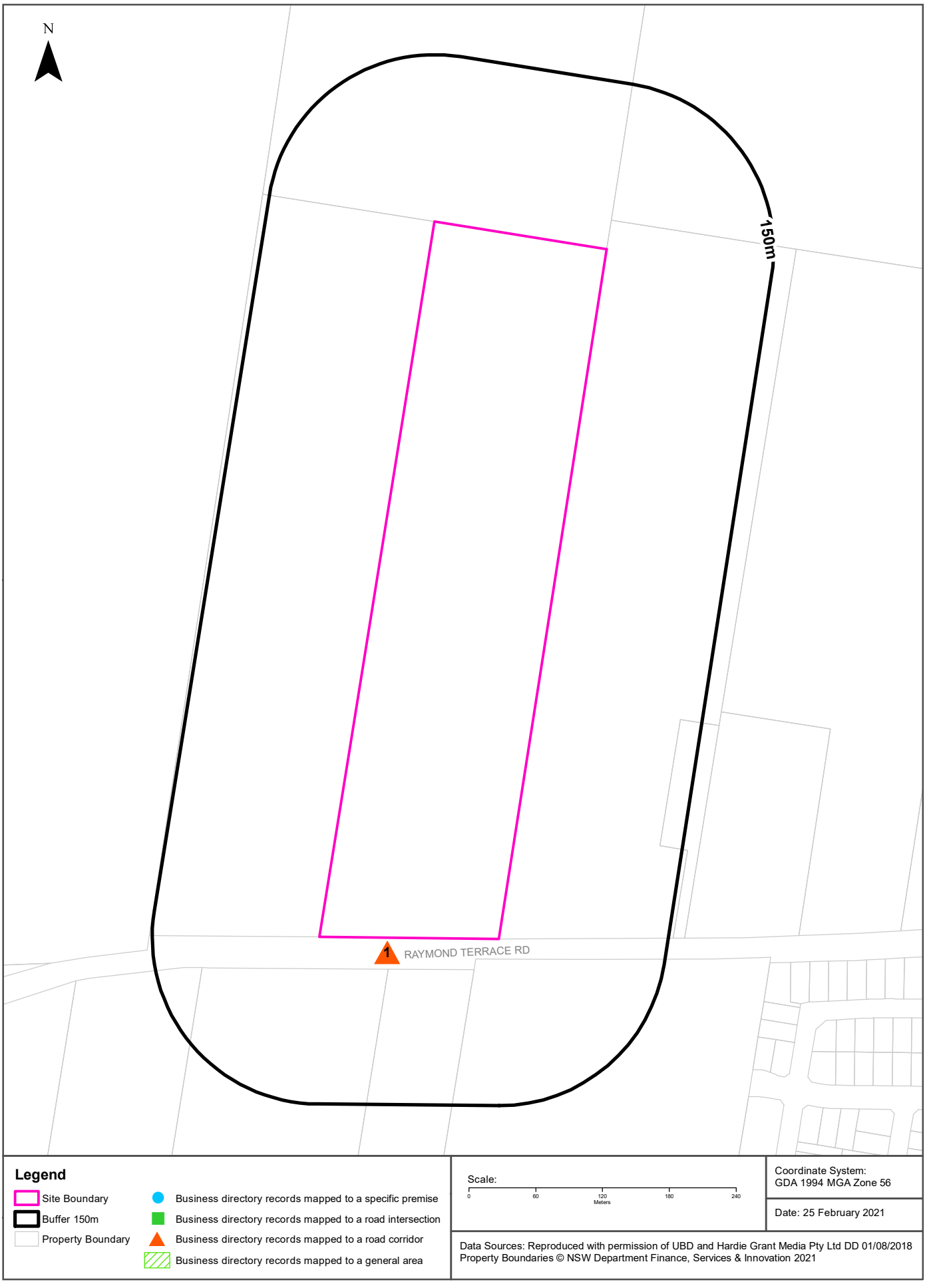
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	Onsite
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	Onsite
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	Onsite

Former Licensed Activities Data Source: Environment Protection Authority

Historical Business Directories

507 Raymond Terrace Road, Chisholm, NSW 2322



Historical Business Directories

507 Raymond Terrace Road, Chisholm, NSW 2322

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
	No records in buffer						

Business Directory Records 1950-1991
Road or Area Matches

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

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
1	BRICK MFRS. &/OR DISTS.	Thornton Fire & Building Brick Co. Pty. Ltd., Raymond Terrace Rd., Thornton Maitland	167859	1982	Road Match	0m
	FIRE CLAY MFRS.	Thornton Fire & Building Brick Co. Pty. Ltd., Raymond Terrace, Thornton, Maitland	638477	1970	Road Match	0m
	REFRACTORY MATERIALS MFRS. &/OR DISTS.	Thornton Fire & Building Brick Co. Pty. Ltd., Raymond Terrace, Thornton, Maitland	639081	1970	Road Match	0m
	BRICK, PIPE & TILE MANUFACTURERS	Thornton Fire and Building Brick Co. Pty. Ltd., Raymond Terrace Rd., Thornton	174273	1961	Road Match	0m

Historical Business Directories

507 Raymond Terrace Road, Chisholm, NSW 2322

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
	No records in buffer						

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

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

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

Aerial Imagery 2020

507 Raymond Terrace Road, Chisholm, NSW 2322

Scale:	Data Sources: Aerial Imagery © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 25 February 2021

0 50 100 150 200
Meters

Aerial Imagery 2015

507 Raymond Terrace Road, Chisholm, NSW 2322

Aerial Imagery 2010

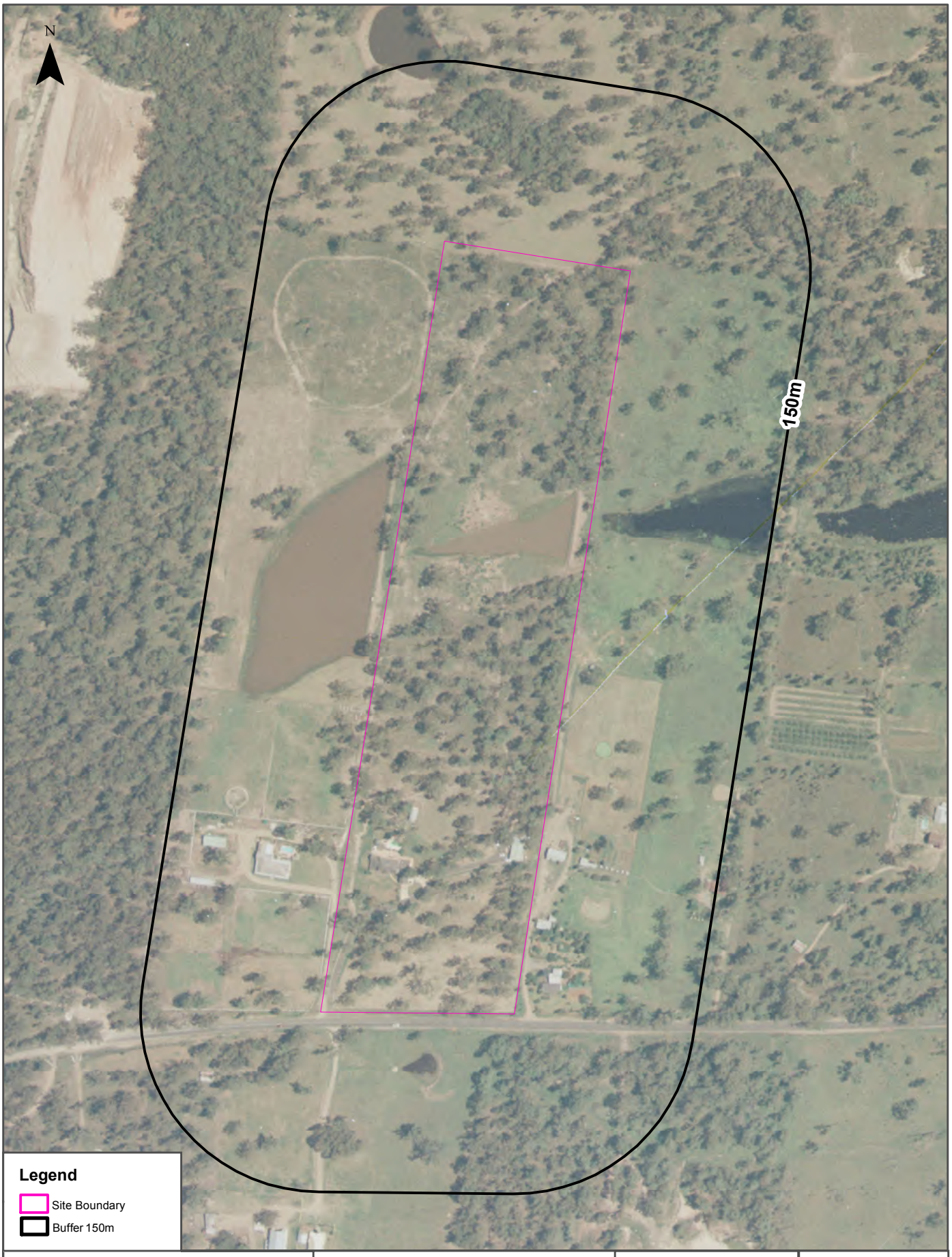
507 Raymond Terrace Road, Chisholm, NSW 2322

Aerial Imagery 2007

507 Raymond Terrace Road, Chisholm, NSW 2322

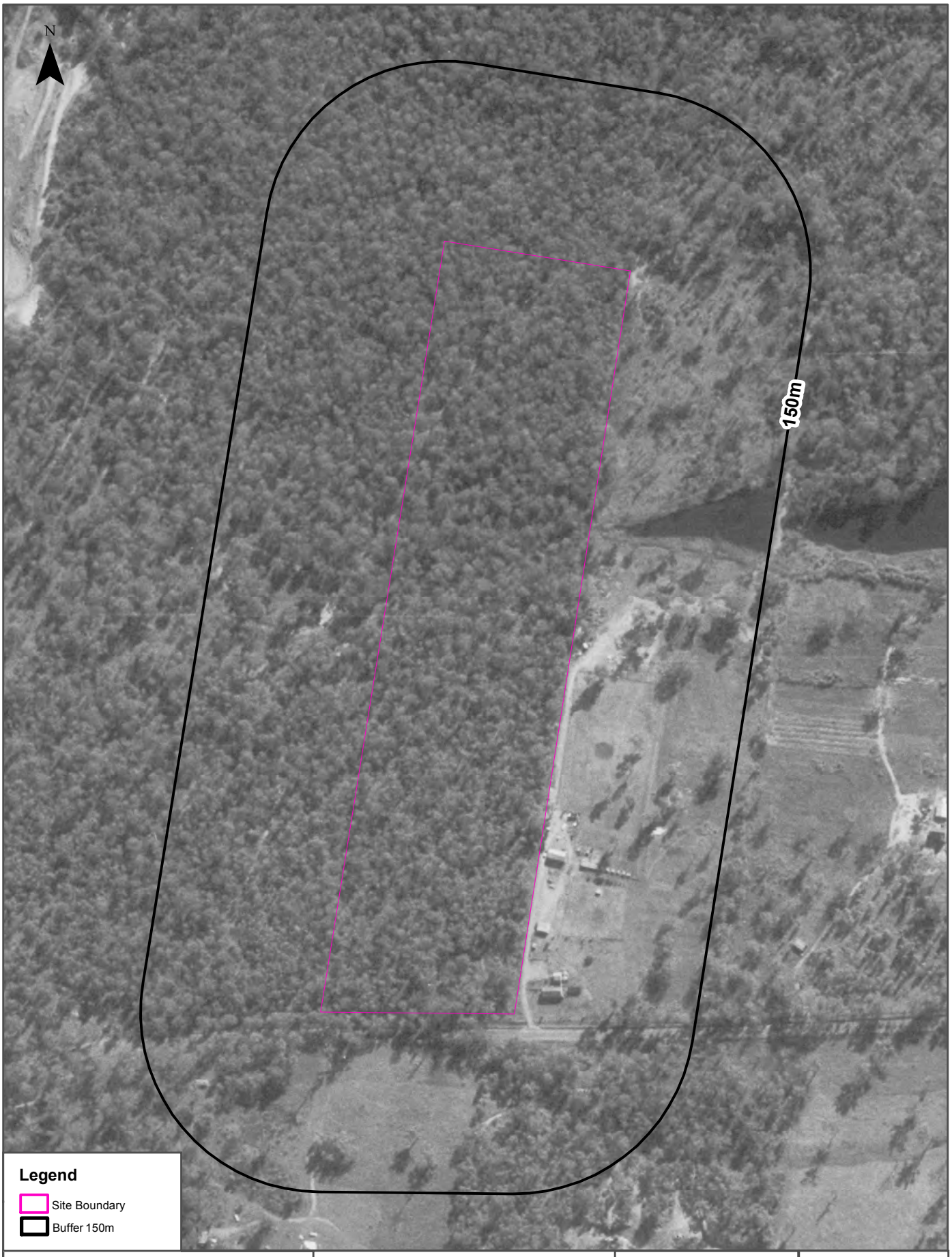
Aerial Imagery 1993

507 Raymond Terrace Road, Chisholm, NSW 2322



Aerial Imagery 1984

507 Raymond Terrace Road, Chisholm, NSW 2322

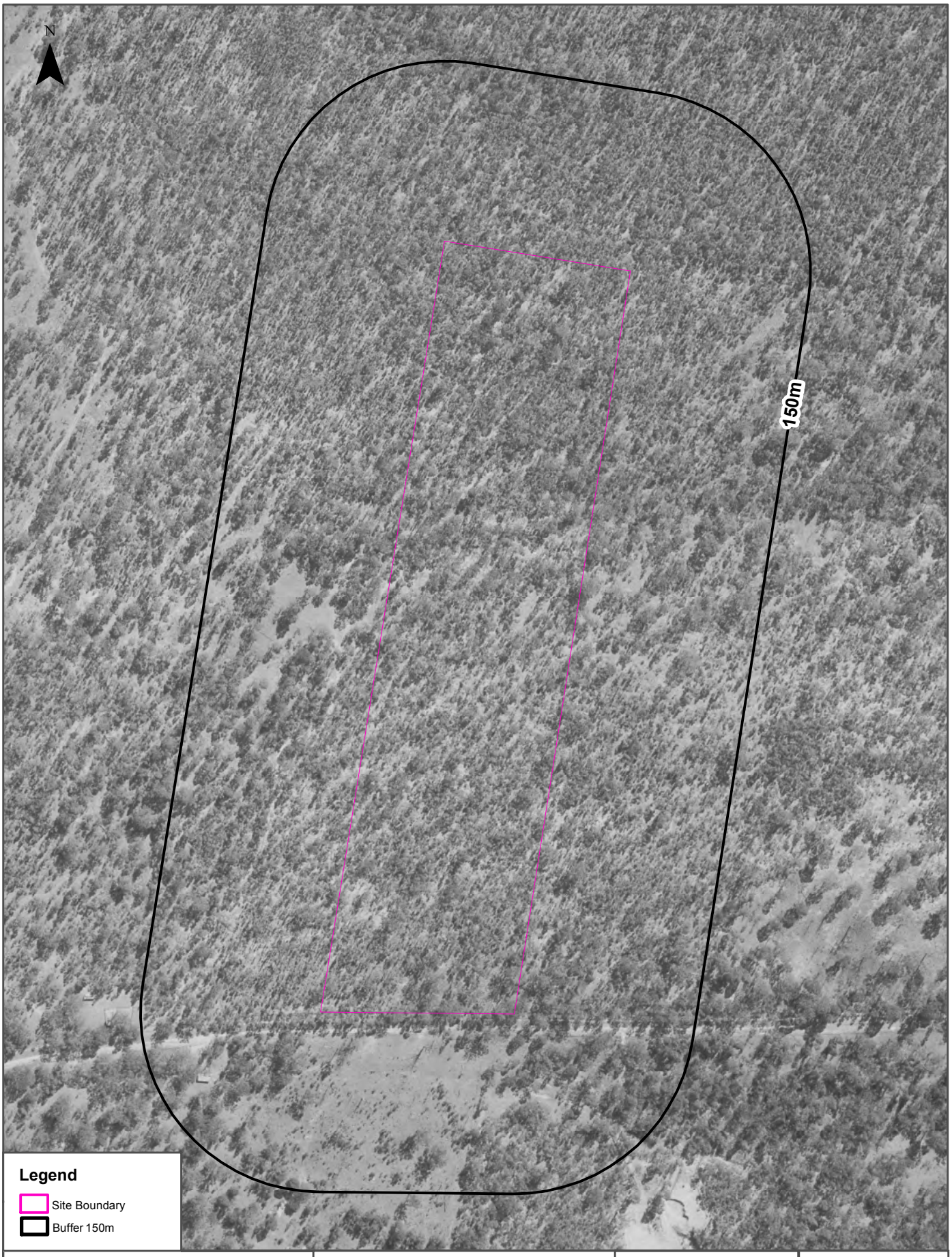


Aerial Imagery 1977

507 Raymond Terrace Road, Chisholm, NSW 2322

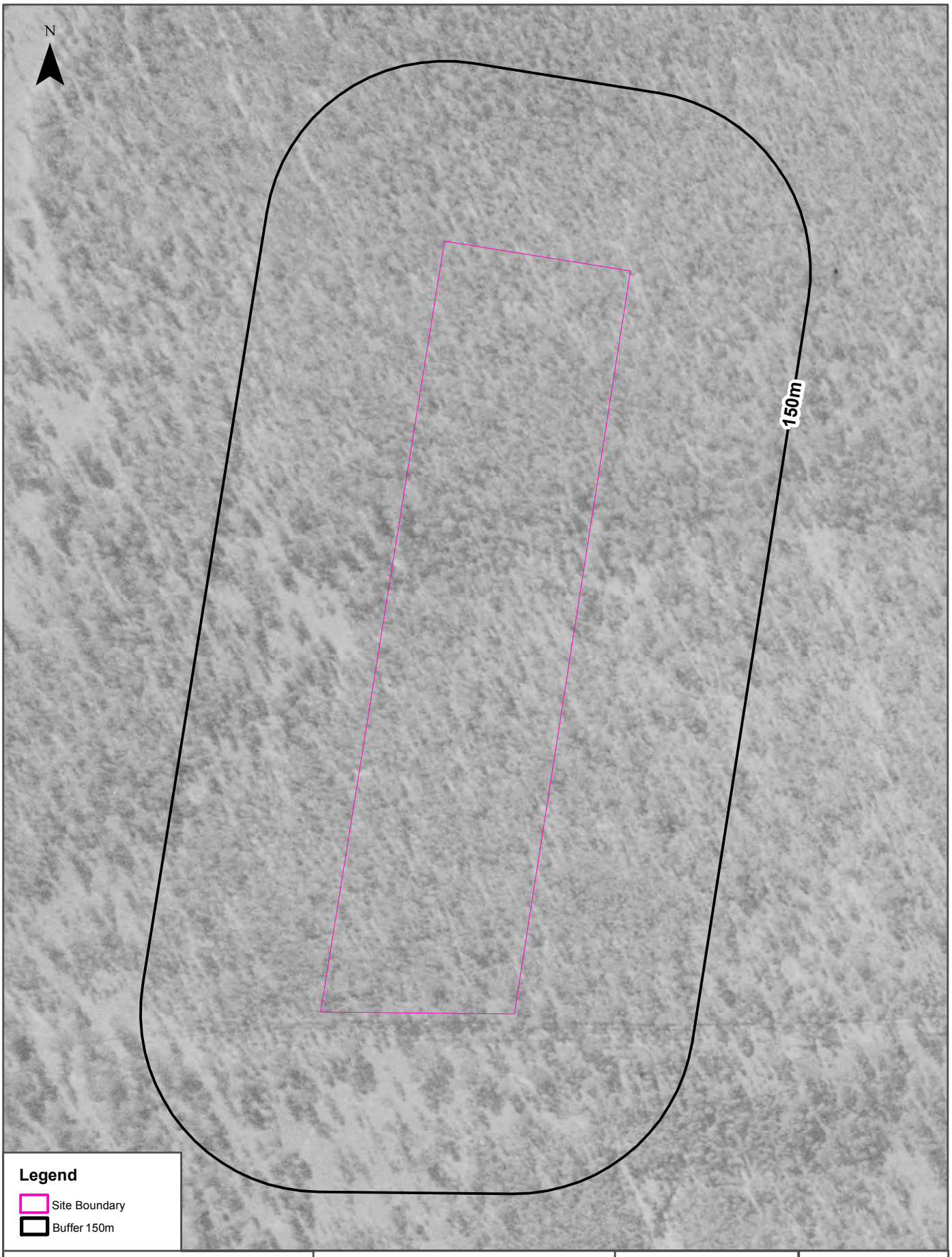
Aerial Imagery 1965

507 Raymond Terrace Road, Chisholm, NSW 2322



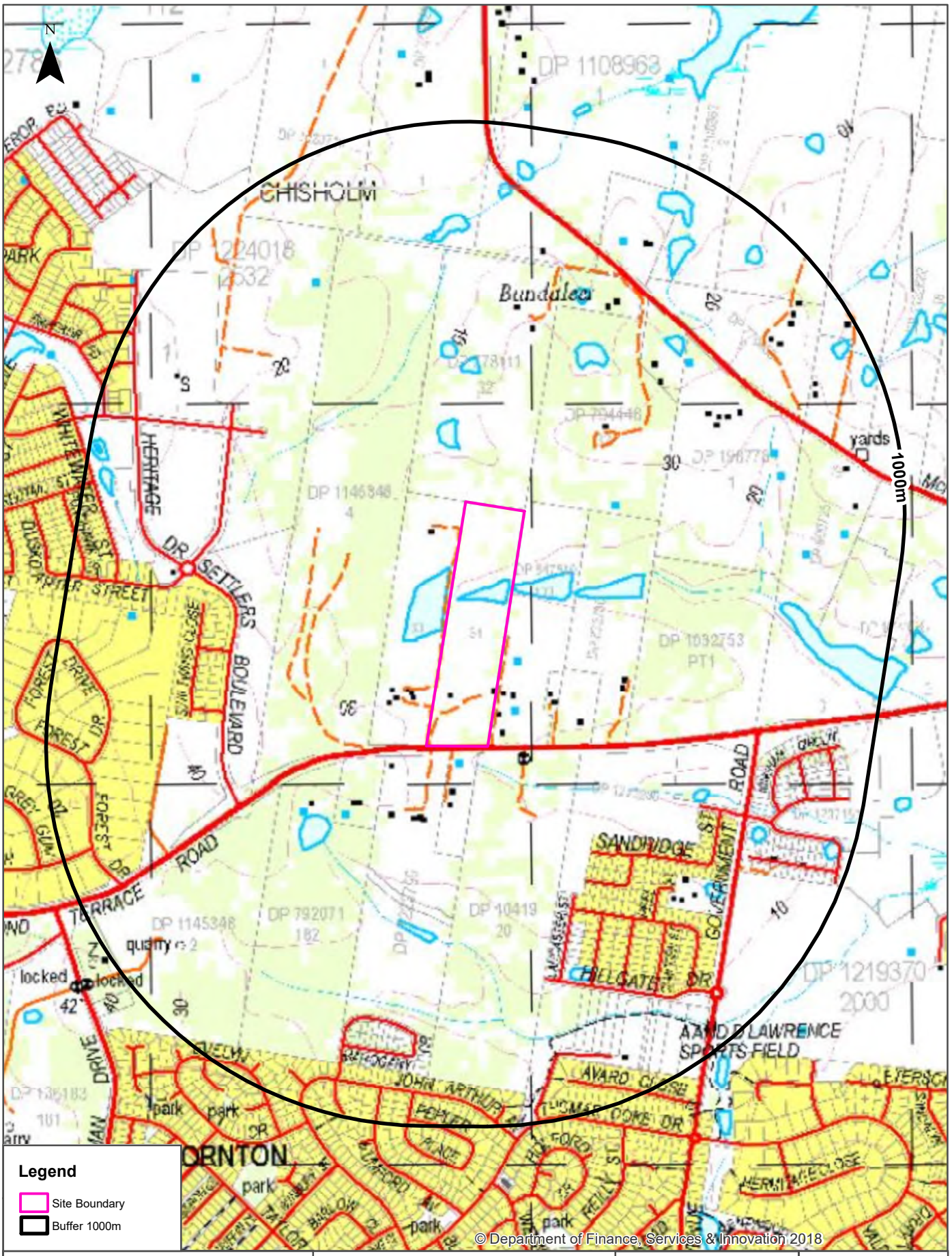
Aerial Imagery 1954

507 Raymond Terrace Road, Chisholm, NSW 2322



Topographic Map 2015

507 Raymond Terrace Road, Chisholm, NSW 2322



Scale: 0 100 200 400 600 Meters

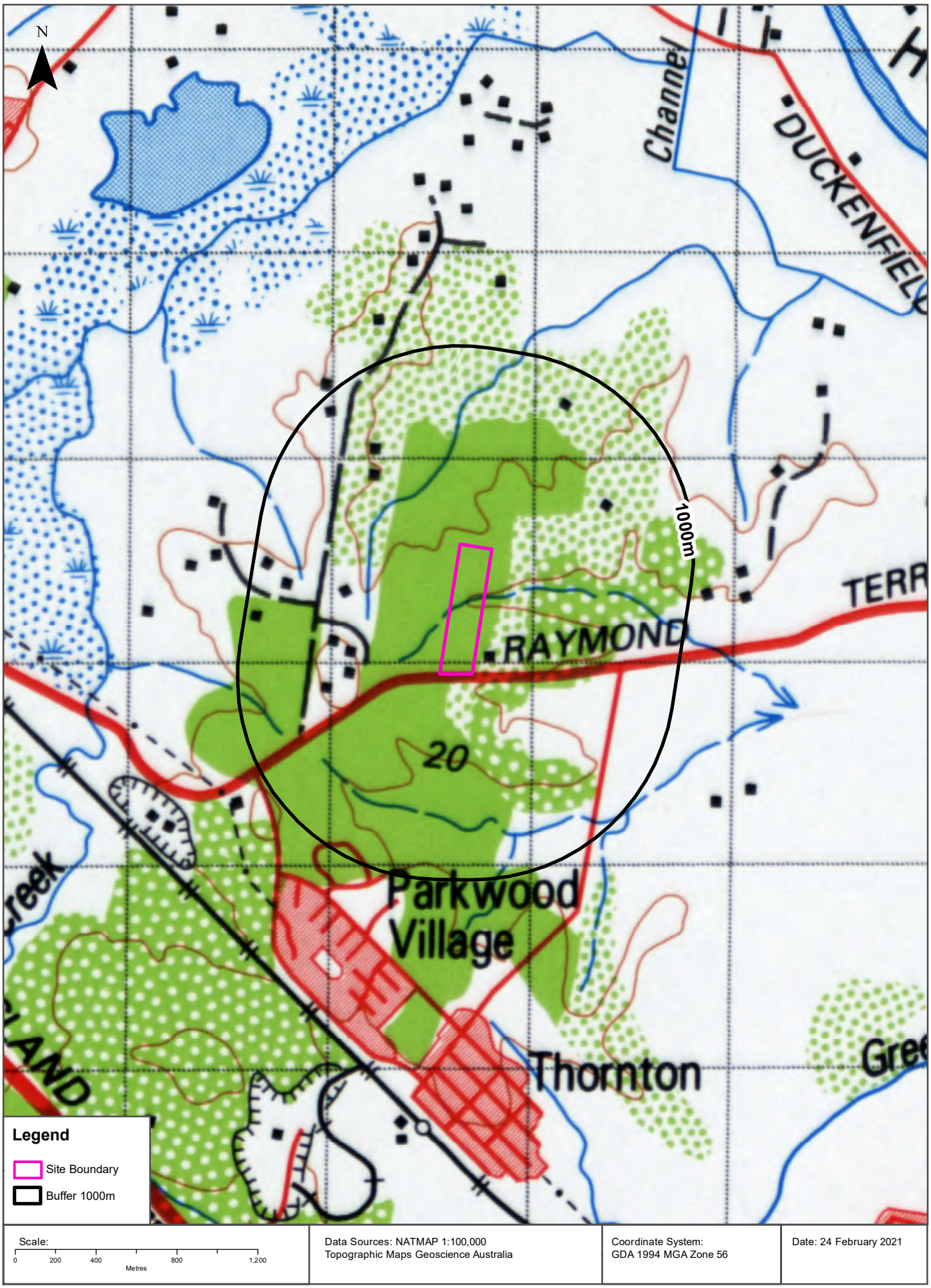
Data Sources: Topographic Map Data © NSW Land and Property Information

Coordinate System: GDA 1994 MGA Zone 56

Date: 25 February 2021

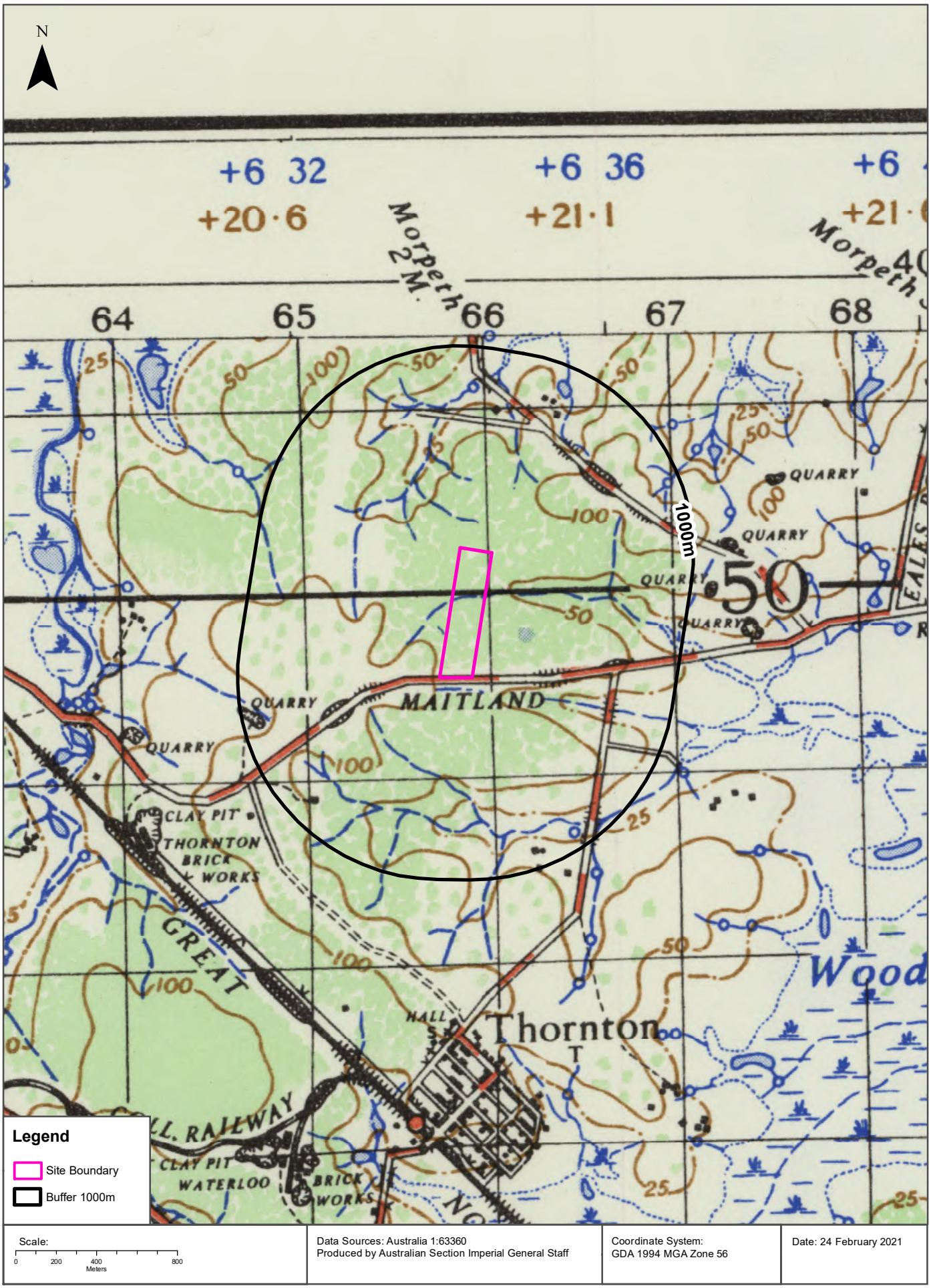
Historical Map 1981

507 Raymond Terrace Road, Chisholm, NSW 2322



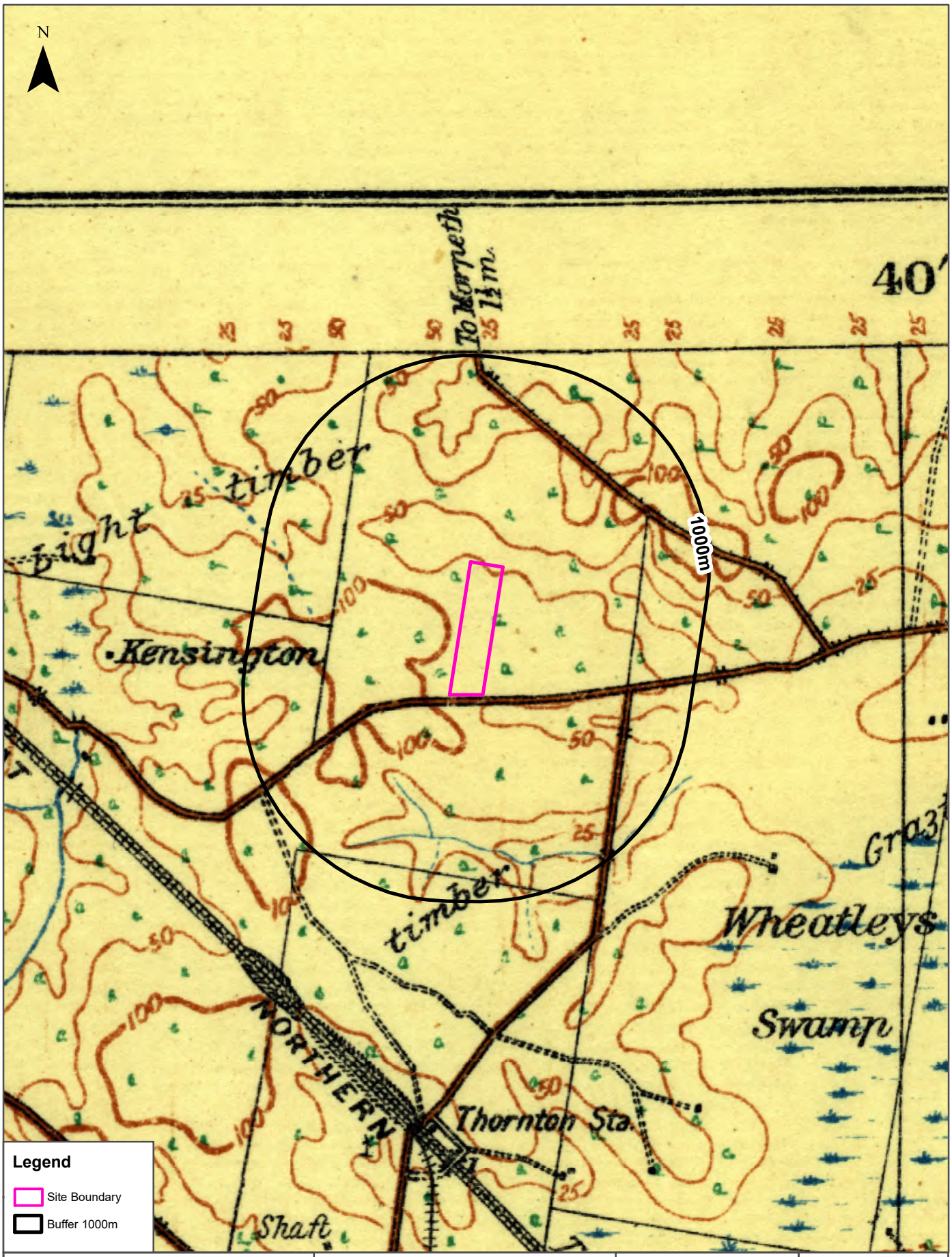
Historical Map c.1941

507 Raymond Terrace Road, Chisholm, NSW 2322



Historical Map c.1913

507 Raymond Terrace Road, Chisholm, NSW 2322



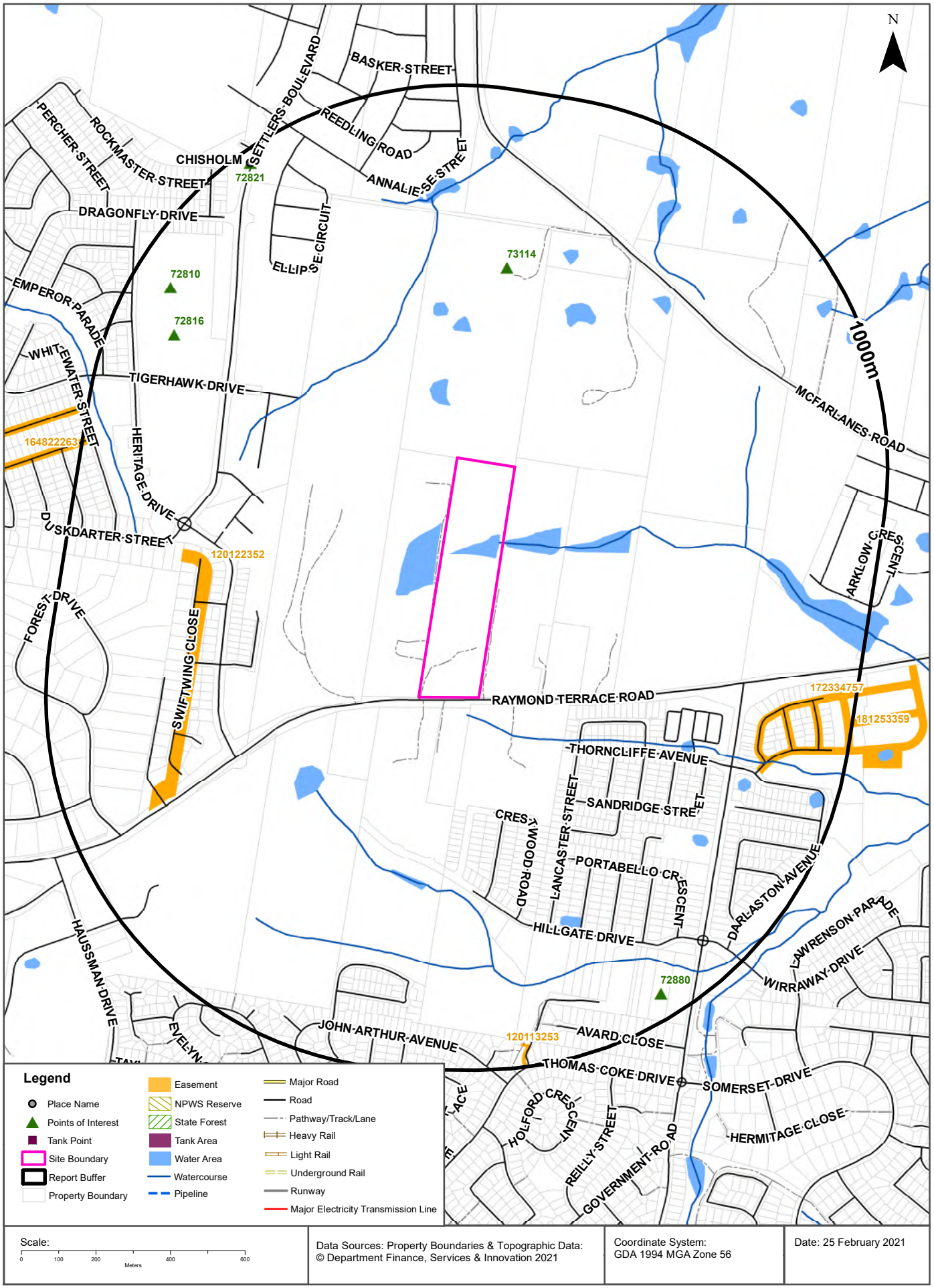
Data Sources: Australia 1:63360
Produced by Australian Section Imperial General Staff

Coordinate System:
GDA 1994 MGA Zone 56

Date: 24 February 2021

Topographic Features

507 Raymond Terrace Road, Chisholm, NSW 2322



Topographic Features

507 Raymond Terrace Road, Chisholm, NSW 2322

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
73114	Homestead	BUNDALEER	525m	North
72816	Primary School	ST ALOYSIUS CATHOLIC PRIMARY SCHOOL	827m	North West
72810	High School	ST BEDE'S CATHOLIC COLLEGE	894m	North West
72880	Sports Field	A AND D LAWRENCE SPORTS FIELD	933m	South East
72821	Suburb	CHISHOLM	966m	North West

Topographic Features

507 Raymond Terrace Road, Chisholm, NSW 2322

Tanks (Areas)

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

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

Tanks (Points)

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

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

Major Easements

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

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
120122352	Primary	Undefined		600m	West
172334757	Primary	Right of way	17m & Variable	752m	South East
181253359	Primary	Right of way	Variable	914m	East
120113253	Primary	Undefined		938m	South
164822263	Primary	Right of way		976m	West

Topographic Features

507 Raymond Terrace Road, Chisholm, NSW 2322

State Forest

What State Forest exist within the dataset buffer?

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

National Parks and Wildlife Service Reserves

What NPWS Reserves exist within the dataset buffer?

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

Elevation Contours (m AHD)

507 Raymond Terrace Road, Chisholm, NSW 2322

Scale: 0 100 200 400 Meters	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2021	Coordinate System: GDA 1994 MGA Zone 56	Date: 25 February 2021

Hydrogeology & Groundwater

507 Raymond Terrace Road, Chisholm, NSW 2322

Hydrogeology

Description of aquifers on-site:

Description
Fractured or fissured, extensive aquifers of low to moderate productivity

Description of aquifers within the dataset buffer:

Description
Fractured or fissured, extensive aquifers of low to moderate productivity
Porous, extensive highly productive aquifers

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

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018

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

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

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

Hydrogeology & Groundwater

507 Raymond Terrace Road, Chisholm, NSW 2322

Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m bgl)	Yield (L/s)	Elev (AHD)	Dist	Dir
N/A	No records in buffer														

Hydrogeology & Groundwater

507 Raymond Terrace Road, Chisholm, NSW 2322

Driller's Logs

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

Groundwater No	Drillers Log	Distance	Direction
No related drill log data			

Geology 1:250,000

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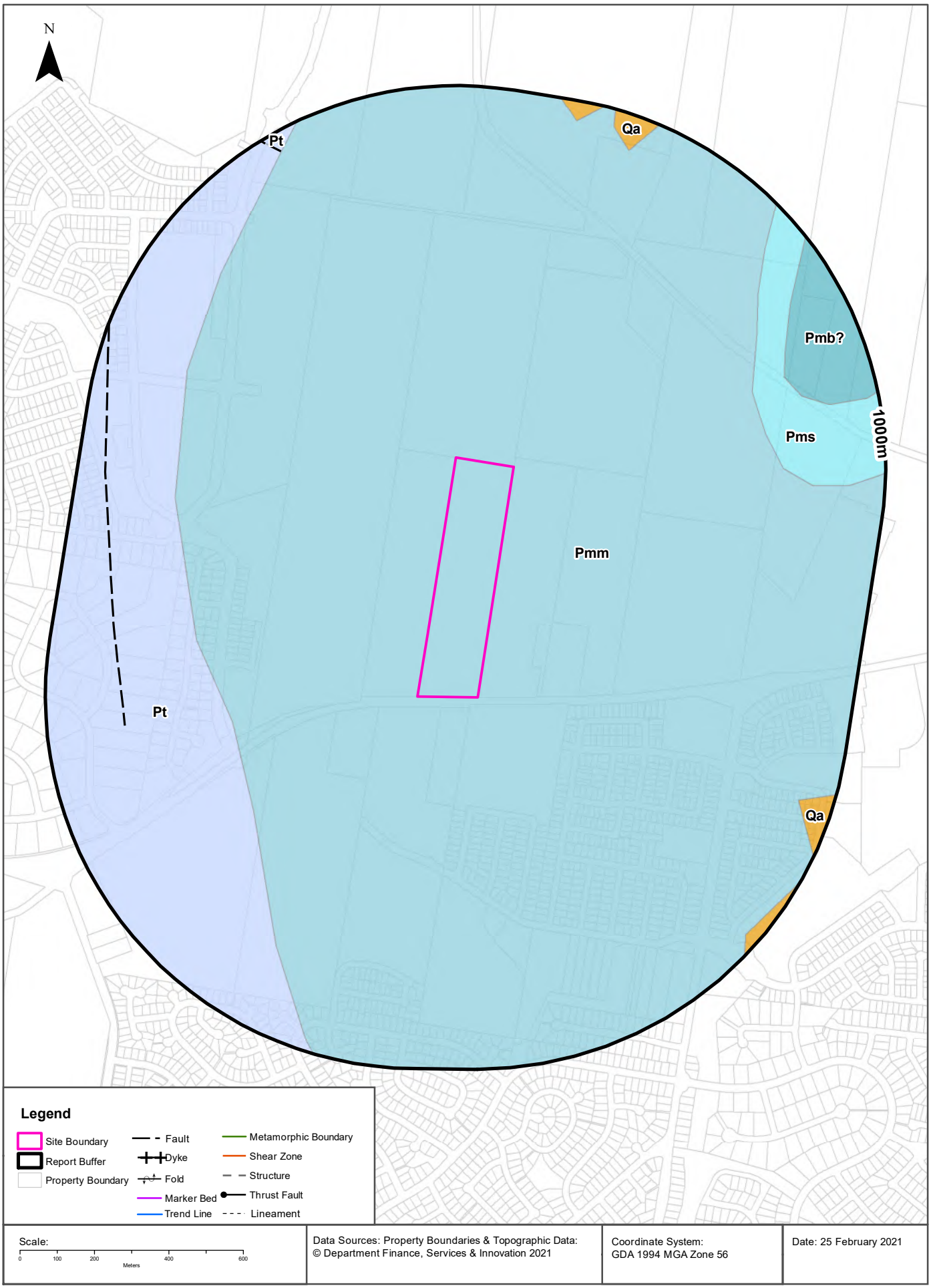

Geology

507 Raymond Terrace Road, Chisholm, NSW 2322

Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Pmm	Siltstone, claystone, minor fine-grained sandstone	Mulbring Siltstone	Maitland Group		Palaeozoic			1:250,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Pmb?	Conglomerate, sandstone, siltstone	Branxton Formation	Maitland Group		Palaeozoic			1:250,000
Pmm	Siltstone, claystone, minor fine-grained sandstone	Mulbring Siltstone	Maitland Group		Palaeozoic			1:250,000
Pms	Fine to coarse-grained sandstone, conglomerate, minor clay	Muree Sandstone	Maitland Group		Palaeozoic			1:250,000
Pt	Siltstone, sandstone, coal, tuff, claystone, conglomerate, minor clay	Tomago Coal Measures	Tomago Coal Measures		Palaeozoic			1:250,000
Qa	Undifferentiated alluvial deposits; sand, silt, clay and gravel; some residual and colluvial deposits. Includes some channel, levee, lacustrine, floodplain and swamp deposits. May include some higher level Tertiary terraces	undifferentiated			Cainozoic			1:250,000

Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:250,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Approximate	Bohena	1:250,000

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

Naturally Occurring Asbestos Potential

507 Raymond Terrace Road, Chisholm, NSW 2322

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

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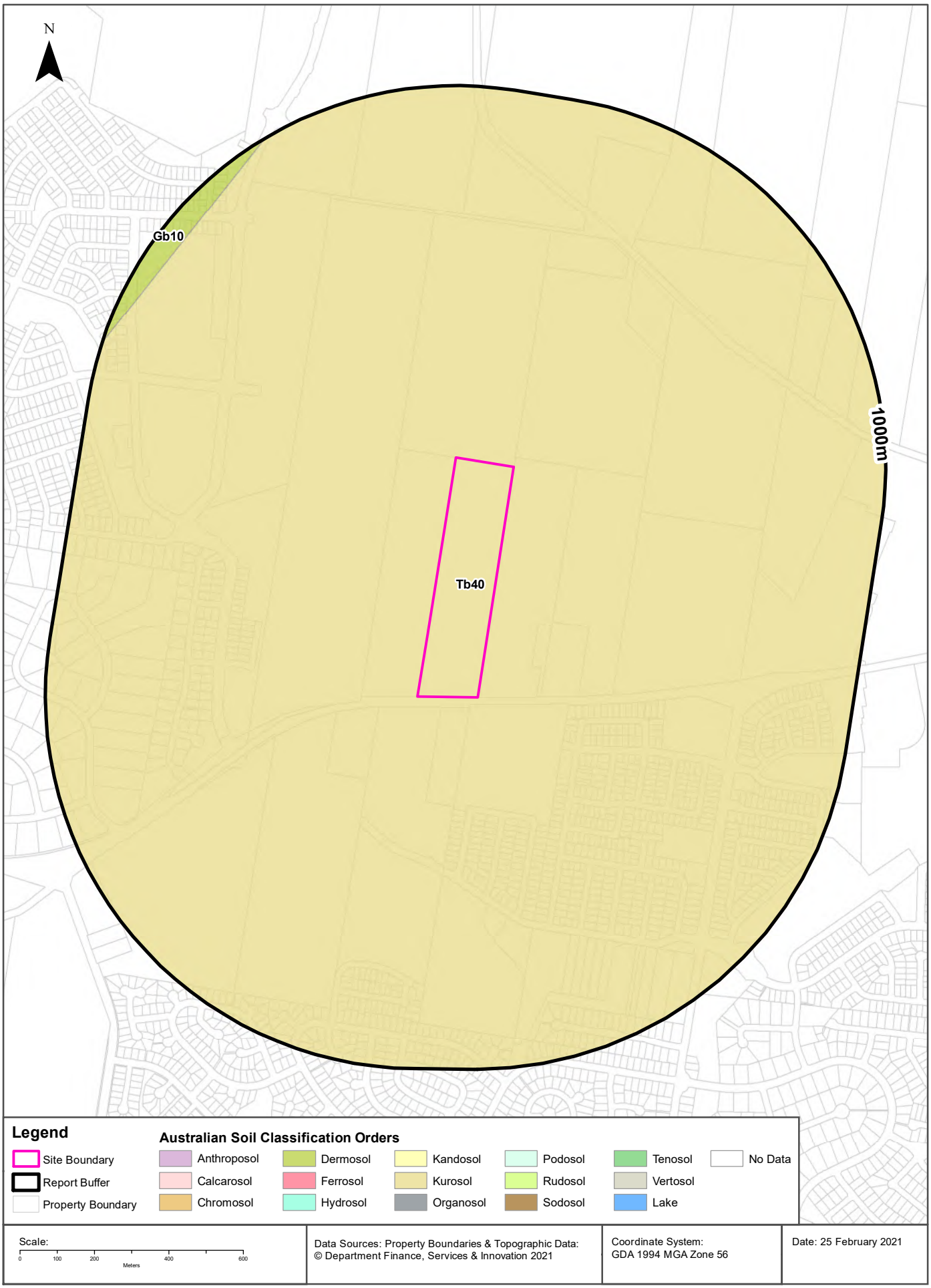

Soils

507 Raymond Terrace Road, Chisholm, NSW 2322

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
Tb40	Kurosol	Undulating to hilly areas with some steep slopes and cliffs, rock outcrops, and narrow terraced valleys: chief soils are hard acidic yellow mottled soils (Dy3.41) with some shallow soils such as (Um4.1) and (Uc4.1) on the steeper slopes. Associated are: (Gn2.2) soils and (Dd1) soils, both of which occur on slopes; undescribed soils in the valleys; and some (Dy5) and (Uc1 .2) soils along the coast. As mapped, small areas of units Gb10 and Cb28 are included.	0m
Gb10	Dermosol	River terraces, levees, flood-plains, coastal swamps, and tidal flats: this unit contains the same land forms and soils as unit Gb9, but in addition has (i) swamps and levees of the lower river flood-plain of (Uf6.6), (Ug5), and other undescribed soils; (ii) estuarine flats of peaty or organic soils over acid clays; and (iii) tidal mud flats. The soils of these areas are not well known but probably have similarities with the soils of units J3, Mc4, NY1, and NN1. The smaller areas mapped as unit Gb10 consist mainly of areas of (i) and/or (iii) above.	937m

Soil Landscapes of Central and Eastern NSW

507 Raymond Terrace Road, Chisholm, NSW 2322

Soils

507 Raymond Terrace Road, Chisholm, NSW 2322

Soil Landscapes of Central and Eastern NSW

What are the on-site Soil Landscapes?

Soil Code	Name
9232be	Beresfield

What are the Soil Landscapes within the dataset buffer?

Soil Code	Name
9232be	Beresfield
9232hu	Hunter
9232hua	Hunter variant a
9232mf	Millers Forest

Acid Sulfate Soils

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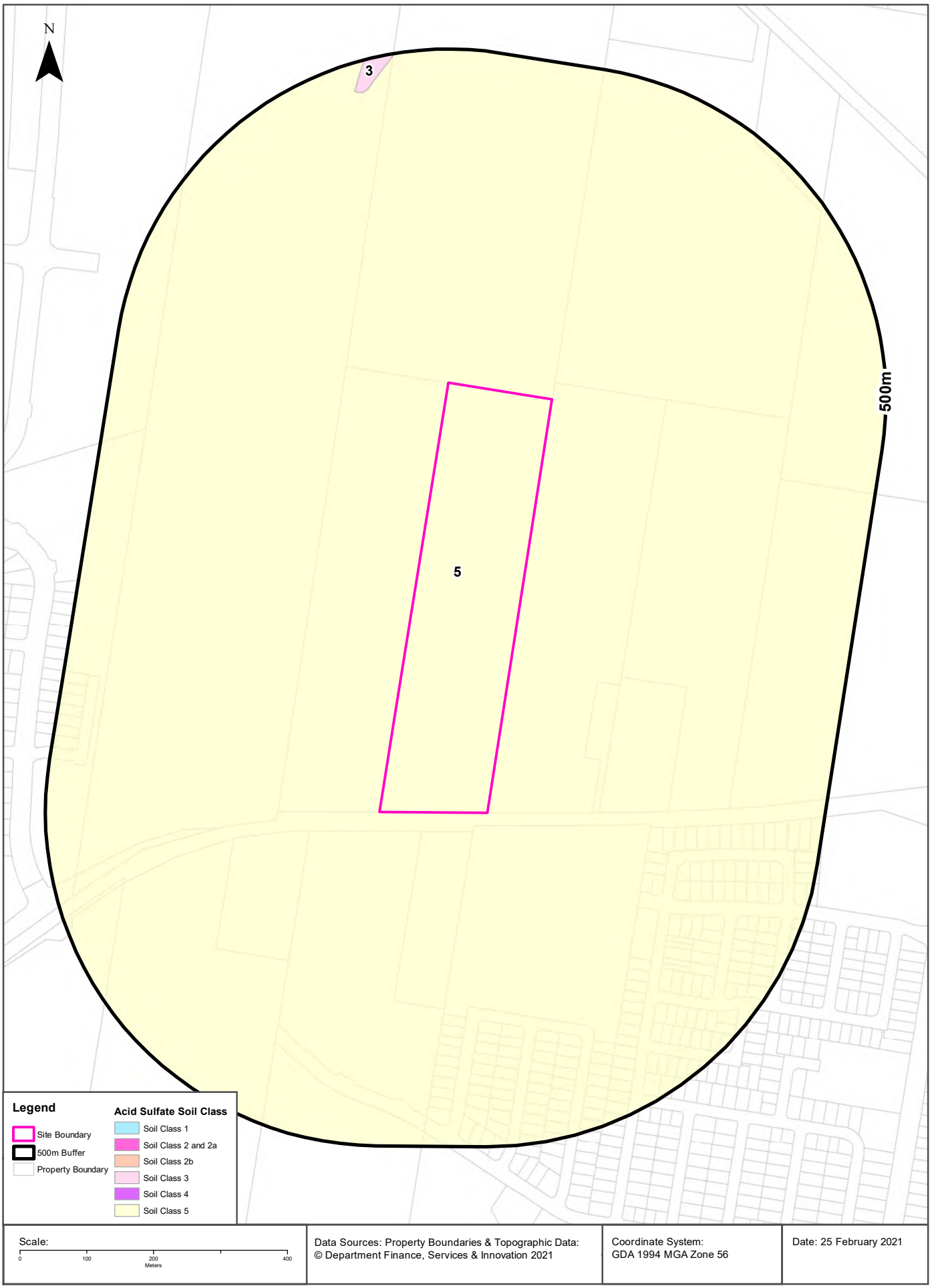

Acid Sulfate Soils

507 Raymond Terrace Road, Chisholm, NSW 2322

Environmental Planning Instrument - Acid Sulfate Soils

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

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

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

Soil Class	Description	EPI Name	Distance	Direction
3	Works more than 1 metre below natural ground surface present an environmental risk; Works by which the watertable is likely to be lowered more than 1 metre below natural ground surface, present an environmental risk	Maitland Local Environmental Plan 2011	454m	North

Atlas of Australian Acid Sulfate Soils

507 Raymond Terrace Road, Chisholm, NSW 2322

Acid Sulfate Soils

507 Raymond Terrace Road, Chisholm, NSW 2322

Atlas of Australian Acid Sulfate Soils

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

Class	Description	Distance
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m
A	High Probability of occurrence. >70% chance of occurrence.	454m
B	Low Probability of occurrence. 6-70% chance of occurrence.	937m

Dryland Salinity

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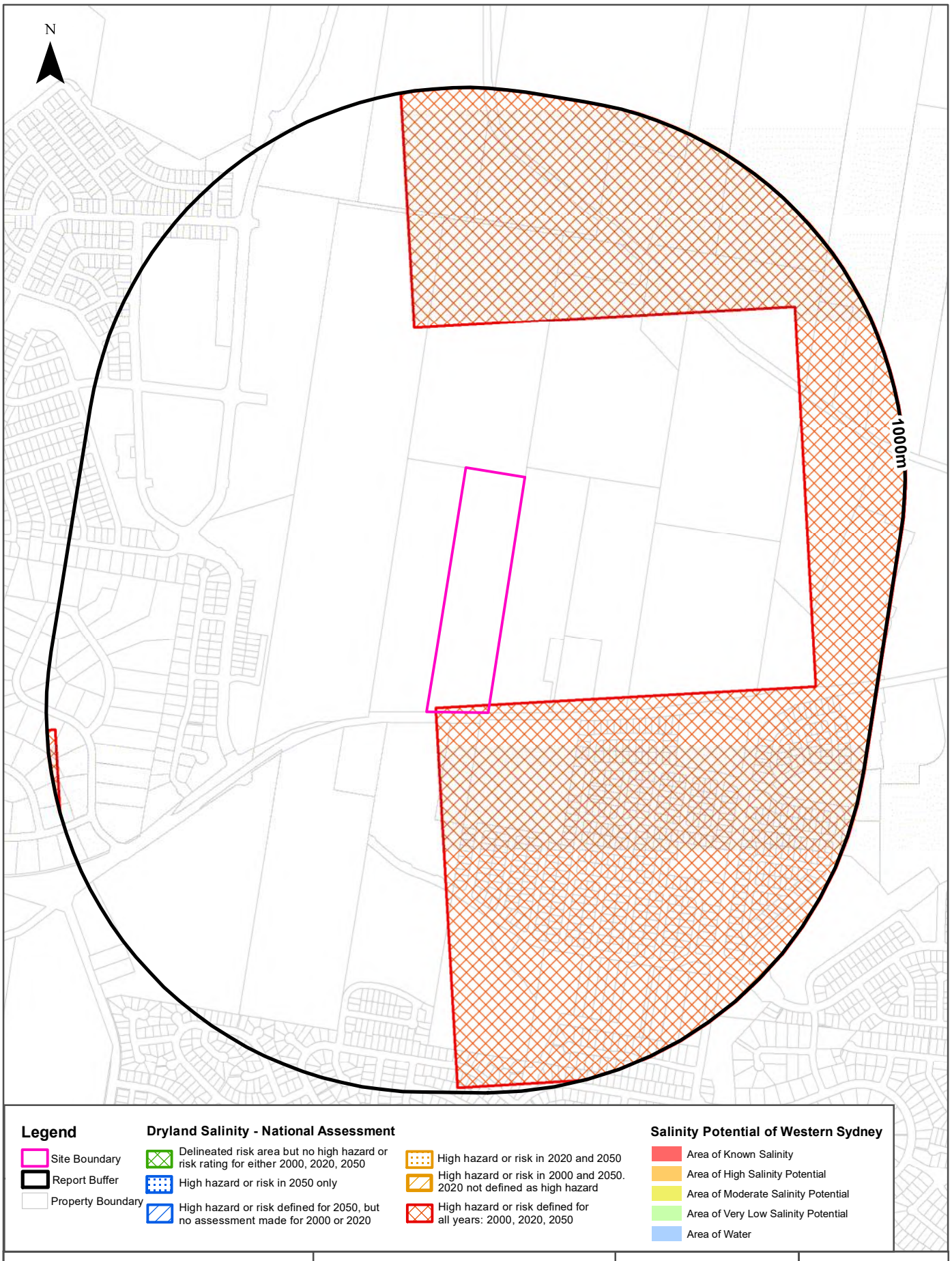

Dryland Salinity

507 Raymond Terrace Road, Chisholm, NSW 2322

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

Yes

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

Yes

What Dryland Salinity assessments are given?

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

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

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
N/A	Outside Data Coverage			

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

Mining

507 Raymond Terrace Road, Chisholm, NSW 2322

Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

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

Mining & Exploration Titles

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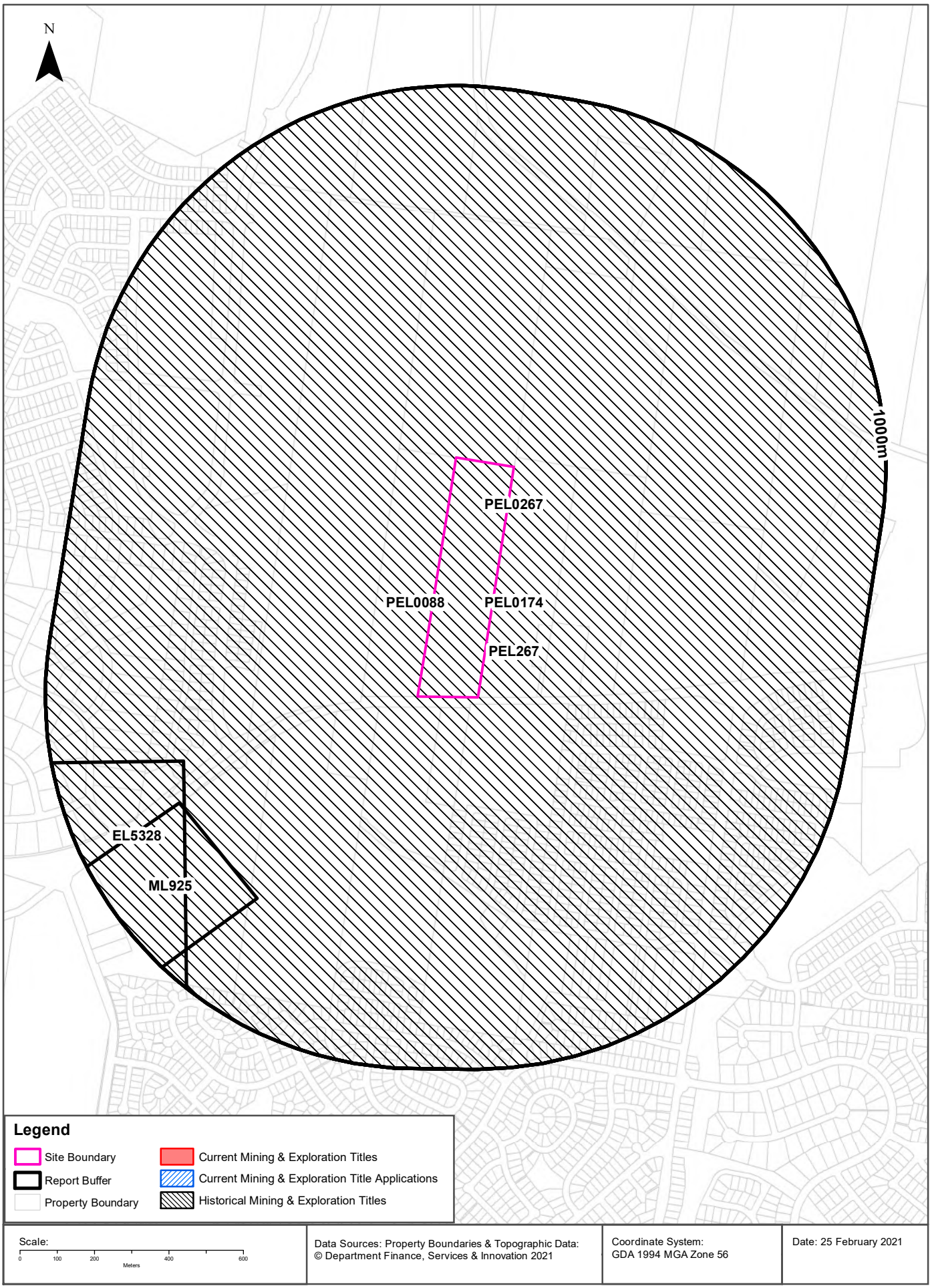


Mining

507 Raymond Terrace Road, Chisholm, NSW 2322

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 (m)	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 (m)	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

507 Raymond Terrace Road, Chisholm, NSW 2322

Historical Mining & Exploration Titles

Historical Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Start Date	End Date	Resource	Minerals	Dist (m)	Dir'
PEL0088	PLANET EXPLORATION COMPANY PTY LTD			PETROLEUM	Petroleum	0m	Onsite
PEL0174	NSW OIL AND GAS COMPANY NL			PETROLEUM	Petroleum	0m	Onsite
PEL0267	SYDNEY OIL CO (NSW) PTY LTD, MANVANE PTY LTD AUSTRALIA NL, BASE RESOURCES LTD, SEAHAWK OIL AUSTRALIA NL, READING & BATES	20/01/1984	6/07/2015	PETROLEUM	Petroleum	0m	Onsite
PEL267	AGL UPSTREAM INVESTMENTS PTY LIMITED			MINERALS		0m	Onsite
EL5328	MONIER PGH HOLDINGS LIMITED	05 Aug 1997	04 Aug 1999	MINERALS	Brick clay	652m	South West
ML925	CSR BUILDING PRODUCTS LIMITED			MINERALS		677m	South West

State Environmental Planning Policy

507 Raymond Terrace Road, Chisholm, NSW 2322

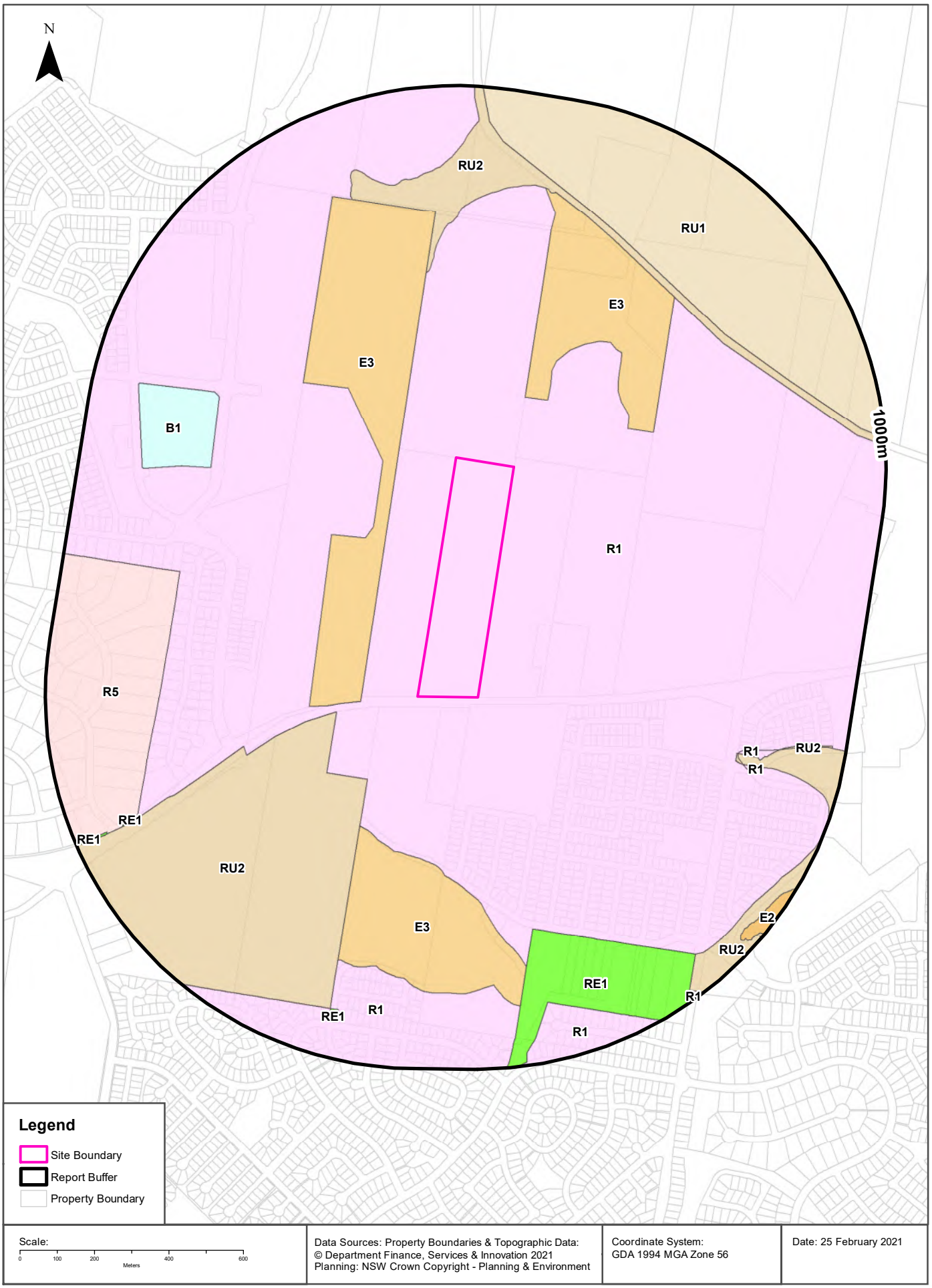
State Significant Precincts

What SEPP State Significant Precincts exist within the dataset buffer?

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

EPI Planning Zones

507 Raymond Terrace Road, Chisholm, NSW 2322



Environmental Planning Instrument

507 Raymond Terrace Road, Chisholm, NSW 2322

Land Zoning

What EPI Land Zones exist within the dataset buffer?

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
R1	General Residential		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		0m	Onsite
E3	Environmental Management		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		151m	North West
E3	Environmental Management		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		190m	North East
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		222m	North West
E3	Environmental Management		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		380m	South
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		640m	South
B1	Neighbourhood Centre		Maitland Local Environmental Plan 2011	28/07/2017	28/07/2017	04/12/2020	Amendment No 22	647m	North West
RU1	Primary Production		Maitland Local Environmental Plan 2011	25/08/2017	25/08/2017	04/12/2020	Amendment No 21	647m	North
R5	Large Lot Residential		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		684m	West
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	04/12/2020	Amendment No 20	710m	South East
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		714m	South East
R1	General Residential		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	04/12/2020	Amendment No 20	715m	South East
R1	General Residential		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		731m	South
R1	General Residential		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	04/12/2020	Amendment No 20	733m	South East
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		818m	South West
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	04/12/2020	Amendment No 20	823m	South East
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		868m	South
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		910m	South West
E2	Environmental Conservation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		948m	South East

Heritage

507 Raymond Terrace Road, Chisholm, NSW 2322

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
Creative Commons 3.0 © Commonwealth of Australia https://creativecommons.org/licenses/by/3.0/au/deed.en

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
N/A	No records in buffer								

Heritage Data Source: NSW Crown Copyright - Planning & Environment
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Natural Hazards - Bush Fire Prone Land

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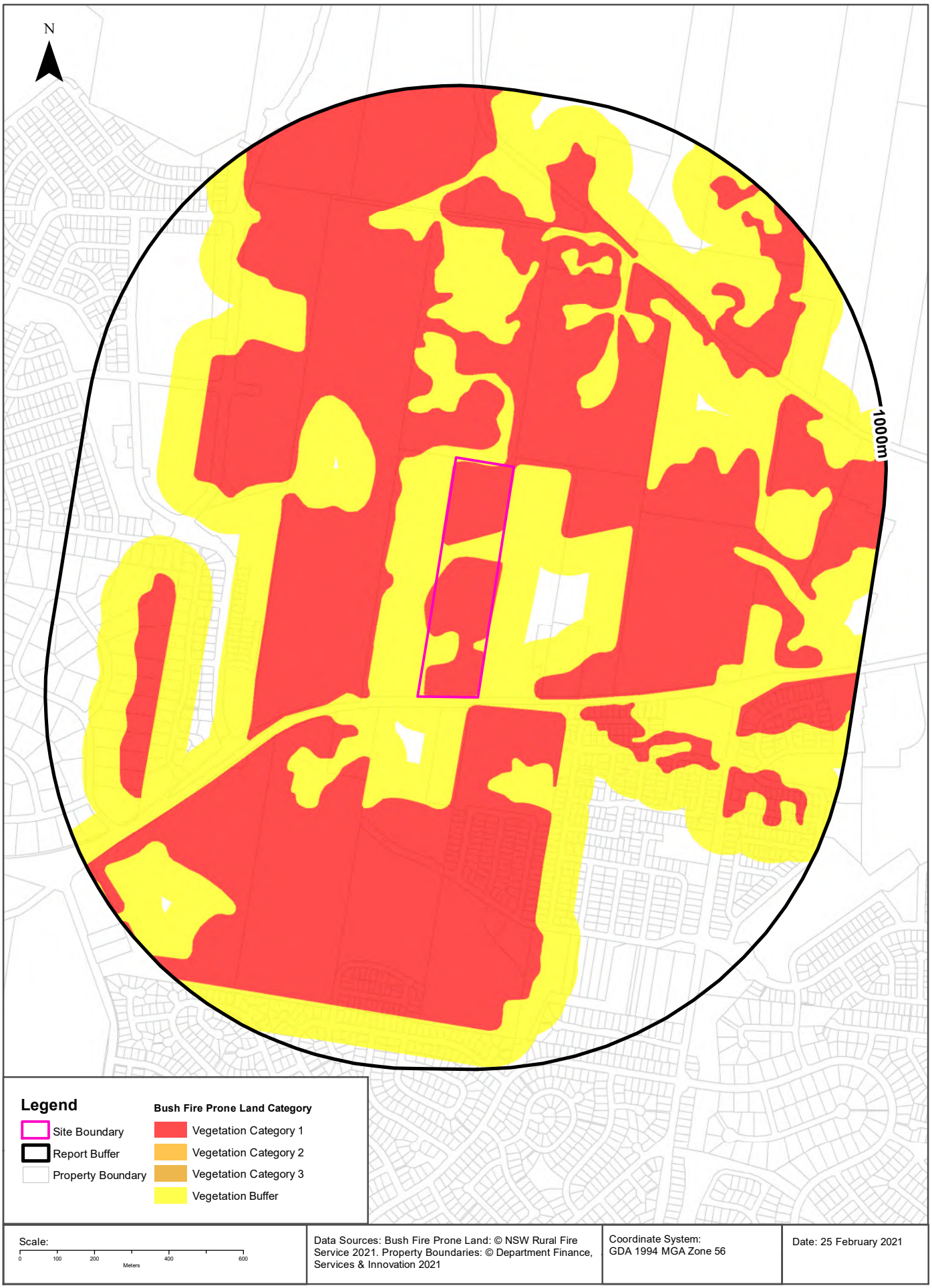

Data Sources: Bush Fire Prone Land: © NSW Rural Fire Service 2021. Property Boundaries: © Department Finance, Services & Innovation 2021

Coordinate System: GDA 1994 MGA Zone 56

Date: 25 February 2021

Natural Hazards

507 Raymond Terrace Road, Chisholm, NSW 2322

Bush Fire Prone Land

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

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	0m	Onsite
Vegetation Category 1	0m	Onsite

Ecological Constraints - Vegetation & Ramsar Wetlands

507 Raymond Terrace Road, Chisholm, NSW 2322

Ecological Constraints

507 Raymond Terrace Road, Chisholm, NSW 2322

Lower Hunter and Central Coast Regional Vegetation Survey

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

Map Id	Unit Desc	Canopy Code	Canopy Cover	Species	Distance	Direction
17	Lower Hunter Spotted Gum - Ironbark Forest	WO	Sparse (Woodland) 20-<50% cover	C. maculata / E. fibrosa / E. punctata	0m	Onsite
17	Lower Hunter Spotted Gum - Ironbark Forest	OF	Mid Dense (Open Forest) 50-<100% cover	C. maculata / E. fibrosa / E. punctata	0m	Onsite
17	Lower Hunter Spotted Gum - Ironbark Forest	OW	Very Sparse (Open Woodland) 10-20% cover	C. maculata / E. fibrosa / E. punctata	9m	North East
5	Alluvial Tall Moist Forest	OF	Mid Dense (Open Forest) 50-<100% cover	E. saligna / S. glomulifera / Glochidion ferdinandi	155m	East
5	Alluvial Tall Moist Forest	WO	Sparse (Woodland) 20-<50% cover	E. saligna / S. glomulifera / Glochidion ferdinandi	633m	South
17	Lower Hunter Spotted Gum - Ironbark Forest	W	Wetland	C. maculata / E. fibrosa / E. punctata	725m	South East
37	Swamp Mahogany - Paperbark Forest	OF	Mid Dense (Open Forest) 50-<100% cover	Melaleuca quinquinervia / E. robusta / C. glauca	753m	South
37	Swamp Mahogany - Paperbark Forest	W	Wetland	Melaleuca quinquinervia / E. robusta / C. glauca	778m	South East
5	Alluvial Tall Moist Forest	W	Wetland	E. saligna / S. glomulifera / Glochidion ferdinandi	971m	South East

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

Ramsar Wetlands

What Ramsar Wetland areas exist within the dataset buffer?

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

Ramsar Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

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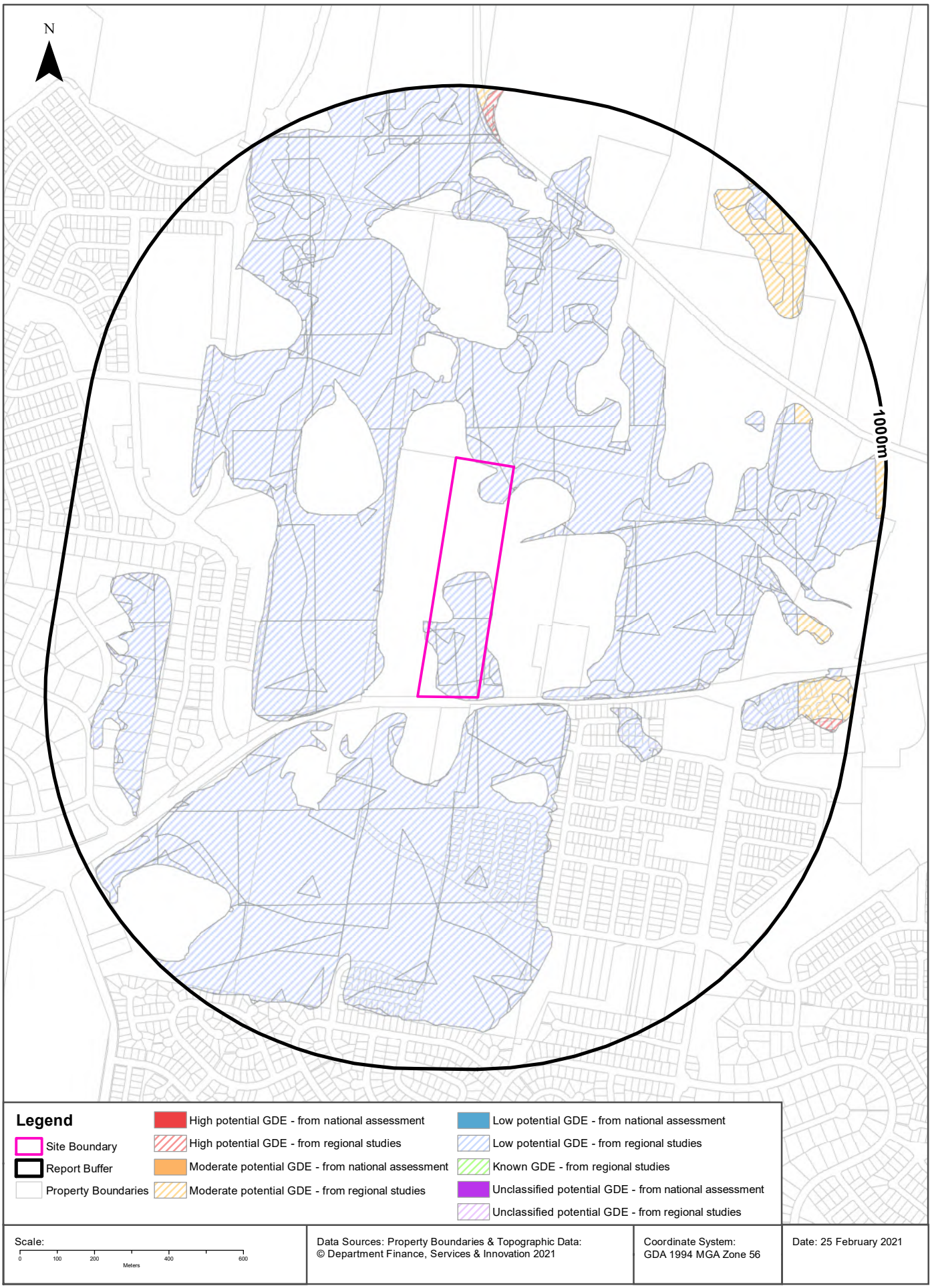

Ecological Constraints

507 Raymond Terrace Road, Chisholm, NSW 2322

Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	Low potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	Moderate potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		761m
Terrestrial	High potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		853m

Ecological Constraints - Inflow Dependent Ecosystems Likelihood

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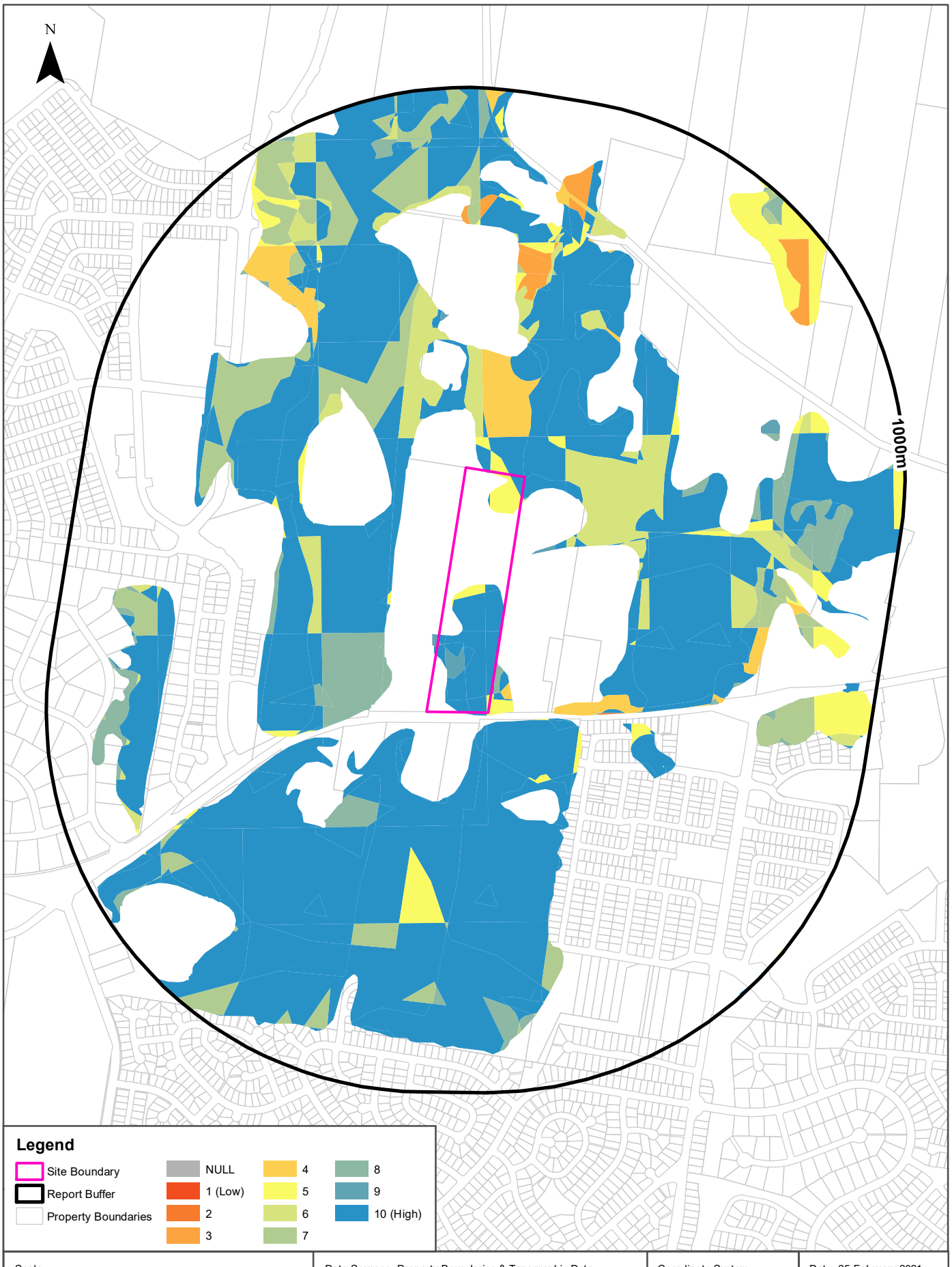

Ecological Constraints

507 Raymond Terrace Road, Chisholm, NSW 2322

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	5	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	8	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	9	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	10	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	4	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		22m
Terrestrial	6	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		82m
Terrestrial	7	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		258m
Terrestrial	2	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		289m
Terrestrial	3	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		460m

Ecological Constraints

507 Raymond Terrace Road, Chisholm, NSW 2322

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	Crinia tinnula	Wallum Froglet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Ardenna pacifica	Wedge-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ardenna tenuirostris	Short-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Botaurus poiciloptilus	Australasian Bittern	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris melanotos	Pectoral Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Calidris ruficollis	Red-necked Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calyptorhynchus banksii samueli	Red-tailed Black-Cockatoo (inland subspecies)	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Chlidonias leucopterus	White-winged Black Tern	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Circus assimilis	Spotted Harrier	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Epthianura albifrons	White-fronted Chat	Vulnerable	Not Sensitive	Not Listed	
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	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hamirostra melanosternon	Black-breasted Buzzard	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pachycephala inornata	Gilbert's Whistler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pandion cristatus	Eastern Osprey	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pezoporus wallicus wallicus	Eastern Ground Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Pluvialis fulva	Pacific Golden Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pterodroma leucoptera leucoptera	Gould's Petrel	Vulnerable	Not Sensitive	Endangered	
Animalia	Aves	Ptilinopus magnificus	Wompoo Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus regina	Rose-crowned Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Rostratula australis	Australian Painted Snipe	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Thalasseus bergii	Crested Tern	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Tringa glareola	Wood Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa stagnatilis	Marsh Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tyto 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	Mammalia	Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus australis	Little Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petauroides volans	Greater Glider	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Phascogale tapoatafa	Brush-tailed Phascogale	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pseudomys novaehollandiae	New Holland Mouse	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Vespadelus troughtoni	Eastern Cave Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Caretta caretta	Loggerhead Turtle	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Commersonia prostrata	Dwarf Kerrawang	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Cymbidium canaliculatum	Tiger Orchid	Endangered Population	Category 2	Not Listed	
Plantae	Flora	Cynanchum elegans	White-flowered Wax Plant	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Dillwynia tenuifolia		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Diuris arenaria	Sand Doubletail	Endangered	Category 2	Not Listed	
Plantae	Flora	Eucalyptus camaldulensis	River Red Gum	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus glaucina	Slaty Red Gum	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus parramattensis subsp. decadens		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Maundia triglochinoides		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Persicaria elatior	Tall Knotweed	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Rhodamnia rubescens	Scrub Turpentine	Critically Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Rhodomyrtus psidioides	Native Guava	Critically Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Rutidosis heterogama	Heath Wrinklewort	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Tetratheca juncea	Black-eyed Susan	Vulnerable	Not Sensitive	Vulnerable	

Data does not include NSW category 1 sensitive species.

Location Confidences

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

LC Code	Location Confidence
Premise match	Georeferenced to the site location / premise or part of site
General area or suburb match	Georeferenced with the confidence of the general/approximate area
Road match	Georeferenced to the road or rail
Road intersection	Georeferenced to the road intersection
Feature is a buffered point	Feature is a buffered point
Land adjacent to geocoded site	Land adjacent to Georeferenced Site
Network of features	Georeferenced to a network of features

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Appendix B
SITE PHOTOGRAPHS

	**Plate 1** **Description:** Silty SAND topsoil layer encountered in the test pits. No anthropogenic material observed. **Date:** 25/02/2021
	**Plate 2** **Description:** Residual Sandy CLAY material encountered across the Site. **Date:** 25/02/2021

	**Plate 3** **Description:** Residual Sandy CLAY colour change from mottled orange and red to mottled grey and orange. **Date: 25/02/2021**
	**Plate 4** **Description:** Extremely weathered sandstone encountered in all the test pits across the Site. **Date: 25/02/2021**

	**Plate 5** **Description:** Disturbed ground and wood stockpile in the northern portion of the Site. ACM02 sample was collected from this location. **Date: 25/02/2021**
	**Plate 6** **Description:** Disturbed ground and wood stockpile in the north west portion of the Site. Just south of test pit TP08. No foreign material other than wood was observed. **Date: 25/02/2021**

	**Plate 7** **Description:** Disturbed ground and wood stockpile in the north east portion of the Site. Just south of test pit TP09. No foreign material other than wood was observed. **Date: 25/02/2021**
	**Plate 8** **Description:** Disturbed ground and wood stockpile in the north east portion of the Site. Just south of test pit TP07. Some tile fragments and wood were identified in the stockpile. An asbestos sample (ACM03) was collected for analysis. **Date: 25/02/2021**

	**Plate 9** **Description:** Wood and tile fragments observed in the disturbed ground and wood stockpile in the north east portion of the Site. Just south of test pit TP07. **Date: 25/02/2021**
	**Plate 10** **Description:** Wood and tile fragments observed in the disturbed ground and wood stockpile in the north east portion of the Site. Just south of test pit TP07. **Date: 25/02/2021**

	**Plate 11** **Description:** Disturbed ground and wood stockpile in the centre of the Site south of the dam. Just North of test pit TP05. Some tile fragments and wood were identified in the stockpile. An asbestos sample (ACM04) was collected for analysis. **Date: 25/02/2021**
	**Plate 12** **Description:** Waste stockpile in the south east portion of the Site. Stockpile consisted of anthropgenic waste, brick, tile, concrete and wood. An asbestos sample (ACM05) was collected for analysis. **Date: 25/02/2021**

	**Plate 13** **Description:** Brick and tile anthropogenic waste in the stockpile in the south east portion of the Site. South of TP04. **Date: 25/02/2021**
	**Plate 14** **Description:** Access track where ACM01_ID sample had a positive result to bonded ACM. Photo taken facing north. Ground surface was scrapped surrounding the area to identify any further fragments. **Date: 25/02/2021**

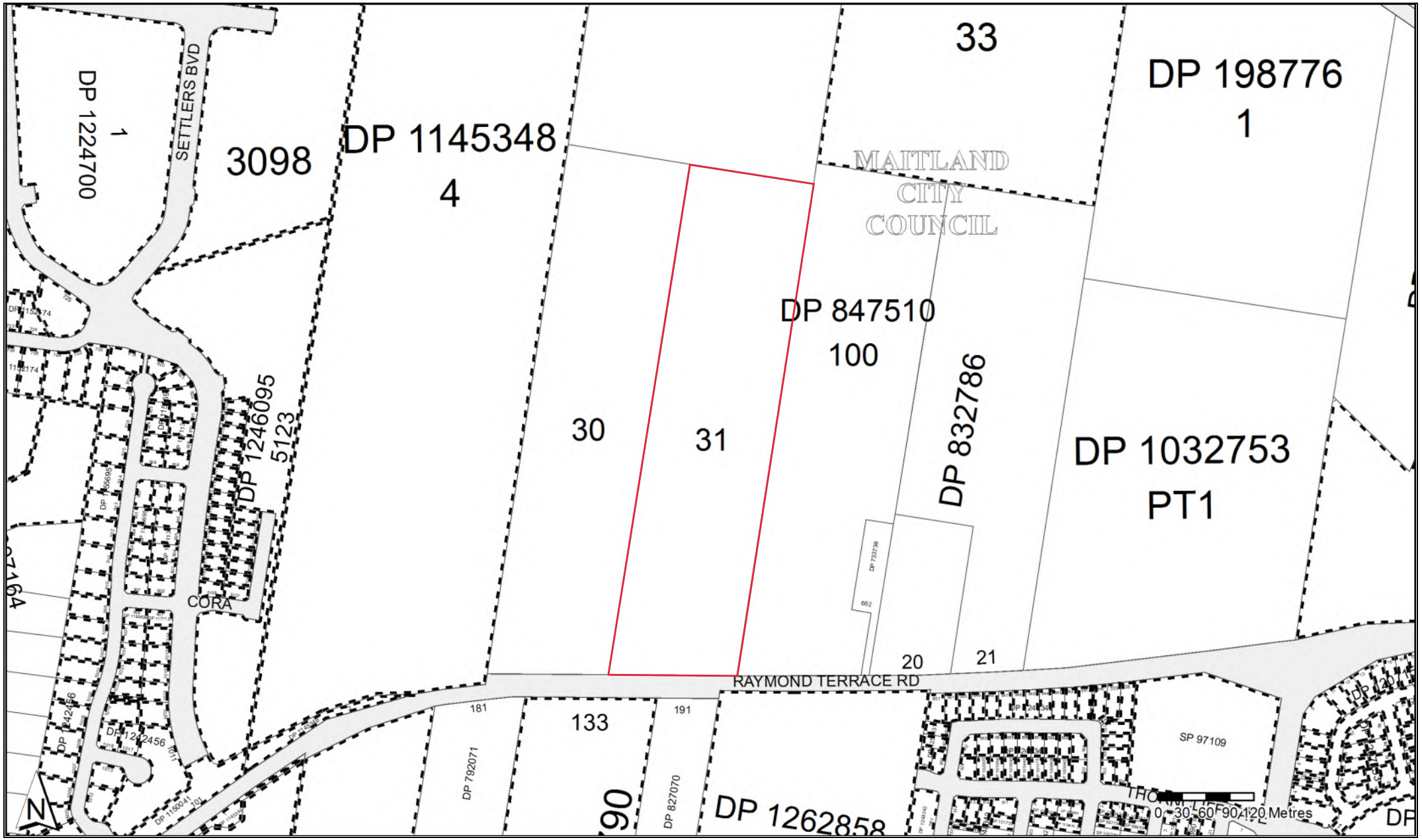
	**Plate 15** **Description:** Asbestos fragments identified on the access track in the south east portion of the Site. ACM01_ID had a positive identifier to bonded asbestos which exceeded the NEPM residential health guidelines. **Date: 25/02/2021**

	**Plate 16** **Description:** Onsite Dam lacated in the centre of the site. Sediment and water samples collected on the north bank side of the dam. Photo taken from TP07 facing south. **Date: 25/02/2021**
	**Plate 17** **Description:** Eucalyptus trees and bush land throughout the site. **Date: 25/02/2021**

Appendix C
HISTORICAL TITLE DEAD SEARCH

Cadastral Records Enquiry Report : Lot 31 DP 778111

Locality : CHISHOLM
Parish : ALNWICK
LGA : MAITLAND
County : NORTHUMBERLAND



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

PLAN FORM 2

SIGNATURE AND SEALS ONLY.

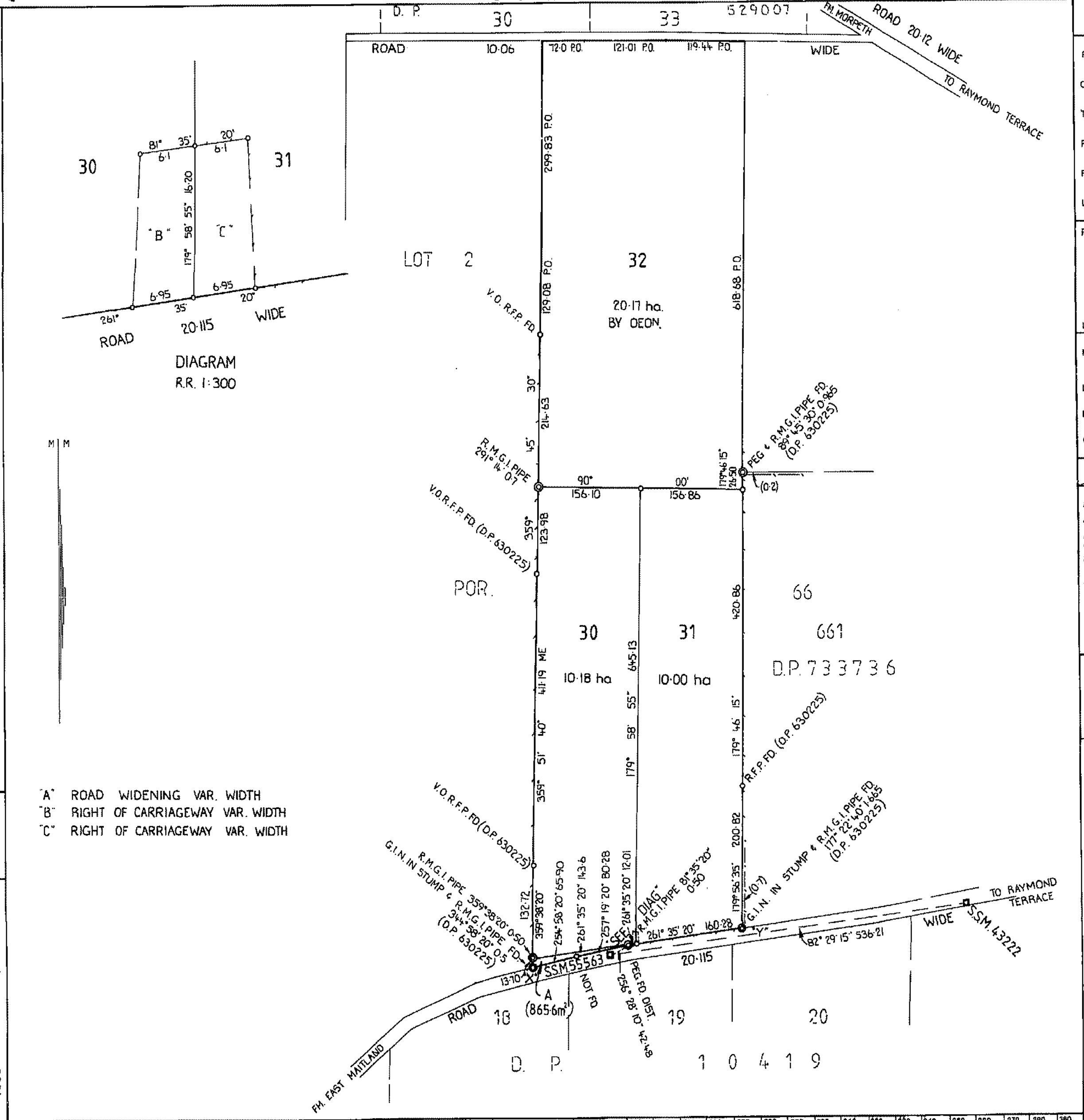
As Mortgagee under Mortgage No. X200480 Westpac Banking Corporation hereby consents to the within Plan of Subdivision.

WESTPAC BANKING CORPORATION by its Attorney who hereby states that at the time of executing this instrument no notice of revocation has been received of the Power of Attorney registered in the office of the Registrar General No. 274 Book 3733 under the authority of which this instrument has been executed.

NEWCASTLE REGIONAL SECURITIES CENTRE.
Officer In Charge Regional Securities

Signed Sealed and Delivered for and on behalf of WESTPAC BANKING CORPORATION by Debra Marie Matthews its duly constituted Attorney who is personally known to me.

Plan Drawing only to appear in this space



WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Crown Lands Office Approval

PLAN APPROVED .... Authorised Officer
Land District ....
Paper No. ....
Field Book .... pages

Council Clerk's Certificate

I hereby certify that—
(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and
*(b) the requirements of section 34B of the † ~~Metropolitan Water, Sewerage and Drainage Act, 1924, as amended~~ † Hunter District Water, Sewerage, and Drainage Act, 1938, as amended

have been complied with by the applicant in relation to the proposed ... Subdivision ...
(insert "new road", "subdivision" or "consolidated lot") set out herein
Subdivision No. ... 87052 ...
Date ... 15.8.88 ...
(Signature) .... Council Clerk
Council File No. ... 133/5/87/052 ...

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

SURVEYOR'S REFERENCE: AK/2 (52794)

*OFFICE USE ONLY

DP 778111

Registered: 5-10-1988

C.A. Nº 87052 OF 15·8·1988

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: U5472-9*, U5472-8*

Last Plan: D.P. 630225

YOO3AIA

PLAN OF SUBDIVISION OF LOT 3 D.P. 630225

Lengths are in metres. Reduction Ratio 1: 4000

Mun./Shire City	MAITLAND
Locality:	THORNTON
Parish:	ALNWICK
County:	NORTHUMBERLAND

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

I, ANDREW CLARK of SCOTT CRISP CASHMERE MAITLAND P/L 19 CHURCH STREET MAITLAND 2320

a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan AS REGARDS LOTS 30 & 31 ONLY is accurate and has been made in accordance with the Survey Practice Regulations, 1933 and any special requirements of the Department of Lands, and was completed on 27-7-1988

Signature ....
Surveyor registered under Surveyors Act, 1929, as amended
Datum Line of Azimuth: "X" – "Y"
*Insert date of survey.

Plans used in preparation of survey/compilation.
D.P. 630225
D.P. 733736

PANEL FOR USE ONLY for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919-64 AS AMENDED IT IS INTENDED TO CREATE:-

1. RESTRICTIONS AS TO USER.
2. RESTRICTIONS AS TO USER.
3. RESTRICTIONS AS TO USER.
4. RIGHT OF CARRIAGEWAY VAR. WIDTH
5. RIGHT OF CARRIAGEWAY VAR. WIDTH
6. RESTRICTION AS TO USER

IT IS INTENDED TO DEDICATE THE ROAD WIDENING VARIABLE WIDTH TO THE PUBLIC AS PUBLIC ROAD

HILLS

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 7th October, 1988

Table of mm

[redacted]ICATE OF TITLE

[redacted] PROPERTY ACT, 1900

15096182

NEW SOUTH WALES

First Title Old System

Prior Title P.A. 57186

Vol. 15096 Fol. 182

EDITION 17 ISSUED 8 1983

I certify that the person named in the First Schedule is the registered proprietor of an estate in fee simple (or such other estate or interest as is set out below) in the land [redacted] subject to the recordings appearing in the Second Schedule and to the provisions of the Real Property Act, 1900.

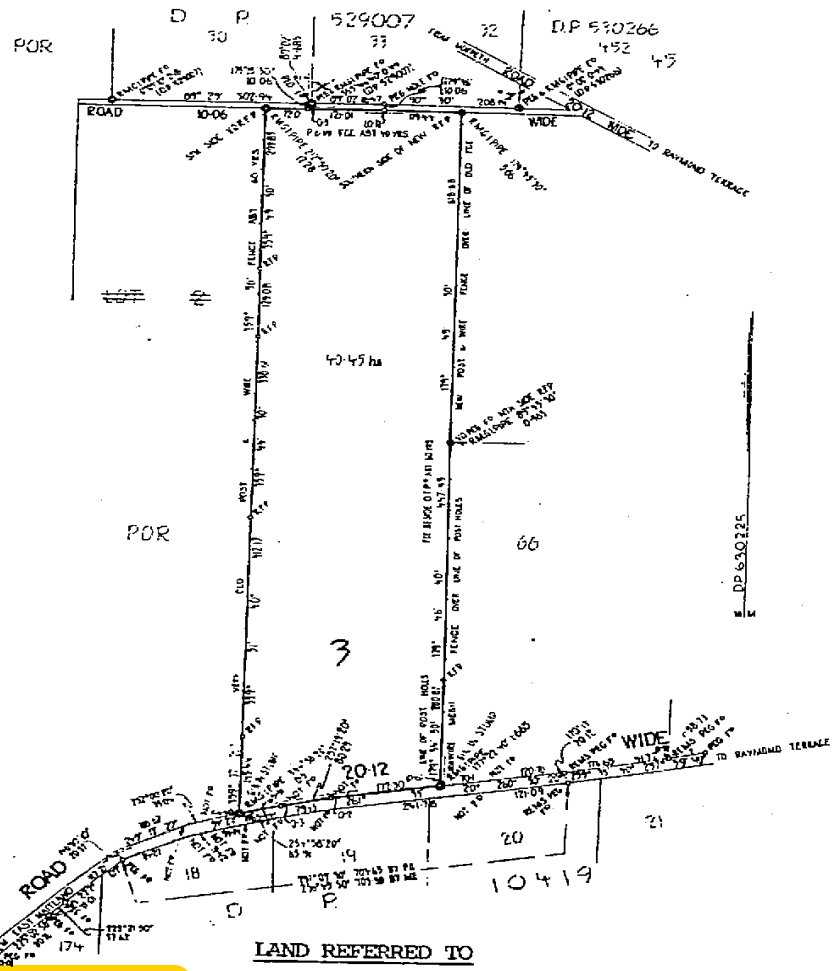
CANCELLED

SEE AUTO FOLII

Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



LAND REFERRED TO

Lot 3 in Deposited Plan 630225 at Thornton in the City of Maitland Parish of Alnwick County of Northumberland.

FIRST SCHEDULE

~~WALTER ANTHONY GERARD ENRIGHT.~~

SECOND SCHEDULE

GRY 1. Reservations and conditions, if any, contained in the Crown Grant.

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

(Page 1) Vol. 15096 Fol. 182

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

RG 2/64

Vol. 15096 Fol. 182

L.O. 1066 D. West, Government Printer

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR | Registrar General

~~Patrick Thomas Wills, Dianne Faye Berry and Stewart Allan Neely as joint tenants by Application W967625 Registered 11-8-1987~~

Ronald Selwyn May and Jennifer Ann May as joint tenants by Transfer X200479. Registered 13-11-1987.

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

PARTICULARS | Registrar General | CANCELLATION

MX

X200480 Mortgage to Westpac Banking Corporation. Registered 13-11-1987.

NOTATIONS AND UNREGISTERED DEALINGS

W967625 Reg
X200479 T.I. 13/11/87

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
25/2/2021 9:29AM

FOLIO: 3/630225

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 15096 FOL 182

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
22/9/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
17/10/1988	DP778111	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

Received: 25/02/2021 09:29:39

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
25/2/2021 9:28AM

FOLIO: 31/778111

First Title(s): OLD SYSTEM
Prior Title(s): 3/630225

Recorded	Number	Type of Instrument	C.T. Issue
18/10/1988	DP778111	DEPOSITED PLAN	FOLIO CREATED EDITION 1
29/3/1989	Y260869	DISCHARGE OF MORTGAGE	
29/3/1989	Y260870	MORTGAGE	EDITION 2
2/7/1991	Z736547	VARIATION OF MORTGAGE	EDITION 3
5/9/1991	Z895956	MORTGAGE	
5/9/1991	Z895957	MORTGAGE	EDITION 4
30/6/1992	E573742	VARIATION OF MORTGAGE	
30/6/1992	E573743	DISCHARGE OF MORTGAGE	
30/6/1992	E573744	DISCHARGE OF MORTGAGE	
30/6/1992	E573745	MORTGAGE	EDITION 5
6/2/1995	U994032	DISCHARGE OF MORTGAGE	
6/2/1995	U994033	DISCHARGE OF MORTGAGE	
6/2/1995	U994034	TRANSFER	EDITION 6
14/3/1995	O85486	LEASE	EDITION 7
3/10/2001	7991806	TRANSFER	
3/10/2001	7991807	MORTGAGE	EDITION 8
22/12/2005	AB994221	TRANSFER OF MORTGAGE	EDITION 9
20/3/2006	AC186659	DISCHARGE OF MORTGAGE	
20/3/2006	AC186660	MORTGAGE	EDITION 10
16/2/2021	AQ802768	CAVEAT	

*** END OF SEARCH ***

Received: 25/02/2021 09:27:59

97-01T

TRANSFER

Real Property Act, 1900

U 994034 G

$7-

Office

020295 6022 04 20091566S/03 $2.00

(A) **LAND TRANSFERRED**

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

CERTIFICATE OF TITLE FOLIO IDENTIFIER
31/778111

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone
41J	MALLESONS STEPHEN JAQUES REFERENCE (max. 15 characters): JEA LEGA 4712-041

(C) **TRANSFEROR** RONALD SELWYN MAY & JENNIFER ANN MAY

(D) acknowledges receipt of the consideration of $700,000.00

and as regards the land specified above transfers to the Transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES** 1. ..... 2. ..... 3. .....

(F) **TRANSFEREE**

T TS (s713 LGA) TW (Sheriff)	LEGAL & GENERAL LIFE OF AUSTRALIA LIMITED (ACN 000 029 818)

(G) **TENANCY:** CJ

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. **DATED** 16 January 1995

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

Signature of Witness

RALPH K WARD

Name of Witness (BLOCK LETTERS)

Mallesons Stephen Jaques

Address of Witness

Signature of Transferor

LEGAL & GENERAL LIFE OF AUSTRALIA LIMITED
A.C.N. 000 029 818
BY ITS ATTORNEY
trevor john matthews.
PURSUANT TO POWER OF ATTORNEY REGISTERED BOOK 3695 No. 362

Signature of Transferee

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

Signature of Witness

GUYON PAUL CATES

Name of Witness (BLOCK LETTERS)

Cl 4 No 1 York st Sydney.

Address of Witness

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

Ausdoc Commercial and Law Stationers 1991

Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 31/778111

SEARCH DATE	TIME	EDITION NO	DATE
25/2/2021	9:26 AM	10	20/3/2006

LAND

LOT 31 IN DEPOSITED PLAN 778111
AT THORNTON
LOCAL GOVERNMENT AREA MAITLAND
PARISH OF ALNWICK COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP778111

FIRST SCHEDULE

JENNIFER ANN MAY (T 7991806)

SECOND SCHEDULE (6 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 EASEMENT(S) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM CREATED BY:
DP778111 RIGHT OF CARRIAGEWAY VARIABLE WIDTH
3 EASEMENT(S) APPURTENANT TO THE LAND ABOVE DESCRIBED CREATED BY:
DP778111 RIGHT OF CARRIAGEWAY VARIABLE WIDTH
4 DP778111 RESTRICTION(S) ON THE USE OF LAND
5 AC186660 MORTGAGE TO PERMANENT CUSTODIANS LIMITED
* 6 AQ802768 CAVEAT BY ALLAM LAND NO. 4 PTY LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Received: 25/02/2021 09:26:56

Appendix D
TEST PIT LOGS

TEST PIT 01

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence Assessment
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.8 m BGL

EASTING - 32°45'42.21"
NORTHING 151°38'34.53"
SURFACE ELEVATION 28 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP01_0.1			TOPSOIL: Silty Sand, fine to coarse grained, loose, non-plastic, brown.	D	3		
								5		
								5		
						Sandy CLAY:Grey mottled red and orange, medium to high plasticity, fine sand, near the plastic limit. Residual.		2	Stiff	
								2		
0.5		250	TP01_0.5					3		
			ASS01_0.5					4		
			CBR_0.5_1.					4		
								5	Very stiff	
								7		
1		300	ASS02_1.0					7		
								8		
									Very stiff to Hard	
1.5		350								
		400								
2						Extremely Weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular sandstone gravels, low - moderate strength				
2.5			Point Load							
						EOI at 2.8m				

TEST PIT 02

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence Assessment
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.1 m BGL

EASTING - 32°45'41.78"
NORTHING 151°38'30.69"
SURFACE ELEVATION 27 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP02_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse grained, loose, non-plastic, organic material.	D	3 5		
						Sandy CLAY: Grey mottled red and orange, medium to high plasticity, fine sand, near plastic limit. Residual.		4 5 5 4 5 5 5	Stiff to very stiff	
0.5		250	TP02_0.5 ASS03_0.5 CBR_0.5_1.							
						As above but grey		6		
1		300	ASS04_1.0						Very stiff	
		350								
1.5						Extremely Weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular gravels, low - moderate strength				
2			Point Load							
						Redusal at 2.1 m on sandstone.				

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TEST PIT 03

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.5 m BGL

EASTING - 32°45'40.41"
NORTHING 151°38'32.82"
SURFACE ELEVATION 28 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP03_0.1			TOPSOIL: Silty SAND: Brown fine to coarse grained, loose, non-plastic, organic material.	D	3		
								2		
						Sandy CLAY: Grey mottled red and orange, medium to high plasticity, fine sand, near plastic limit. Residual.		2	Stiff to very stiff.	
								2		
0.5		150	TP03_0.5, ASS05_0.5, AGG					2		
								3		
								5		
								4		
								4		
						As above but grey				
1		250	ASS06_1.0							
1.5		300								
2						Extremely weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular gravels, low - moderate strength				
			Point Load							
2.5						End of Investigation at 2.5 m BGL				

TEST PIT 04

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence Assessment
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.5 m BGL

EASTING - 32°45'39.29"
NORTHING 151°38'34.96"
SURFACE ELEVATION 27 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP04_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse grained, loose, non-plastic, organic material.	D	5		
								8		
								6		
						Sandy CLAY: Grey mottled red and orange, medium to high plasticity, fine sand, near plastic limit. Residual.		3	Stiff.	
			TP04_0.5, ASS07_0.5					3		
0.5		150						3		
								3		
								4		
								4		
								3		
1		300	ASS08_1.0					3		
								4		
								12	Very stiff.	
1.5		350								
						Extremely Weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular gravels, low - moderate strength.				
2										
			Point Load							
2.5						End of investigation at 2.5 m BGL				

Disclaimer This log is intended for environmental and geotechnical purposes.

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TEST PIT 05

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence Assessment
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.5 m BGL

EASTING - 32°45'38.14"
NORTHING 151°38'33.17"
SURFACE ELEVATION 25 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP05_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse grained, loose, non-plastic, organic material.	D	5		
								4		
						Sandy CLAY: Red, medium to high plasticity, coarse sand. Residual.		2	Stiff to very stiff.	
								2		
			TP05_0.5, ASS09_0.5					2		
0.5		200						4		
						As above but grey		5		
								4		
								5		
								5		
1		250	ASS010_1.0					5		
								7		
									Very stiff	
1.5		300								
2		350								
						Extremely Weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular gravels, low - moderate strength.				
			Point Load							
2.5						End of Investigation at 2.5 m BGL				

TEST PIT 06

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.5 m BGL

EASTING - 32°45'35.04"
NORTHING 151°38'32.25"
SURFACE ELEVATION 22 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP06_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse grained, loose, non-plastic, organic material.	D	4		
								3		
								3		
						Sandy CLAY: Grey mottled red and orange, medium to high plasticity, fine sand, near plastic limit. Residual.		4	Stiff	
								4		
0.5		150	TP06_0.5					4		
			ASS11_0.5					3		
			SSI					4		
								4		
								4		
								4		
1		200	ASS12_1.0			As above but grey		4		
								5	Very stiff	
								6		
1.5		300								
2		350								
			Point Load			Extremely Weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular gravels, low - moderate strength.				
			TP06_2.4							
2.5						End of Investigation at 2.5 m BGL.				

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TEST PIT 07

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.5 m BGL

EASTING - 32°45'34.95"
NORTHING 151°38'35.83"
SURFACE ELEVATION 20 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP07_0.1			TOPSOIL: Silty SANDL Brown, fine to coarse grained, loose, non-plastic, organic material.	D	3 3 5 3		
0.5		150	TP07_0.5 ASS13_0.5			Sandy CLAY: Grey mottled red and orange, medium to high plasticity, fine sand, near plastic limit. Residual.		4 3 4 5 5	Very stiff.	
1		200	ASS14_1.0			As above but no sand.				
1.5		300								
2		350								
			Point Load TP07_2.4			Extremely Weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular gravels, low - moderate strength.				
2.5						End of Investigation at 2.5 m BGL.				

TEST PIT 08

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.5 m BGL

EASTING - 32°45'31.99"
NORTHING 151°38'32.45"
SURFACE ELEVATION 26 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP08_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse grained, loose, non-plastic, organic material.	D	2 1 1		
						Sandy CLAY: Grey mottled red and orange, medium to high plasticity, fine sand, near plastic limit. Residual.		2 2	Stiff to very stiff.	
0.5		200	TP08_0.5 ASS15_0.5 CBR, TP08_0.5_1					2 3 4 5 5		
1		250	ASS16_1.0			As above but grey		6 5 6 6		
1.5		300								
2		350				Extremely Weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular gravels, low - moderate strength.				
			Point Load TP08_2.4							
2.5						End of Investigation at 2.5 m BGL.				

TEST PIT 09

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.5 m BGL

EASTING - 32°45'32.45"
NORTHING 151°38'36.13"
SURFACE ELEVATION 23 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP09_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse grained, loose, non-plastic, organic material.	D	3		
								3		
								3		
						Sandy CLAY: Grey mottled red and orange, medium to high plasticity, fine sand, near plastic limit. Residual.		2	Firm	
								1		
0.5		250	TP09_0.5 ASS17_0.5 CBR, TP09_0.5_1					2		
								3	Stiff	
								3		
								4		
						As above but grey		4		
1		250	ASS18_1.0					5	Very Stiff	
								6		
								7		
1.5		300								
2		350								
			Point Load TP09_2.4			Extremely Weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular gravels, low - moderate strength.				
2.5						End of Investigation at 2.5 m BGL.				

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TEST PIT 10

PROJECT NUMBER EP1977
PROJECT NAME Due Diligence
CLIENT Allam Property Group
ADDRESS 570 Raymond Terrace Rd, Chisholm NSW

DRILLING DATE 25/02/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 2.5 m BGL

EASTING - 32°45'30.55"
NORTHING 151°38'34.51"
SURFACE ELEVATION 27 m AHD
LOGGED BY GR
CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			TP10_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse grained, loose, non-plastic, organic material.	D	3		
								2		
								3		
						Sandy CLAY: Grey mottled red and orange, medium to high plasticity, fine sand, near plastic limit. Residual.		2	Stiff	
								3		
0.5		200	TP10_0.5					2		
			ASS19_0.5					2		
			SSI					4		
								4		
						As above but grey		4		
1		300	ASS20_1.0					5	Very stiff	
								5		
								6		
1.5		350								
2						Extremely Weathered SANDSTONE: Grey and red, fine to coarse grained, fine to medium sub angular gravels, low - moderate strength.				
			Point Load							
			TP10_2.4							
2.5						End of Investigation at 2.5 m BGL.				

Appendix E
NATA ACCREDITED LABORATORY REPORTS

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2106817**

Client	: **EP Risk Management**	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: Luke.Kerry@eprisk.com.au	E-mail	: Hannah.White@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: EP1977	Page	: 1 of 6
Order number	: ----	Quote number	: ES2020EPRISK0006 (SY/497/20 Primary analysis only)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: LUKE KERRY		

Dates

Date Samples Received	: 25-Feb-2021 16:33	Issue Date	: 02-Mar-2021
Client Requested Due Date	: 09-Mar-2021	Scheduled Reporting Date	: **08-Mar-2021**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 14.1'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 64 / 55

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Sample QC02, QC04 and QC06 forwarded to EUROFINS.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA055-103 Moisture Content	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - MM804 Thermotolerant Coliforms & E.coli by MPN	SOIL - S-11 OC/PCB	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2106817-001	25-Feb-2021 00:00	TP01_0.1			✓		✓	✓	✓
ES2106817-002	25-Feb-2021 00:00	TP01_0.5	✓						
ES2106817-003	25-Feb-2021 00:00	TP02_0.1	✓						
ES2106817-004	25-Feb-2021 00:00	TP02_0.5		✓	✓	✓		✓	✓
ES2106817-005	25-Feb-2021 00:00	TP03_0.1			✓		✓	✓	✓
ES2106817-006	25-Feb-2021 00:00	TP03_0.5	✓						
ES2106817-007	25-Feb-2021 00:00	TP04_0.1	✓						
ES2106817-008	25-Feb-2021 00:00	TP04_0.5			✓			✓	✓
ES2106817-009	25-Feb-2021 00:00	TP05_0.1			✓		✓	✓	✓
ES2106817-010	25-Feb-2021 00:00	TP05_0.5	✓						
ES2106817-011	25-Feb-2021 00:00	TP06_0.1			✓		✓		
ES2106817-012	25-Feb-2021 00:00	TP06_0.5			✓			✓	✓
ES2106817-013	25-Feb-2021 00:00	TP07_0.1			✓		✓	✓	✓
ES2106817-014	25-Feb-2021 00:00	TP07_0.5	✓						
ES2106817-015	25-Feb-2021 00:00	TP08_0.1	✓						
ES2106817-016	25-Feb-2021 00:00	TP08_0.5			✓			✓	✓
ES2106817-017	25-Feb-2021 00:00	TP09_0.1			✓		✓	✓	✓
ES2106817-018	25-Feb-2021 00:00	TP09_0.5	✓						
ES2106817-019	25-Feb-2021 00:00	TP10_0.1	✓						
ES2106817-020	25-Feb-2021 00:00	TP10_0.5			✓			✓	✓
ES2106817-021	25-Feb-2021 00:00	TP03_0.5_agg			✓				
ES2106817-022	25-Feb-2021 00:00	TP05_1.0_agg			✓				
ES2106817-023	25-Feb-2021 00:00	TP06_0.5_agg			✓				
ES2106817-024	25-Feb-2021 00:00	TP10_1.0_agg			✓				
ES2106817-045	25-Feb-2021 00:00	SED01			✓		✓		
ES2106817-057	25-Feb-2021 00:00	QC01			✓			✓	✓
ES2106817-059	25-Feb-2021 00:00	QC03			✓				

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - Corr. Sched 7 Soil on Concrete & Steel Piles (AS2159-1995)	SOIL - EA001 pH (CaCl)	SOIL - EA010 (solids): Electrical Conductivity (1:5)	SOIL - EA037 ASS Field Screening Analysis	SOIL - ED008 Def Exchangeable Cations with pre-treatment -	SOIL - EP004 (Carbon) Organic Matter & Total Organic Carbon (Calc.)	SOIL - EP131A OC Pesticides (Ultratrace)
ES2106817-004	25-Feb-2021 00:00	TP02_0.5		✓	✓		✓	✓	
ES2106817-021	25-Feb-2021 00:00	TP03_0.5_agg	✓						
ES2106817-022	25-Feb-2021 00:00	TP05_1.0_agg	✓						
ES2106817-023	25-Feb-2021 00:00	TP06_0.5_agg	✓						
ES2106817-024	25-Feb-2021 00:00	TP10_1.0_agg	✓						
ES2106817-025	25-Feb-2021 00:00	ASS01				✓			
ES2106817-026	25-Feb-2021 00:00	ASS02				✓			
ES2106817-027	25-Feb-2021 00:00	ASS03				✓			
ES2106817-028	25-Feb-2021 00:00	ASS04				✓			
ES2106817-029	25-Feb-2021 00:00	ASS05				✓			
ES2106817-030	25-Feb-2021 00:00	ASS06				✓			
ES2106817-031	25-Feb-2021 00:00	ASS07				✓			
ES2106817-032	25-Feb-2021 00:00	ASS08				✓			
ES2106817-033	25-Feb-2021 00:00	ASS09				✓			
ES2106817-034	25-Feb-2021 00:00	ASS10				✓			
ES2106817-035	25-Feb-2021 00:00	ASS11				✓			
ES2106817-036	25-Feb-2021 00:00	ASS12				✓			
ES2106817-037	25-Feb-2021 00:00	ASS13				✓			
ES2106817-038	25-Feb-2021 00:00	ASS14				✓			
ES2106817-039	25-Feb-2021 00:00	ASS15				✓			
ES2106817-040	25-Feb-2021 00:00	ASS16				✓			
ES2106817-041	25-Feb-2021 00:00	ASS17				✓			
ES2106817-042	25-Feb-2021 00:00	ASS18				✓			
ES2106817-043	25-Feb-2021 00:00	ASS19				✓			
ES2106817-044	25-Feb-2021 00:00	ASS20				✓			
ES2106817-045	25-Feb-2021 00:00	SED01							✓
ES2106817-059	25-Feb-2021 00:00	QC03							✓

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EG035T-LL Total Mercury by FIMS - Low Level (SOLID)	SOIL - EP066 (solids) Polychlorinated Biphenyls by GCMS	SOIL - EP132B Ultratrace PAH's	SOIL - S-01 7 Metals (incl. Digestion)	SOIL - S-04 TRH/BTEXN
ES2106817-045	25-Feb-2021 00:00	SED01	✓	✓	✓	✓	✓
ES2106817-059	25-Feb-2021 00:00	QC03	✓	✓	✓	✓	✓

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA200N Asbestos in Soils - (<1kg samples ONLY)	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
ES2106817-048	25-Feb-2021 00:00	ACM01	✓	
ES2106817-049	25-Feb-2021 00:00	ACM02	✓	
ES2106817-051	25-Feb-2021 00:00	ACM03	✓	
ES2106817-052	25-Feb-2021 00:00	ACM04	✓	
ES2106817-053	25-Feb-2021 00:00	ACM05	✓	
ES2106817-063	15-Feb-2021 00:00	TS_S		✓
ES2106817-064	19-Feb-2021 00:00	TB_S		✓
ES2106817-067	15-Feb-2021 00:00	TSC		✓

Matrix: **SOLID**

Laboratory sample ID	Sampling date / time	Sample ID	SOLID - EA200B Asbestos Identification in Bulk Solids (Excluding
ES2106817-047	25-Feb-2021 00:00	ACM01_ID	✓
ES2106817-050	25-Feb-2021 00:00	ACM03_ID	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - MW006 (FC & Ec) Thermotolerant Coliforms & E.coli by Membrane	WATER - W-05 TRH/BTEXN/8 Metals
ES2106817-046	25-Feb-2021 00:00	SW01	✓	✓
ES2106817-061	25-Feb-2021 00:00	QC05		✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP132B(PAH) Ultra Trace Polynuclear Aromatic Compounds	WATER - W-11 OC/PCB	WATER - W-12 OC/OP Pesticides	WATER - W-26T TRH/BTEXN/PAH/Total 8 Metals
ES2106817-046	25-Feb-2021 00:00	SW01	✓		✓	
ES2106817-054	25-Feb-2021 00:00	Rinsate 01		✓		✓
ES2106817-055	25-Feb-2021 00:00	Rinsate 02		✓		✓
ES2106817-056	25-Feb-2021 00:00	Rinsate 03		✓		✓
ES2106817-061	25-Feb-2021 00:00	QC05	✓		✓	

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP080 BTEXN	WATER - W-18 TRH(C6 - C9)/BTEXN
ES2106817-065	24-Feb-2021 00:00	TS_W	✓	
ES2106817-066	24-Feb-2021 00:00	TB_W		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accounts@eprisk.com.au

LUKE Kerry

- *AU Certificate of Analysis - NATA (COA)	Email	Luke.Kerry@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Luke.Kerry@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Luke.Kerry@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Luke.Kerry@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	Luke.Kerry@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	Luke.Kerry@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	Luke.Kerry@eprisk.com.au

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2106817**	Page	: 1 of 41
Amendment	: **1**		
Client	: **EP Risk Management**	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1977	Date Samples Received	: 25-Feb-2021 16:33
Order number	: ----	Date Analysis Commenced	: 26-Feb-2021
C-O-C number	: ----	Issue Date	: 30-Mar-2021 17:58
Sampler	: LUKE KERRY		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 64		
No. of samples analysed	: 55		

ilac-MRA NATA
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
- Descriptive 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*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Alex Rossi	Organic Chemist	Sydney Inorganics, Smithfield, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Dian Dao	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Somlok Chai	Microbiologist	Sydney Microbiology, Smithfield, NSW

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 Contact 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.

- MF = membrane filtration
- CFU = colony forming unit
- EP075 (SIM): Where reported, 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.
- 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.
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP131A: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane 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.
- EG005: Poor precision was obtained for Iron on sample ES2106817-#045. Results have been confirmed by re-extraction and reanalysis.
- EG020/ED093: Positive result for sample ES2106817-056 has been confirmed by reanalysis.
- Microbiological Comment: In accordance with ALS work instruction QWI-MIC/04, membrane filtration result is reported an approximate (~) when the count of colonies on the filtered membrane is outside the range of 10 - 100cfu.
- **EA200 Legend**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Amendment (26/03/2021): This report has been amended and re-released to allow the reporting of additional analytical data, specifically method EA033: Chromium Suite for samples ASS02, ASS07, ASS12, ASS14, and ASS18 (026, 031, 036, 038, and 042).
- ASS: EA033 (CRS Suite): ANC not required because pH KCl less than 6.5

- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- EP080: Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEXN compounds spiked at 20 ug/L.
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- ASS: EA033 (CRS Suite): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m3'.
- EP132: Where reported, Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
  Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
  The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
  Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
  All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- MW006 is ALS's internal code and is equivalent to AS4276.7.
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination
- EP132: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) 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.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H+ + Al3+).
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EA200: N/A - Not Applicable

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	QC03	----	----	----	----
			Sampling date / time	25-Feb-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2106817-059	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**48.8**	----	----	----	----
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	**15**	----	----	----	----
Copper	7440-50-8	5	mg/kg	<5	----	----	----	----
Lead	7439-92-1	5	mg/kg	**17**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**4**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**23**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (Low Level)								
Mercury	7439-97-6	0.01	mg/kg	**0.02**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	QC03	----	----	----	----
			Sampling date / time	25-Feb-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2106817-059	--------	--------	--------	--------
				Result	----	----	----	----
EP080: BTEXN - Continued								
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	----	----	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg	<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.50	µg/kg	<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg	<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg	<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg	<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg	<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg	<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.50	µg/kg	<0.50	----	----	----	----
trans-Chlordane	5103-74-2	0.50	µg/kg	<0.50	----	----	----	----
^ Total Chlordane (sum)	----	0.50	µg/kg	<0.50	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg	<0.50	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.50	µg/kg	<0.50	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	<10	----	----	----	----
2-Methylnaphthalene	91-57-6	10	µg/kg	<10	----	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	QC03	----	----	----	----
			Sampling date / time	25-Feb-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2106817-059	--------	--------	--------	--------
				Result	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	----	----	----	----
Acenaphthene	83-32-9	10	µg/kg	<10	----	----	----	----
Acenaphthylene	208-96-8	10	µg/kg	<10	----	----	----	----
Anthracene	120-12-7	10	µg/kg	<10	----	----	----	----
Benz(a)anthracene	56-55-3	10	µg/kg	**30**	----	----	----	----
Benzo(a)pyrene	50-32-8	10	µg/kg	**40**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	10	µg/kg	**60**	----	----	----	----
Benzo(e)pyrene	192-97-2	10	µg/kg	**20**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	----	----	----	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg	**20**	----	----	----	----
Chrysene	218-01-9	10	µg/kg	**30**	----	----	----	----
Coronene	191-07-1	10	µg/kg	<10	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	----	----	----	----
Fluoranthene	206-44-0	10	µg/kg	**70**	----	----	----	----
Fluorene	86-73-7	10	µg/kg	<10	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	**20**	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	----	----	----	----
Naphthalene	91-20-3	10	µg/kg	<10	----	----	----	----
Perylene	198-55-0	10	µg/kg	**10**	----	----	----	----
Phenanthrene	85-01-8	10	µg/kg	**30**	----	----	----	----
Pyrene	129-00-0	10	µg/kg	**70**	----	----	----	----
^ Sum of PAHs	----	10	µg/kg	**400**	----	----	----	----
Benzo(a)pyrene TEQ (zero)	----	10	µg/kg	**50**	----	----	----	----
Benzo(a)pyrene TEQ (half LOR)	----	10	µg/kg	**60**	----	----	----	----
Benzo(a)pyrene TEQ (LOR)	----	10	µg/kg	**60**	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**85.9**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**87.8**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%	**83.7**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**84.3**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.50	%	**42.4**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	QC03	----	----	----	----
				Sampling date / time	25-Feb-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2106817-059	--------	--------	--------	--------
					Result	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	10	%		**100**	----	----	----	----
Anthracene-d10	1719-06-8	10	%		**121**	----	----	----	----
4-Terphenyl-d14	1718-51-0	10	%		**119**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP01_0.1	TP02_0.5	TP03_0.1	TP04_0.5	TP05_0.1
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-001	ES2106817-004	ES2106817-005	ES2106817-008	ES2106817-009
				Result	Result	Result	Result	Result
EA001: pH in soil using 0.01M CaCl extract								
pH (CaCl2)	----	0.1	pH Unit	----	4.0	----	----	----
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	----	4.9	----	----	----
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	411	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	21.5	16.7	10.9	18.9	12.0
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	<0.2	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	18.5	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	0.6	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	6.1	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	25.9	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Iron	7439-89-6	0.005	%	----	2.58	----	----	----
Arsenic	7440-38-2	5	mg/kg	<5	9	11	9	22
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	7	18	21	20	25
Copper	7440-50-8	5	mg/kg	<5	12	<5	<5	<5
Lead	7439-92-1	5	mg/kg	16	20	16	16	35
Nickel	7440-02-0	2	mg/kg	4	4	2	2	3
Zinc	7440-66-6	5	mg/kg	22	26	9	12	16
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	<0.5	----	----	----
Total Organic Carbon	----	0.5	%	----	<0.5	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP01_0.1	TP02_0.5	TP03_0.1	TP04_0.5	TP05_0.1
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-001	ES2106817-004	ES2106817-005	ES2106817-008	ES2106817-009
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP01_0.1	TP02_0.5	TP03_0.1	TP04_0.5	TP05_0.1
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-001	ES2106817-004	ES2106817-005	ES2106817-008	ES2106817-009
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**130**	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		**170**	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**300**	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**220**	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		**140**	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**360**	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
MM804: Faecal Coliforms & E.coli by MPN									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP01_0.1	TP02_0.5	TP03_0.1	TP04_0.5	TP05_0.1
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-001	ES2106817-004	ES2106817-005	ES2106817-008	ES2106817-009
				Result	Result	Result	Result	Result
MM804: Faecal Coliforms & E.coli by MPN - Continued								
Faecal Coliforms	----	2	MPN/g	**2**	**----**	<2	**----**	<2
Escherichia coli	----	2	MPN/g	**2**	**----**	<2	**----**	<2
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**81.7**	**107**	**88.8**	**83.3**	**83.1**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**91.8**	**77.8**	**79.6**	**80.8**	**77.2**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**108**	**93.4**	**107**	**104**	**101**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**99.8**	**96.2**	**93.3**	**94.8**	**96.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**94.7**	**94.7**	**89.9**	**91.2**	**94.2**
2.4.6-Tribromophenol	118-79-6	0.5	%	**99.3**	**84.1**	**80.0**	**73.1**	**77.5**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**105**	**103**	**103**	**102**	**104**
Anthracene-d10	1719-06-8	0.5	%	**106**	**108**	**107**	**106**	**107**
4-Terphenyl-d14	1718-51-0	0.5	%	**90.3**	**91.1**	**90.3**	**89.3**	**89.7**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**96.7**	**93.5**	**107**	**102**	**99.8**
Toluene-D8	2037-26-5	0.2	%	**97.4**	**90.3**	**108**	**100**	**94.3**
4-Bromofluorobenzene	460-00-4	0.2	%	**93.7**	**90.6**	**103**	**98.2**	**93.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP06_0.1	TP06_0.5	TP07_0.1	TP08_0.5	TP09_0.1
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-011	ES2106817-012	ES2106817-013	ES2106817-016	ES2106817-017
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	18.4	13.0	17.1	13.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	8	15	8	<5
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	25	50	11	9
Copper	7440-50-8	5	mg/kg	----	<5	<5	6	<5
Lead	7439-92-1	5	mg/kg	----	13	18	17	11
Nickel	7440-02-0	2	mg/kg	----	3	2	<2	2
Zinc	7440-66-6	5	mg/kg	----	13	13	7	9
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP06_0.1	TP06_0.5	TP07_0.1	TP08_0.5	TP09_0.1
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-011	ES2106817-012	ES2106817-013	ES2106817-016	ES2106817-017
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	----	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	----	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP06_0.1	TP06_0.5	TP07_0.1	TP08_0.5	TP09_0.1
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-011	ES2106817-012	ES2106817-013	ES2106817-016	ES2106817-017
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	----	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	----	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	----	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	----	<1	<1	<1	<1
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	2	----	2	----	<2
Escherichia coli	----	2	MPN/g	2	----	2	----	<2
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	82.9	81.4	89.9	70.3
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	74.7	82.1	82.6	69.0
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	84.0	93.9	87.2	84.2
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	93.5	94.2	88.2	92.0
2-Chlorophenol-D4	93951-73-6	0.5	%	----	88.3	90.0	86.9	89.8
2.4.6-Tribromophenol	118-79-6	0.5	%	----	71.9	77.2	67.3	73.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	105	105	101	100
Anthracene-d10	1719-06-8	0.5	%	----	109	106	106	102

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP06_0.1	TP06_0.5	TP07_0.1	TP08_0.5	TP09_0.1
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-011	ES2106817-012	ES2106817-013	ES2106817-016	ES2106817-017
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.5	%		----	91.9	90.4	87.8	87.4
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	93.5	94.3	92.3	93.4
Toluene-D8	2037-26-5	0.2	%		----	93.8	93.2	93.0	87.4
4-Bromofluorobenzene	460-00-4	0.2	%		----	91.9	92.7	93.9	88.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP10_0.5	TP03_0.5_agg	TP05_1.0_agg	TP06_0.5_agg	TP10_1.0_agg
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-020	ES2106817-021	ES2106817-022	ES2106817-023	ES2106817-024
				Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	----	4.9	5.0	4.7	4.9
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	19.3	19.3	17.2	19.2	15.2
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	----	380	420	380	210
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	10	mg/kg	----	500	430	330	380
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	17	----	----	----	----
Copper	7440-50-8	5	mg/kg	<5	----	----	----	----
Lead	7439-92-1	5	mg/kg	14	----	----	----	----
Nickel	7440-02-0	2	mg/kg	<2	----	----	----	----
Zinc	7440-66-6	5	mg/kg	6	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP10_0.5	TP03_0.5_agg	TP05_1.0_agg	TP06_0.5_agg	TP10_1.0_agg
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-020	ES2106817-021	ES2106817-022	ES2106817-023	ES2106817-024
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
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	TP10_0.5	TP03_0.5_agg	TP05_1.0_agg	TP06_0.5_agg	TP10_1.0_agg
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-020	ES2106817-021	ES2106817-022	ES2106817-023	ES2106817-024
					Result	Result	Result	Result	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	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**80.3**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**75.3**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**71.3**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**92.4**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**90.0**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**69.5**	----	----	----	----
EP075(SIM)T: PAH Surrogates									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP10_0.5	TP03_0.5_agg	TP05_1.0_agg	TP06_0.5_agg	TP10_1.0_agg
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-020	ES2106817-021	ES2106817-022	ES2106817-023	ES2106817-024
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	0.5	%		**105**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**108**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**90.2**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.3**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**88.4**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**87.5**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	ASS01	ASS02	ASS03	ASS04	ASS05
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-025	ES2106817-026	ES2106817-027	ES2106817-028	ES2106817-029
				Result	Result	Result	Result	Result
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	----	4.0	----	----	----
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	60	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	0.10	----	----	----
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	0.013	----	----	----
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	<10	----	----	----
EA033-D: Retained Acidity								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.02	----	----	----
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	0.03	----	----	----
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	0.03	----	----	----
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	13	----	----	----
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	0.02	----	----	----
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	----	1.5	----	----	----
Net Acidity (sulfur units)	----	0.02	% S	----	0.13	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t	----	81	----	----	----
Liming Rate	----	1	kg CaCO3/t	----	6	----	----	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	0.13	----	----	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	81	----	----	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	6	----	----	----
EA037: Ass Field Screening Analysis								
ø pH (F)	----	0.1	pH Unit	5.4	5.0	5.1	5.0	4.9
ø pH (Fox)	----	0.1	pH Unit	4.1	4.1	3.7	3.8	3.8
ø Reaction Rate	----	1	-	1	1	1	1	1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	ASS06	ASS07	ASS08	ASS09	ASS10
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-030	ES2106817-031	ES2106817-032	ES2106817-033	ES2106817-034
				Result	Result	Result	Result	Result
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	----	4.1	----	----	----
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	102	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	0.16	----	----	----
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	0.012	----	----	----
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	<10	----	----	----
EA033-D: Retained Acidity								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.02	----	----	----
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	0.03	----	----	----
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	0.02	----	----	----
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	<10	----	----	----
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	<0.02	----	----	----
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	----	1.5	----	----	----
Net Acidity (sulfur units)	----	0.02	% S	----	0.19	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t	----	120	----	----	----
Liming Rate	----	1	kg CaCO3/t	----	9	----	----	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	0.19	----	----	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	120	----	----	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	9	----	----	----
EA037: Ass Field Screening Analysis								
ø pH (F)	----	0.1	pH Unit	5.1	5.4	4.9	5.5	5.2
ø pH (Fox)	----	0.1	pH Unit	4.0	3.8	3.9	4.0	4.0
ø Reaction Rate	----	1	-	1	2	1	1	1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	ASS11	ASS12	ASS13	ASS14	ASS15
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-035	ES2106817-036	ES2106817-037	ES2106817-038	ES2106817-039
				Result	Result	Result	Result	Result
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	----	4.2	----	4.1	----
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	63	----	66	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	0.10	----	0.11	----
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	0.016	----	0.012	----
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	<10	----	<10	----
EA033-D: Retained Acidity								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.05	----	0.04	----
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	0.07	----	0.05	----
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	0.03	----	0.03	----
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	15	----	13	----
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	0.02	----	0.02	----
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	----	1.5	----	1.5	----
Net Acidity (sulfur units)	----	0.02	% S	----	0.14	----	0.14	----
Net Acidity (acidity units)	----	10	mole H+ / t	----	88	----	86	----
Liming Rate	----	1	kg CaCO3/t	----	6	----	6	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	0.14	----	0.14	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	88	----	86	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	6	----	6	----
EA037: Ass Field Screening Analysis								
ø pH (F)	----	0.1	pH Unit	5.0	4.9	5.0	4.8	4.8
ø pH (Fox)	----	0.1	pH Unit	3.6	3.5	3.7	3.5	3.8
ø Reaction Rate	----	1	-	1	1	1	2	1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	ASS16	ASS17	ASS18	ASS19	ASS20
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-040	ES2106817-041	ES2106817-042	ES2106817-043	ES2106817-044
				Result	Result	Result	Result	Result
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	----	----	4.0	----	----
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	----	64	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	----	0.10	----	----
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	----	0.013	----	----
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	----	<10	----	----
EA033-D: Retained Acidity								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	0.02	----	----
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	0.04	----	----
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	0.04	----	----
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	17	----	----
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	0.03	----	----
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	----	----	1.5	----	----
Net Acidity (sulfur units)	----	0.02	% S	----	----	0.14	----	----
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	90	----	----
Liming Rate	----	1	kg CaCO3/t	----	----	7	----	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	0.14	----	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	90	----	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	7	----	----
EA037: Ass Field Screening Analysis								
ø pH (F)	----	0.1	pH Unit	5.0	5.0	5.3	5.1	5.3
ø pH (Fox)	----	0.1	pH Unit	3.9	3.4	3.8	4.0	4.0
ø Reaction Rate	----	1	-	1	1	2	1	1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SED01	ACM01	ACM02	ACM03	ACM04
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-045	ES2106817-048	ES2106817-049	ES2106817-051	ES2106817-052
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**43.6**	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	----	**-**	**-**	**-**	**-**
Asbestos (Trace)	1332-21-4	5	Fibres	----	**No**	**No**	**No**	**No**
Sample weight (dry)	----	0.01	g	----	**523**	**442**	**443**	**397**
Synthetic Mineral Fibre	----	0.1	g/kg	----	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg	----	**No**	**No**	**No**	**No**
APPROVED IDENTIFIER:	----	-	--	----	**A. SMYLIE**	**A. SMYLIE**	**A. SMYLIE**	**A. SMYLIE**
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	----	<0.0004	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	----	<0.001	<0.001	<0.001	<0.001
ø Asbestos Containing Material	1332-21-4	0.1	g	----	<0.1	<0.1	<0.1	<0.1
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)	----	<0.01	<0.01	<0.01	<0.01
ø Weight Used for % Calculation	----	0.0001	kg	----	**0.523**	**0.442**	**0.443**	**0.397**
ø Fibrous Asbestos >7mm	----	0.0004	g	----	<0.0004	<0.0004	<0.0004	<0.0004
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	**10**	----	----	----	----
Copper	7440-50-8	5	mg/kg	<5	----	----	----	----
Lead	7439-92-1	5	mg/kg	**14**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**2**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**20**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (Low Level)								
Mercury	7439-97-6	0.01	mg/kg	**0.02**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SED01	ACM01	ACM02	ACM03	ACM04
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-045	ES2106817-048	ES2106817-049	ES2106817-051	ES2106817-052
				Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	100	mg/kg	**150**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg	**150**	----	----	----	----
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	**140**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	**120**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg	**260**	----	----	----	----
^ **>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	----	----	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg	<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.50	µg/kg	<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg	<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	ACM01	ACM02	ACM03	ACM04
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-045	ES2106817-048	ES2106817-049	ES2106817-051	ES2106817-052
					Result	Result	Result	Result	Result
EP131A: Organochlorine Pesticides - Continued									
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.50	µg/kg		<0.50	----	----	----	----
trans-Chlordane	5103-74-2	0.50	µg/kg		<0.50	----	----	----	----
^ Total Chlordane (sum)	----	0.50	µg/kg		<0.50	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.50	µg/kg		<0.50	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	10	µg/kg		<10	----	----	----	----
2-Methylnaphthalene	91-57-6	10	µg/kg		<10	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg		<10	----	----	----	----
Acenaphthene	83-32-9	10	µg/kg		<10	----	----	----	----
Acenaphthylene	208-96-8	10	µg/kg		<10	----	----	----	----
Anthracene	120-12-7	10	µg/kg		<10	----	----	----	----
Benz(a)anthracene	56-55-3	10	µg/kg		**20**	----	----	----	----
Benzo(a)pyrene	50-32-8	10	µg/kg		**30**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	10	µg/kg		<10	----	----	----	----
Benzo(e)pyrene	192-97-2	10	µg/kg		**20**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg		**20**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg		<10	----	----	----	----
Chrysene	218-01-9	10	µg/kg		**30**	----	----	----	----
Coronene	191-07-1	10	µg/kg		<10	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg		<10	----	----	----	----
Fluoranthene	206-44-0	10	µg/kg		**60**	----	----	----	----
Fluorene	86-73-7	10	µg/kg		<10	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg		**20**	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg		<100	----	----	----	----
Naphthalene	91-20-3	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	ACM01	ACM02	ACM03	ACM04
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-045	ES2106817-048	ES2106817-049	ES2106817-051	ES2106817-052
					Result	Result	Result	Result	Result
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	10	µg/kg		<10	----	----	----	----
Phenanthrene	85-01-8	10	µg/kg		**20**	----	----	----	----
Pyrene	129-00-0	10	µg/kg		**50**	----	----	----	----
^ **Sum of PAHs**	----	10	µg/kg		**270**	----	----	----	----
Benzo(a)pyrene TEQ (zero)	----	10	µg/kg		**30**	----	----	----	----
Benzo(a)pyrene TEQ (half LOR)	----	10	µg/kg		**40**	----	----	----	----
Benzo(a)pyrene TEQ (LOR)	----	10	µg/kg		**50**	----	----	----	----
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		**41**	----	----	----	----
Escherichia coli	----	2	MPN/g		**41**	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**78.4**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**77.3**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**76.9**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**79.1**	----	----	----	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.50	%		**50.3**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	10	%		**83.0**	----	----	----	----
Anthracene-d10	1719-06-8	10	%		**101**	----	----	----	----
4-Terphenyl-d14	1718-51-0	10	%		**84.3**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	ACM05	QC01	TS_S	TB_S	TSC
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	15-Feb-2021 00:00	19-Feb-2021 00:00	15-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-053	ES2106817-057	ES2106817-063	ES2106817-064	ES2106817-067
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	18.2	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----
Sample weight (dry)	----	0.01	g	616	----	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----
Organic Fibre	----	0.1	g/kg	No	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	----	----	----
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	----	----	----	----
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	----	----	----	----
ø Asbestos Containing Material	1332-21-4	0.1	g	<0.1	----	----	----	----
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)	<0.01	----	----	----	----
ø Weight Used for % Calculation	----	0.0001	kg	0.616	----	----	----	----
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	15	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	----	31	----	----	----
Copper	7440-50-8	5	mg/kg	----	<5	----	----	----
Lead	7439-92-1	5	mg/kg	----	16	----	----	----
Nickel	7440-02-0	2	mg/kg	----	3	----	----	----
Zinc	7440-66-6	5	mg/kg	----	14	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ACM05	QC01	TS_S	TB_S	TSC
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	15-Feb-2021 00:00	19-Feb-2021 00:00	15-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-053	ES2106817-057	ES2106817-063	ES2106817-064	ES2106817-067
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
gamma-BHC	58-89-9	0.05	mg/kg		----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	<0.05	----	----	----
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	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	ACM05	QC01	TS_S	TB_S	TSC
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	15-Feb-2021 00:00	19-Feb-2021 00:00	15-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-053	ES2106817-057	ES2106817-063	ES2106817-064	ES2106817-067
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
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	**61**	<10	**69**
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	**73**	<10	**78**
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	**35**	<10	**37**
>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	**0.3**	<0.2	**0.2**
Toluene	108-88-3	0.5	mg/kg	----	<0.5	**16.2**	<0.5	**17.4**
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	**2.4**	<0.5	**2.8**
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	**13.3**	<0.5	**14.5**
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	**5.4**	<0.5	**6.2**
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	**37.6**	<0.2	**41.1**
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	**18.7**	<0.5	**20.7**
Naphthalene	91-20-3	1	mg/kg	----	<1	<1	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ACM05	QC01	TS_S	TB_S	TSC
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	15-Feb-2021 00:00	19-Feb-2021 00:00	15-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-053	ES2106817-057	ES2106817-063	ES2106817-064	ES2106817-067
					Result	Result	Result	Result	Result
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**81.7**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**73.8**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**75.8**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	**91.4**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	**87.6**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	**65.2**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	**101**	----	----	----
Anthracene-d10	1719-06-8	0.5	%		----	**106**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	**87.7**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	**89.4**	**96.4**	**111**	**90.5**
Toluene-D8	2037-26-5	0.2	%		----	**95.0**	**86.2**	**105**	**84.9**
4-Bromofluorobenzene	460-00-4	0.2	%		----	**96.8**	**108**	**92.0**	**105**

Analytical Results

Sub-Matrix: SOLID (Matrix: SOLID)				Sample ID	ACM01_ID	ACM03_ID	----	----	----
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2106817-047	ES2106817-050	--------	--------	--------
					Result	Result	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos Detected	1332-21-4	0.1	g/kg		**-**	**No**	**----**	**----**	**----**
Asbestos Type	1332-21-4	-	--		**-**	**-**	**----**	**----**	**----**
Asbestos (Trace)	1332-21-4	5	Fibres		**Yes (UMF)**	**No**	**----**	**----**	**----**
Sample weight (dry)	----	0.01	g		**13.1**	**40.6**	**----**	**----**	**----**
Unknown Mineral Fibre	----	0.1	g/kg		**Yes**	**----**	**----**	**----**	**----**
Synthetic Mineral Fibre	----	0.1	g/kg		**No**	**No**	**----**	**----**	**----**
Organic Fibre	----	0.1	g/kg		**No**	**No**	**----**	**----**	**----**
APPROVED IDENTIFIER:	----	-	--		**A. SMYLIE**	**A. SMYLIE**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW01	Rinsate 01	Rinsate 02	Rinsate 03	QC05
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-046	ES2106817-054	ES2106817-055	ES2106817-056	ES2106817-061
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	<0.0001
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	<0.001
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	<0.001
Nickel	7440-02-0	0.001	mg/L	<0.001	----	----	----	<0.001
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	<0.001
Zinc	7440-66-6	0.005	mg/L	<0.005	----	----	----	<0.005
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	----	<0.001	<0.001	<0.001	----
Cadmium	7440-43-9	0.0001	mg/L	----	<0.0001	<0.0001	<0.0001	----
Chromium	7440-47-3	0.001	mg/L	----	<0.001	<0.001	**0.001**	----
Copper	7440-50-8	0.001	mg/L	----	<0.001	<0.001	<0.001	----
Lead	7439-92-1	0.001	mg/L	----	<0.001	<0.001	<0.001	----
Nickel	7440-02-0	0.001	mg/L	----	<0.001	<0.001	<0.001	----
Zinc	7440-66-6	0.005	mg/L	----	<0.005	<0.005	<0.005	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	<0.0001
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	<0.0001	<0.0001	<0.0001	----
EP066: Polychlorinated Biphenyls (PCB)								
^ Total Polychlorinated biphenyls	----	1	µg/L	----	<1	<1	<1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW01	Rinsate 01	Rinsate 02	Rinsate 03	QC05
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-046	ES2106817-054	ES2106817-055	ES2106817-056	ES2106817-061
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	<0.5
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	<0.5
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	----	----	----	<2.0
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	<0.5
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	<0.5
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	----	----	----	<2.0
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	<0.5
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	<0.5
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	<0.5
Parathion	56-38-2	2.0	µg/L	<2.0	----	----	----	<2.0
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	<0.5
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	<0.5
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	<0.5
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	<0.5
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	<0.5
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	<0.5
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	<0.5
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	----	<1.0	<1.0	<1.0	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW01	Rinsate 01	Rinsate 02	Rinsate 03	QC05
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-046	ES2106817-054	ES2106817-055	ES2106817-056	ES2106817-061
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthylene	208-96-8	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Acenaphthene	83-32-9	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Fluorene	86-73-7	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Phenanthrene	85-01-8	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Anthracene	120-12-7	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Fluoranthene	206-44-0	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Pyrene	129-00-0	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Benz(a)anthracene	56-55-3	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Chrysene	218-01-9	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	<1.0	<1.0	<1.0	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	----	<1.0	<1.0	<1.0	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	----	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	----	<0.5	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080: BTEXN								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW01	Rinsate 01	Rinsate 02	Rinsate 03	QC05
			Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit	ES2106817-046	ES2106817-054	ES2106817-055	ES2106817-056	ES2106817-061
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	----	----	----	<0.1
2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	----	----	----	<0.1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	----	----	----	<0.1
Acenaphthene	83-32-9	0.1	µg/L	<0.1	----	----	----	<0.1
Acenaphthylene	208-96-8	0.1	µg/L	<0.1	----	----	----	<0.1
Anthracene	120-12-7	0.1	µg/L	<0.1	----	----	----	<0.1
Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	----	----	----	<0.1
Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	----	----	----	<0.05
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	----	----	----	<0.1
Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	----	----	----	<0.1
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	----	----	----	<0.1
Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	----	----	----	<0.1
Chrysene	218-01-9	0.1	µg/L	<0.1	----	----	----	<0.1
Coronene	191-07-1	0.1	µg/L	<0.1	----	----	----	<0.1
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	----	----	----	<0.1
Fluoranthene	206-44-0	0.1	µg/L	<0.1	----	----	----	<0.1
Fluorene	86-73-7	0.1	µg/L	<0.1	----	----	----	<0.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	----	----	----	<0.1
Naphthalene	91-20-3	0.1	µg/L	<0.1	----	----	----	<0.1
Perylene	198-55-0	0.1	µg/L	<0.1	----	----	----	<0.1
Phenanthrene	85-01-8	0.1	µg/L	<0.1	----	----	----	<0.1
Pyrene	129-00-0	0.1	µg/L	<0.1	----	----	----	<0.1
^ Sum of PAHs	----	0.05	µg/L	<0.05	----	----	----	<0.05
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L	<0.05	----	----	----	<0.05
MW006: Faecal Coliforms & E.coli by MF								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01	Rinsate 01	Rinsate 02	Rinsate 03	QC05
				Sampling date / time	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00	25-Feb-2021 00:00
Compound	CAS Number	LOR	Unit		ES2106817-046	ES2106817-054	ES2106817-055	ES2106817-056	ES2106817-061
					Result	Result	Result	Result	Result
MW006: Faecal Coliforms & E.coli by MF - Continued									
Faecal Coliforms	----	1	CFU/100mL		**~840**	**----**	**----**	**----**	**----**
Escherichia coli	----	1	CFU/100mL		**~840**	**----**	**----**	**----**	**----**
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		**----**	**75.4**	**71.1**	**72.4**	**----**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**94.8**	**86.1**	**86.7**	**92.6**	**85.6**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**101**	**93.0**	**93.2**	**102**	**93.2**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**----**	**23.9**	**23.0**	**26.2**	**----**
2-Chlorophenol-D4	93951-73-6	1.0	%		**----**	**48.0**	**45.8**	**49.8**	**----**
2.4.6-Tribromophenol	118-79-6	1.0	%		**----**	**50.8**	**54.2**	**60.0**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**----**	**54.8**	**53.0**	**55.8**	**----**
Anthracene-d10	1719-06-8	1.0	%		**----**	**80.6**	**74.8**	**84.9**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%		**----**	**60.2**	**61.5**	**65.4**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**126**	**127**	**126**	**127**	**123**
Toluene-D8	2037-26-5	2	%		**123**	**124**	**120**	**123**	**122**
4-Bromofluorobenzene	460-00-4	2	%		**125**	**126**	**126**	**124**	**123**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**57.6**	**----**	**----**	**----**	**62.2**
Anthracene-d10	1719-06-8	0.1	%		**67.6**	**----**	**----**	**----**	**66.5**
4-Terphenyl-d14	1718-51-0	0.1	%		**78.2**	**----**	**----**	**----**	**70.6**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	TS_W	TB_W	----	----	----
			Sampling date / time	24-Feb-2021 00:00	24-Feb-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2106817-065	ES2106817-066	--------	--------	--------
				Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	**----**	<20	**----**	**----**	**----**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	**----**	<20	**----**	**----**	**----**
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	**----**	<20	**----**	**----**	**----**
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	**17**	<1	**----**	**----**	**----**
Toluene	108-88-3	2	µg/L	**16**	<2	**----**	**----**	**----**
Ethylbenzene	100-41-4	2	µg/L	**16**	<2	**----**	**----**	**----**
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	**16**	<2	**----**	**----**	**----**
ortho-Xylene	95-47-6	2	µg/L	**17**	<2	**----**	**----**	**----**
^ **Total Xylenes**	----	2	µg/L	**33**	<2	**----**	**----**	**----**
^ **Sum of BTEX**	----	1	µg/L	**82**	<1	**----**	**----**	**----**
Naphthalene	91-20-3	5	µg/L	**18**	<5	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**120**	**130**	**----**	**----**	**----**
Toluene-D8	2037-26-5	2	%	**118**	**119**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%	**121**	**123**	**----**	**----**	**----**

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	ACM01 - 25-Feb-2021 00:00	Mid brown soil.
EA200: Description	ACM02 - 25-Feb-2021 00:00	Mid brown soil.
EA200: Description	ACM03 - 25-Feb-2021 00:00	Mid brown soil.
EA200: Description	ACM04 - 25-Feb-2021 00:00	Mid brown soil.
EA200: Description	ACM05 - 25-Feb-2021 00:00	Mid brown soil.

Sub-Matrix: **SOLID**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	ACM01_ID - 25-Feb-2021 00:00	A collection of cement sheeting containing unknown mineral fibres.
EA200: Description	ACM03_ID - 25-Feb-2021 00:00	A collection of cement sheeting.

Surrogate Control Limits

Sub-Matrix: **SEDIMENT**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	27	131
Anthracene-d10	1719-06-8	35	139
4-Terphenyl-d14	1718-51-0	30	164

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	27	131
Anthracene-d10	1719-06-8	35	139
4-Terphenyl-d14	1718-51-0	30	164

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP132T: Base/Neutral Extractable Surrogates - Continued			

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	45	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	135
Anthracene-d10	1719-06-8	48	138
4-Terphenyl-d14	1718-51-0	48	144

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(SOIL) EA033-A: Actual Acidity

(SOIL) EA033-E: Acid Base Accounting

(SOIL) EA033-B: Potential Acidity

(SOIL) EA033-C: Acid Neutralising Capacity

(SOIL) EA033-D: Retained Acidity

(SOIL) EA037: Ass Field Screening Analysis

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200N: Asbestos Quantification (non-NATA)

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

(SOLID) EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2106817**	Page	: 1 of 22
Amendment	: **1**		
Client	: **EP Risk Management**	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1977	Date Samples Received	: 25-Feb-2021
Order number	: ----	Date Analysis Commenced	: 26-Feb-2021
C-O-C number	: ----	Issue Date	: 30-Mar-2021
Sampler	: LUKE KERRY		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 64		
No. of samples analysed	: 55		

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*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Alex Rossi	Organic Chemist	Sydney Inorganics, Smithfield, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Dian Dao	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Somlok Chai	Microbiologist	Sydney Microbiology, Smithfield, NSW

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

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: 3544669)									
ES2106817-001	TP01_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	7	8	13.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	4	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	16	18	7.33	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	22	22	0.00	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	7080	5860	18.8	0% - 20%
ES2106817-045	SED01	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	10	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	2	2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	14	14	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	20	23	12.2	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	6550	# 9210	33.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (Low Level) (QC Lot: 3544670)									
ES2106817-045	SED01	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.00	No Limit
EA001: pH in soil using 0.01M CaCl extract (QC Lot: 3546269)									
ES2106817-004	TP02_0.5	EA001: pH (CaCl2)	----	0.1	pH Unit	4.0	4.0	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 3537928)									
ES2107069-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.9	6.9	0.00	0% - 20%
ES2106817-021	TP03_0.5_agg	EA002: pH Value	----	0.1	pH Unit	4.9	4.9	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 3544026)									

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 (%)*
EA002: pH 1:5 (Soils) (QC Lot: 3544026) - continued									
ES2106817-004	TP02_0.5	EA002: pH Value	----	0.1	pH Unit	4.9	4.7	2.70	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 3544025)									
ES2106817-004	TP02_0.5	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	411	401	2.46	0% - 20%
EA033-A: Actual Acidity (QC Lot: 3592270)									
EB2107855-001	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA033: pH KCl (23A)	----	0.1	pH Unit	10.9	10.9	0.00	0% - 20%
EM2104966-002	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA033: pH KCl (23A)	----	0.1	pH Unit	9.8	9.9	1.02	0% - 20%
EA033-B: Potential Acidity (QC Lot: 3592270)									
EB2107855-001	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.011	0.013	13.3	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EM2104966-002	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.018	0.016	9.09	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	11	10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 3542660)									
EB2105740-001	Anonymous	EA037: pH (F)	----	0.1	pH Unit	8.6	8.7	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	5.8	5.9	0.00	0% - 20%
ES2106817-034	ASS10	EA037: pH (F)	----	0.1	pH Unit	5.2	5.2	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.0	4.1	0.00	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 3542661)									
ES2106817-044	ASS20	EA037: pH (F)	----	0.1	pH Unit	5.3	5.4	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.0	3.9	0.00	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3537916)									
ES2106817-022	TP05_1.0_agg	EA055: Moisture Content	----	0.1	%	17.2	16.5	4.25	0% - 50%
ES2107134-002	Anonymous	EA055: Moisture Content	----	0.1	%	93.2	93.1	0.00	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3544673)									
ES2106817-008	TP04_0.5	EA055: Moisture Content	----	0.1	%	18.9	16.8	11.4	0% - 50%
ES2107486-003	Anonymous	EA055: Moisture Content	----	0.1	%	13.1	13.6	3.54	0% - 50%
ED008: Exchangeable Cations (QC Lot: 3543371)									
ES2106817-004	TP02_0.5	ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
		ED008: Exchangeable Magnesium	----	0.1	meq/100g	18.5	18.6	0.629	0% - 20%
		ED008: Exchangeable Potassium	----	0.1	meq/100g	0.6	0.6	0.00	0% - 20%
		ED008: Exchangeable Sodium	----	0.1	meq/100g	6.1	6.2	0.00	0% - 20%
		ED008: Cation Exchange Capacity	----	0.1	meq/100g	25.9	26.1	0.748	0% - 20%
ED040S: Soluble Major Anions (QC Lot: 3537927)									
ES2106817-021	TP03_0.5_agg	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	380	370	0.00	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 (%)*
ED045G: Chloride by Discrete Analyser (QC Lot: 3537926)									
ES2106817-021	TP03_0.5_agg	ED045G: Chloride	16887-00-6	10	mg/kg	500	480	2.14	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3544668)									
ES2106817-057	QC01	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2106817-001	TP01_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP004: Organic Matter (QC Lot: 3538566)									
ES2105554-028	Anonymous	EP004: Organic Matter	----	0.5	%	3.2	3.3	3.15	No Limit
		EP004: Total Organic Carbon	----	0.5	%	1.9	1.9	0.00	No Limit
ES2105554-038	Anonymous	EP004: Organic Matter	----	0.5	%	3.4	3.5	3.34	No Limit
		EP004: Total Organic Carbon	----	0.5	%	2.0	2.0	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3533707)									
ES2106817-001	TP01_0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2106817-057	QC01	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3533704)									
ES2106817-001	TP01_0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2106817-057	QC01	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	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 (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3533704) - continued									
ES2106817-057	QC01	EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3533706)									
ES2106817-001	TP01_0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES2106817-057	QC01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	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: 3533706) - continued									
ES2106817-057	QC01	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3533705)									
ES2106817-001	TP01_0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	130	180	33.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	170	270	44.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	50	0.00	No Limit
ES2106817-057	QC01	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3541420)									
ES2106817-001	TP01_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2106817-045	SED01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3533705)									
ES2106817-001	TP01_0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	220	340	43.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	140	160	14.8	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2106817-057	QC01	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3541420)									
ES2106817-001	TP01_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2106817-045	SED01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 3541420)									
ES2106817-001	TP01_0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	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: BTEXN (QC Lot: 3541420) - continued									
ES2106817-001	TP01_0.1	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2106817-045	SED01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3539551)									
ES2106817-059	QC03	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.00	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3535992)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3535992) - continued									
ES2106817-045	SED01	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.00	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	<10	0.00	No Limit
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Acenaphthene	83-32-9	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Anthracene	120-12-7	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	20	20	0.00	No Limit
		EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	30	30	0.00	No Limit
		EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	20	20	0.00	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	20	20	0.00	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Chrysene	218-01-9	10	µg/kg	30	20	0.00	No Limit
		EP132: Coronene	191-07-1	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Fluoranthene	206-44-0	10	µg/kg	60	50	0.00	No Limit
		EP132: Fluorene	86-73-7	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	20	10	0.00	No Limit
		EP132: Naphthalene	91-20-3	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Perylene	198-55-0	10	µg/kg	<10	<10	0.00	No Limit
		EP132: Phenanthrene	85-01-8	10	µg/kg	20	20	0.00	No Limit
		EP132: Pyrene	129-00-0	10	µg/kg	50	50	0.00	No Limit
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	0.00	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3548241)									
ES2107107-008	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.006	0.005	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
ES2107233-011	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.008	0.008	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3548241) - continued									
ES2107233-011	Anonymous	EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.061	0.058	6.07	0% - 50%
EG020T: Total Metals by ICP-MS (QC Lot: 3547718)									
ES2106844-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.001	0.001	0.00	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
ES2107162-007	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.018	0.018	0.00	0% - 50%
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.001	<0.001	0.00	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.014	0.013	0.00	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 3548243)									
ES2106817-061	QC05	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
ES2107510-003	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3547724)									
ES2106817-054	Rinsate 01	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
ES2107162-008	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	0.0001	0.0001	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3539225)									
ES2106817-046	SW01	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
ES2107140-003	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3539225)									
ES2106817-046	SW01	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
ES2107140-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
EP080: BTEXN (QC Lot: 3539225)									
ES2106817-046	SW01	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
ES2107140-003	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 3539225) - continued									
ES2107140-003	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	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: 3544669)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	104	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	121	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	109	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	104	89.0	111
EG005T: Iron	7439-89-6	50	mg/kg	<50	33227 mg/kg	112	89.0	112
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	96.9	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	102	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	84.4	66.0	133
EG035T: Total Recoverable Mercury by FIMS (Low Level) (QCLot: 3544670)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.073 mg/kg	115	72.0	116
EA010: Conductivity (1:5) (QCLot: 3544025)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	101	92.0	108
EA033-A: Actual Acidity (QCLot: 3592270)								
EA033: pH KCl (23A)	----	----	pH Unit	----	4.4 pH Unit	97.7	91.0	107
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	15 mole H+ / t	112	70.0	124
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA033-B: Potential Acidity (QCLot: 3592270)								
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.155 % S	99.4	77.0	121
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----
EA033-D: Retained Acidity (QCLot: 3592270)								
EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----
EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----
EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.04779 % S	95.2	70.0	128
EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	0.279 % S	104	70.0	120
ED008: Exchangeable Cations (QCLot: 3543371)								
ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.2	1 meq/100g	103	82.0	128
ED008: Exchangeable Magnesium	----	0.1	meq/100g	<0.2	1.67 meq/100g	97.0	82.0	120
ED008: Exchangeable Potassium	----	0.1	meq/100g	<0.2	0.51 meq/100g	106	70.0	140
ED008: Exchangeable Sodium	----	0.1	meq/100g	<0.2	0.87 meq/100g	102	78.0	136
ED008: Cation Exchange Capacity	----	0.1	meq/100g	<0.2	----	----	----	----
ED040S: Soluble Major Anions (QCLot: 3537927)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	750 mg/kg	100	80.0	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
ED045G: Chloride by Discrete Analyser (QCLot: 3537926)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	250 mg/kg	103	75.0	125
				<10	5000 mg/kg	115	79.0	117
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3544668)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	96.2	70.0	130
EP004: Organic Matter (QCLot: 3538566)								
EP004: Organic Matter	----	0.5	%	<0.5	2.53 %	86.6	82.0	98.0
EP004: Total Organic Carbon	----	0.5	%	<0.5	1.46 %	87.0	81.0	99.0
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3533707)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	85.9	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 3533704)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	102	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	105	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.2	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.8	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.8	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	98.8	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	91.5	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	88.5	54.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3533706)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	104	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	103	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	100	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	103	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	106	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	109	77.0	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3533706) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	110	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	110	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	92.1	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	97.8	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	92.7	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	104	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	99.0	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	89.0	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	87.2	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	90.4	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3533705)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	103	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	96.3	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	97.1	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3536298)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	92.9	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3541420)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	122	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3533705)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	98.0	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	90.9	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	84.5	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3536298)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	95.0	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3541420)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	124	68.4	128
EP080: BTEXN (QCLot: 3536298)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	98.6	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	94.4	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	99.5	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	100	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	105	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	103	63.0	119
EP080: BTEXN (QCLot: 3541420)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	108	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	101	67.0	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080: BTEXN (QCLot: 3541420) - continued								
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	100	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	107	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	105	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	63.0	119
EP131A: Organochlorine Pesticides (QCLot: 3539551)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	50.2	38.0	139
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	42.0	17.6	136
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	39.5	30.5	131
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	44.8	37.0	140
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	54.0	25.9	141
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	43.9	35.0	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	64.2	23.4	138
EP131A: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	53.8	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	52.2	38.0	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	54.6	32.0	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	68.1	36.0	155
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	57.0	25.8	158
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	41.8	20.1	118
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	52.8	13.4	135
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	54.4	39.0	155
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	50.6	34.0	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	46.5	26.1	152
EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	5 µg/kg	49.1	31.2	137
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	57.0	36.0	152
EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	5 µg/kg	57.7	36.0	142
EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	5 µg/kg	50.1	29.5	138
EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3535992)								
EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	100 µg/kg	77.3	36.0	120
EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	100 µg/kg	91.7	57.0	131
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	100 µg/kg	91.4	14.9	157
EP132: Acenaphthene	83-32-9	10	µg/kg	<10	100 µg/kg	84.4	57.0	125
EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	100 µg/kg	85.0	48.0	132
EP132: Anthracene	120-12-7	10	µg/kg	<10	100 µg/kg	94.5	50.0	114
EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	100 µg/kg	88.0	66.0	124

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
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3535992) - continued								
EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	100 µg/kg	83.2	43.0	125
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	10	µg/kg	<10	100 µg/kg	79.2	64.0	130
EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	100 µg/kg	81.8	70.0	142
EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	100 µg/kg	90.4	46.0	134
EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	100 µg/kg	88.5	65.0	129
EP132: Chrysene	218-01-9	10	µg/kg	<10	100 µg/kg	92.7	69.0	129
EP132: Coronene	191-07-1	10	µg/kg	<10	100 µg/kg	80.2	26.9	149
EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	100 µg/kg	88.6	50.0	134
EP132: Fluoranthene	206-44-0	10	µg/kg	<10	100 µg/kg	93.2	68.0	130
EP132: Fluorene	86-73-7	10	µg/kg	<10	100 µg/kg	88.5	57.0	131
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	100 µg/kg	87.2	46.0	138
EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	100 µg/kg	102	50.0	138
EP132: Naphthalene	91-20-3	10	µg/kg	<10	100 µg/kg	87.4	52.0	130
EP132: Perylene	198-55-0	10	µg/kg	<10	100 µg/kg	82.6	48.0	132
EP132: Phenanthrene	85-01-8	10	µg/kg	<10	100 µg/kg	94.5	67.0	127
EP132: Pyrene	129-00-0	10	µg/kg	<10	100 µg/kg	92.3	66.0	130

Sub-Matrix: **WATER**

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
EG020F: Dissolved Metals by ICP-MS (QCLot: 3548241)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	90.3	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	88.4	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	86.8	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	91.6	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	92.6	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	89.3	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	84.2	81.0	117
EG020T: Total Metals by ICP-MS (QCLot: 3547718)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.3	82.0	114
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	90.7	84.0	112
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	90.7	86.0	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	90.2	83.0	118
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	89.3	85.0	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	90.6	84.0	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	86.5	79.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 3548243)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	96.1	83.0	105

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3547724)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	100	77.0	111
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3533865)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	95.2	68.9	113
EP068A: Organochlorine Pesticides (OC) (QCLot: 3533863)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	89.7	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	95.4	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	100	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	91.4	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	94.1	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	85.6	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	91.0	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	92.2	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	90.9	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	86.1	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	89.6	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	90.2	65.2	113
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	85.6	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	87.1	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	90.6	67.3	114
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	101	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	84.6	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	95.2	65.2	112
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	95.0	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	85.4	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	80.3	61.1	114
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3533863)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	85.8	65.6	114
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	77.2	63.7	113
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	24.1	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	97.0	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	91.9	71.1	110
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	96.3	77.0	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	94.4	70.0	124
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	98.0	68.4	116
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	94.1	68.6	112
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	95.2	75.0	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	85.7	67.0	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	88.8	69.0	121

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3533863) - continued								
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	100	71.8	110
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	92.1	67.5	112
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	96.8	64.1	116
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	86.7	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	91.2	74.0	120
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	93.6	66.2	114
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	92.1	51.6	128
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3533864)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	70.4	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	72.2	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	72.7	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	74.6	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	74.0	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	75.4	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	77.2	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	77.7	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	72.6	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	73.0	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	70.7	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	74.8	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	72.1	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	71.5	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	72.1	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	72.8	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3533862)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	71.1	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	81.1	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	80.7	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3539225)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	98.6	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3533862)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	70.4	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	88.6	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	73.0	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3539225)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	102	75.0	127
EP080: BTEXN (QCLot: 3539225)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080: BTEXN (QCLot: 3539225) - continued								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	98.5	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	102	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	105	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	107	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	111	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	110	70.0	120
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3533866)								
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	110	60.0	120
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	87.5	59.0	123
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	99.7	36.0	144
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	88.2	64.0	122
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	91.3	64.0	126
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	86.1	65.0	127
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	94.5	64.0	130
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	97.3	64.0	126
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	93.7	62.0	126
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	92.2	62.0	126
EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	104	56.0	126
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	90.4	68.0	130
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	89.0	66.0	130
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	111	35.0	133
EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	103	58.0	128
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	89.7	65.0	127
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	88.4	64.0	124
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	105	57.0	127
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	84.7	54.0	128
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	93.1	66.0	130
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	86.8	65.0	129
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	87.7	66.0	128

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	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3544669)							
ES2106817-001	TP01_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	77.9	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	73.2	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	78.6	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	75.2	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	78.2	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	77.6	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	78.0	66.0	133
EG035T: Total Recoverable Mercury by FIMS (Low Level) (QCLot: 3544670)							
ES2106817-045	SED01	EG035T-LL: Mercury	7439-97-6	0.05 mg/kg	76.7	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 3537926)							
ES2106817-021	TP03_0.5_agg	ED045G: Chloride	16887-00-6	250 mg/kg	126	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3544668)							
ES2106817-001	TP01_0.1	EG035T: Mercury	7439-97-6	5 mg/kg	85.4	70.0	130
EP004: Organic Matter (QCLot: 3538566)							
ES2105554-028	Anonymous	EP004: Organic Matter	----	1.26 %	125	70.0	130
		EP004: Total Organic Carbon	----	0.73 %	125	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3533707)							
ES2106817-001	TP01_0.1	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	90.7	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3533704)							
ES2106817-001	TP01_0.1	EP068: gamma-BHC	58-89-9	0.5 mg/kg	97.8	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	90.8	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	103	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	93.1	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	89.8	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	95.2	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3533706)							
ES2106817-001	TP01_0.1	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	112	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	130	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3533705)							
ES2106817-001	TP01_0.1	EP071: C10 - C14 Fraction	----	523 mg/kg	104	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	116	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	111	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3541420)							
ES2106817-001	TP01_0.1	EP080: C6 - C9 Fraction	----	32.5 mg/kg	108	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3533705)							
ES2106817-001	TP01_0.1						

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 Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3533705) - continued							
ES2106817-001	TP01_0.1	EP071: >C10 - C16 Fraction	----	860 mg/kg	113	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	120	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	102	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3541420)							
ES2106817-001	TP01_0.1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	108	70.0	130
EP080: BTEXN (QCLot: 3541420)							
ES2106817-001	TP01_0.1	EP080: Benzene	71-43-2	2.5 mg/kg	92.2	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	91.8	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	96.3	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	91.8	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	96.5	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	75.3	70.0	130
EP131A: Organochlorine Pesticides (QCLot: 3539551)							
ES2106817-059	QC03	EP131A: Aldrin	309-00-2	5 µg/kg	70.3	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	64.7	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	51.7	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	61.9	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	51.6	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	49.4	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	70.8	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	69.2	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	61.2	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	62.7	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	68.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	88.9	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	53.5	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	68.7	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	64.4	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	58.4	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	84.1	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	45.0	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	51.2	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	81.5	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	55.9	29.5	138
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3535992)							
ES2106817-045	SED01	EP132: 3-Methylcholanthrene	56-49-5	100 µg/kg	99.6	15.0	119
		EP132: 2-Methylnaphthalene	91-57-6	100 µg/kg	90.8	49.0	129

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
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3535992) - continued							
ES2106817-045	SED01	EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	100 µg/kg	119	14.9	157
		EP132: Acenaphthene	83-32-9	100 µg/kg	93.0	57.0	125
		EP132: Acenaphthylene	208-96-8	100 µg/kg	91.0	37.0	123
		EP132: Anthracene	120-12-7	100 µg/kg	94.9	50.0	114
		EP132: Benz(a)anthracene	56-55-3	100 µg/kg	88.9	66.0	124
		EP132: Benzo(a)pyrene	50-32-8	100 µg/kg	81.9	43.0	125
		EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	100 µg/kg	116	64.0	130
		EP132: Benzo(e)pyrene	192-97-2	100 µg/kg	74.5	43.0	145
		EP132: Benzo(g.h.i)perylene	191-24-2	100 µg/kg	71.7	46.0	134
		EP132: Benzo(k)fluoranthene	207-08-9	100 µg/kg	# 143	65.0	129
		EP132: Chrysene	218-01-9	100 µg/kg	90.1	69.0	129
		EP132: Coronene	191-07-1	100 µg/kg	38.5	26.9	149
		EP132: Dibenz(a.h)anthracene	53-70-3	100 µg/kg	72.2	50.0	134
		EP132: Fluoranthene	206-44-0	100 µg/kg	81.9	68.0	130
		EP132: Fluorene	86-73-7	100 µg/kg	122	57.0	131
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	100 µg/kg	71.9	46.0	138
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100 µg/kg	123	50.0	138
		EP132: Naphthalene	91-20-3	100 µg/kg	85.6	48.0	126
		EP132: Perylene	198-55-0	100 µg/kg	88.4	37.0	125
		EP132: Phenanthrene	85-01-8	100 µg/kg	87.0	67.0	127
		EP132: Pyrene	129-00-0	100 µg/kg	83.8	66.0	130

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3548241)							
ES2107107-009	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	90.5	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	89.3	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	90.0	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	92.9	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	91.4	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	90.4	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	93.3	70.0	130
EG020T: Total Metals by ICP-MS (QCLot: 3547718)							
ES2106817-055	Rinsate 02	EG020A-T: Arsenic	7440-38-2	1 mg/L	94.1	70.0	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	93.5	70.0	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	94.5	70.0	130
		EG020A-T: Copper	7440-50-8	1 mg/L	94.4	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG020T: Total Metals by ICP-MS (QCLot: 3547718) - continued							
ES2106817-055	Rinsate 02	EG020A-T: Lead	7439-92-1	1 mg/L	93.9	70.0	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	93.1	70.0	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	93.1	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 3548243)							
ES2106817-046	SW01	EG035F: Mercury	7439-97-6	0.01 mg/L	78.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3547724)							
ES2106817-055	Rinsate 02	EG035T: Mercury	7439-97-6	0.01 mg/L	99.6	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3539225)							
ES2106817-046	SW01	EP080: C6 - C9 Fraction	----	325 µg/L	113	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3539225)							
ES2106817-046	SW01	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	112	70.0	130
EP080: BTEXN (QCLot: 3539225)							
ES2106817-046	SW01	EP080: Benzene	71-43-2	25 µg/L	94.7	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	102	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	105	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	107	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	110	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	106	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2106817**	Page	: 1 of 16
Amendment	: **1**		
Client	: **EP Risk Management**	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Telephone	: +61-2-8784 8555
Project	: EP1977	Date Samples Received	: 25-Feb-2021
Site	: ----	Issue Date	: 30-Mar-2021
Sampler	: LUKE KERRY	No. of samples received	: 64
Order number	: ----	No. of samples analysed	: 55

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

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

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	ES2106817--045	SED01	**Iron**	7439-89-6	33.7 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP132B: Polynuclear Aromatic Hydrocarbons	ES2106817--045	SED01	**Benzo(k)fluoranthene**	207-08-9	143 %	65.0-129%	**Recovery greater than upper data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
TRH Volatiles/BTEX	2	22	9.09	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TRH Volatiles/BTEX	1	22	4.55	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	5	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	5	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

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.

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
EA001: pH in soil using 0.01M CaCl extract							
Soil Glass Jar - Unpreserved (EA001)							
TP02_0.5	**25-Feb-2021**	**04-Mar-2021**	04-Mar-2021	✓	**04-Mar-2021**	05-Mar-2021	✓
EA002: pH 1:5 (Soils)							
Soil Glass Jar - Unpreserved (EA002)							
TP03_0.5_agg, TP05_1.0_agg, TP06_0.5_agg, TP10_1.0_agg	**25-Feb-2021**	**02-Mar-2021**	04-Mar-2021	✓	**02-Mar-2021**	02-Mar-2021	✓
Soil Glass Jar - Unpreserved (EA002)							
TP02_0.5	**25-Feb-2021**	**04-Mar-2021**	04-Mar-2021	✓	**04-Mar-2021**	04-Mar-2021	✓
EA010: Conductivity (1:5)							
Soil Glass Jar - Unpreserved (EA010)							
TP02_0.5	**25-Feb-2021**	**04-Mar-2021**	04-Mar-2021	✓	**04-Mar-2021**	01-Apr-2021	✓
EA033-A: Actual Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA033)							
ASS02, ASS07, ASS12, ASS14, ASS18	**25-Feb-2021**	**30-Mar-2021**	25-Feb-2022	✓	**30-Mar-2021**	28-Jun-2021	✓
EA033-B: Potential Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA033)							
ASS02, ASS07, ASS12, ASS14, ASS18	**25-Feb-2021**	**30-Mar-2021**	25-Feb-2022	✓	**30-Mar-2021**	28-Jun-2021	✓
EA033-C: Acid Neutralising Capacity							
Snap Lock Bag - frozen on receipt at ALS (EA033)							
ASS02, ASS07, ASS12, ASS14, ASS18	**25-Feb-2021**	**30-Mar-2021**	25-Feb-2022	✓	**30-Mar-2021**	28-Jun-2021	✓
EA033-D: Retained Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA033)							
ASS02, ASS07, ASS12, ASS14, ASS18	**25-Feb-2021**	**30-Mar-2021**	25-Feb-2022	✓	**30-Mar-2021**	28-Jun-2021	✓
EA033-E: Acid Base Accounting							
Snap Lock Bag - frozen on receipt at ALS (EA033)							
ASS02, ASS07, ASS12, ASS14, ASS18	**25-Feb-2021**	**30-Mar-2021**	25-Feb-2022	✓	**30-Mar-2021**	28-Jun-2021	✓

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
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037)								
ASS01,	ASS02,	**25-Feb-2021**	**04-Mar-2021**	24-Aug-2021	✓	**04-Mar-2021**	24-Aug-2021	✓
ASS03,	ASS04,							
ASS05,	ASS06,							
ASS07,	ASS08,							
ASS09,	ASS10,							
ASS11,	ASS12,							
ASS13,	ASS14,							
ASS15,	ASS16,							
ASS17,	ASS18,							
ASS19,	ASS20							
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
TP03_0.5_agg,	TP05_1.0_agg,	**25-Feb-2021**	**----**	----	----	**01-Mar-2021**	11-Mar-2021	✓
TP06_0.5_agg,	TP10_1.0_agg							
Soil Glass Jar - Unpreserved (EA055)								
TP01_0.1,	TP02_0.5,	**25-Feb-2021**	**----**	----	----	**04-Mar-2021**	11-Mar-2021	✓
TP03_0.1,	TP04_0.5,							
TP05_0.1,	TP06_0.5,							
TP07_0.1,	TP08_0.5,							
TP09_0.1,	TP10_0.5,							
SED01,	QC01,							
QC03								
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)								
ACM01,	ACM02,	**25-Feb-2021**	**----**	----	----	**01-Mar-2021**	24-Aug-2021	✓
ACM03,	ACM04,							
ACM05								
EA200N: Asbestos Quantification (non-NATA)								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200N)								
ACM01,	ACM02,	**25-Feb-2021**	**----**	----	----	**01-Mar-2021**	24-Aug-2021	✓
ACM03,	ACM04,							
ACM05								
ED008: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED008)								
TP02_0.5		**25-Feb-2021**	**05-Mar-2021**	25-Mar-2021	✓	**05-Mar-2021**	25-Mar-2021	✓
ED040S : Soluble Sulfate by ICPAES								
Soil Glass Jar - Unpreserved (ED040S)								
TP03_0.5_agg,	TP05_1.0_agg,	**25-Feb-2021**	**02-Mar-2021**	25-Mar-2021	✓	**02-Mar-2021**	30-Mar-2021	✓
TP06_0.5_agg,	TP10_1.0_agg							

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
ED045G: Chloride by Discrete Analyser								
Soil Glass Jar - Unpreserved (ED045G)								
TP03_0.5_agg,	TP05_1.0_agg,	**25-Feb-2021**	**02-Mar-2021**	25-Mar-2021	✓	**02-Mar-2021**	30-Mar-2021	✓
TP06_0.5_agg,	TP10_1.0_agg							
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
TP01_0.1,	TP02_0.5,	**25-Feb-2021**	**04-Mar-2021**	24-Aug-2021	✓	**04-Mar-2021**	24-Aug-2021	✓
TP03_0.1,	TP04_0.5,							
TP05_0.1,	TP06_0.5,							
TP07_0.1,	TP08_0.5,							
TP09_0.1,	TP10_0.5,							
SED01,	QC01,							
QC03								
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
TP01_0.1,	TP02_0.5,	**25-Feb-2021**	**04-Mar-2021**	25-Mar-2021	✓	**05-Mar-2021**	25-Mar-2021	✓
TP03_0.1,	TP04_0.5,							
TP05_0.1,	TP06_0.5,							
TP07_0.1,	TP08_0.5,							
TP09_0.1,	TP10_0.5,							
QC01								
EG035T: Total Recoverable Mercury by FIMS (Low Level)								
Soil Glass Jar - Unpreserved (EG035T-LL)								
SED01,	QC03	**25-Feb-2021**	**04-Mar-2021**	25-Mar-2021	✓	**05-Mar-2021**	25-Mar-2021	✓
EP004: Organic Matter								
Soil Glass Jar - Unpreserved (EP004)								
TP02_0.5		**25-Feb-2021**	**03-Mar-2021**	25-Mar-2021	✓	**03-Mar-2021**	25-Mar-2021	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
TP01_0.1,	TP02_0.5,	**25-Feb-2021**	**03-Mar-2021**	11-Mar-2021	✓	**05-Mar-2021**	12-Apr-2021	✓
TP03_0.1,	TP04_0.5,							
TP05_0.1,	TP06_0.5,							
TP07_0.1,	TP08_0.5,							
TP09_0.1,	TP10_0.5,							
SED01,	QC01,							
QC03								

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
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
TP01_0.1, TP02_0.5, TP03_0.1, TP04_0.5, TP05_0.1, TP06_0.5, TP07_0.1, TP08_0.5, TP09_0.1, TP10_0.5, QC01	**25-Feb-2021**	**03-Mar-2021**	11-Mar-2021	✓	**05-Mar-2021**	12-Apr-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP01_0.1, TP02_0.5, TP03_0.1, TP04_0.5, TP05_0.1, TP06_0.5, TP07_0.1, TP08_0.5, TP09_0.1, TP10_0.5, QC01	**25-Feb-2021**	**03-Mar-2021**	11-Mar-2021	✓	**05-Mar-2021**	12-Apr-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
TS_S, TSC	**15-Feb-2021**	**01-Mar-2021**	01-Mar-2021	✓	**01-Mar-2021**	01-Mar-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TB_S	**19-Feb-2021**	**03-Mar-2021**	05-Mar-2021	✓	**05-Mar-2021**	05-Mar-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TP01_0.1, TP02_0.5, TP03_0.1, TP04_0.5, TP05_0.1, TP06_0.5, TP07_0.1, TP08_0.5, TP09_0.1, TP10_0.5, SED01, QC01, QC03	**25-Feb-2021**	**03-Mar-2021**	11-Mar-2021	✓	**05-Mar-2021**	11-Mar-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
TS_S, TSC	**15-Feb-2021**	**01-Mar-2021**	01-Mar-2021	✓	**01-Mar-2021**	01-Mar-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TB_S	**19-Feb-2021**	**03-Mar-2021**	05-Mar-2021	✓	**05-Mar-2021**	05-Mar-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TP01_0.1, TP02_0.5, TP03_0.1, TP04_0.5, TP05_0.1, TP06_0.5, TP07_0.1, TP08_0.5, TP09_0.1, TP10_0.5, SED01, QC01, QC03	**25-Feb-2021**	**03-Mar-2021**	11-Mar-2021	✓	**05-Mar-2021**	11-Mar-2021	✓

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: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
TS_S, TSC	15-Feb-2021	01-Mar-2021	01-Mar-2021	✓	01-Mar-2021	01-Mar-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TB_S	19-Feb-2021	03-Mar-2021	05-Mar-2021	✓	05-Mar-2021	05-Mar-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TP01_0.1, TP02_0.5, TP03_0.1, TP04_0.5, TP05_0.1, TP06_0.5, TP07_0.1, TP08_0.5, TP09_0.1, TP10_0.5, SED01, QC01, QC03	25-Feb-2021	03-Mar-2021	11-Mar-2021	✓	05-Mar-2021	11-Mar-2021	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
SED01, QC03	25-Feb-2021	02-Mar-2021	11-Mar-2021	✓	05-Mar-2021	11-Apr-2021	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132)							
SED01, QC03	25-Feb-2021	01-Mar-2021	11-Mar-2021	✓	03-Mar-2021	10-Apr-2021	✓
MM804: Faecal Coliforms & E.coli by MPN							
Sterile Plastic Jar (MM804)							
TP01_0.1, TP03_0.1, TP05_0.1, TP06_0.1, TP07_0.1, TP09_0.1, SED01	25-Feb-2021	----	----	----	26-Feb-2021	01-Mar-2021	✓

Matrix: **SOLID**

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
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
ACM01_ID	25-Feb-2021	----	----	----	01-Mar-2021	24-Aug-2021	✓
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)							
ACM03_ID	25-Feb-2021	----	----	----	01-Mar-2021	24-Aug-2021	✓

Matrix: **WATER**

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
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
SW01, QC05	25-Feb-2021	----	----	----	05-Mar-2021	24-Aug-2021	✓

Matrix: **WATER**

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
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
Rinsate 01, Rinsate 02, Rinsate 03	**25-Feb-2021**	**05-Mar-2021**	24-Aug-2021	✓	**05-Mar-2021**	24-Aug-2021	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
SW01, QC05	**25-Feb-2021**	**----**	----	----	**08-Mar-2021**	25-Mar-2021	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
Rinsate 01, Rinsate 02, Rinsate 03	**25-Feb-2021**	**----**	----	----	**05-Mar-2021**	25-Mar-2021	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
Rinsate 01, Rinsate 02, Rinsate 03	**25-Feb-2021**	**01-Mar-2021**	04-Mar-2021	✓	**05-Mar-2021**	10-Apr-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
SW01, Rinsate 01, Rinsate 02, Rinsate 03, QC05	**25-Feb-2021**	**01-Mar-2021**	04-Mar-2021	✓	**05-Mar-2021**	10-Apr-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
SW01, QC05	**25-Feb-2021**	**01-Mar-2021**	04-Mar-2021	✓	**05-Mar-2021**	10-Apr-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
Rinsate 01, Rinsate 02, Rinsate 03	**25-Feb-2021**	**01-Mar-2021**	04-Mar-2021	✓	**05-Mar-2021**	10-Apr-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
SW01, Rinsate 01, Rinsate 02, Rinsate 03, QC05	**25-Feb-2021**	**01-Mar-2021**	04-Mar-2021	✓	**05-Mar-2021**	10-Apr-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
TB_W	**24-Feb-2021**	**05-Mar-2021**	10-Mar-2021	✓	**05-Mar-2021**	10-Mar-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
SW01, Rinsate 01, Rinsate 02, Rinsate 03, QC05	**25-Feb-2021**	**05-Mar-2021**	11-Mar-2021	✓	**05-Mar-2021**	11-Mar-2021	✓

Matrix: **WATER**

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							
Amber Glass Bottle - Unpreserved (EP071)							
SW01, Rinsate 01, Rinsate 02, Rinsate 03, QC05	**25-Feb-2021**	**01-Mar-2021**	04-Mar-2021	✓	**05-Mar-2021**	10-Apr-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
TB_W	**24-Feb-2021**	**05-Mar-2021**	10-Mar-2021	✓	**05-Mar-2021**	10-Mar-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
SW01, Rinsate 01, Rinsate 02, Rinsate 03, QC05	**25-Feb-2021**	**05-Mar-2021**	11-Mar-2021	✓	**05-Mar-2021**	11-Mar-2021	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
TS_W, TB_W	**24-Feb-2021**	**05-Mar-2021**	10-Mar-2021	✓	**05-Mar-2021**	10-Mar-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
SW01, Rinsate 01, Rinsate 02, Rinsate 03, QC05	**25-Feb-2021**	**05-Mar-2021**	11-Mar-2021	✓	**05-Mar-2021**	11-Mar-2021	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP132)							
SW01, QC05	**25-Feb-2021**	**27-Feb-2021**	04-Mar-2021	✓	**02-Mar-2021**	08-Apr-2021	✓
MW006: Faecal Coliforms & E.coli by MF							
Sterile Plastic Bottle - Sodium Thiosulfate (MW006)							
SW01	**25-Feb-2021**	**----**	----	----	**26-Feb-2021**	26-Feb-2021	✓

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)							
ASS Field Screening Analysis	EA037	3	21	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride Soluble By Discrete Analyser	ED045G	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	4	35	**11.43**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	3	15	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH in soil using a 0.01M CaCl2 extract	EA001	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**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 Mercury by FIMS (Low Level)	EG035T-LL	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chloride Soluble By Discrete Analyser	ED045G	2	7	**28.57**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**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 Mercury by FIMS (Low Level)	EG035T-LL	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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 Control Samples (LCS) - Continued							
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride Soluble By Discrete Analyser	ED045G	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**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 Mercury by FIMS (Low Level)	EG035T-LL	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**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 Mercury by FIMS (Low Level)	EG035T-LL	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	22	**4.55**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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)							
Dissolved Mercury by FIMS	EG035F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	3	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	5	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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) - Continued							
Polychlorinated Biphenyls (PCB)	EP066	0	3	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	5	**0.00**	**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)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**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)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**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)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	3	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	3	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	5	**0.00**	**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
pH in soil using a 0.01M CaCl2 extract	EA001	SOIL	In house: Referenced to Rayment and Lyons 4B3 (mod.) or 4B4 (mod.) 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
pH (1:5)	EA002	SOIL	In house: Referenced to Rayment and Lyons 4A1 and APHA 4500H+. pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
Electrical Conductivity (1:5)	EA010	SOIL	In house: Referenced to Rayment and Lyons 3A1 and APHA 2510. Conductivity is determined on soil samples using a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
Chromium Suite for Acid Sulphate Soils	EA033	SOIL	In house: Referenced to Ahern et al 2004. This method covers the determination of Chromium Reducible Sulfur (SCR); pHKCl; titratable actual acidity (TAA); acid neutralising capacity by back titration (ANC); and net acid soluble sulfur (SNAS) which incorporates peroxide sulfur. It applies to soils and sediments (including sands) derived from coastal regions. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines. As received samples are tested for pH field and pH fox and assessed for a reaction rating.
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).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM with Confirmation of Identification by AS 4964 - Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).
Exchangeable Cations with pre-treatment	ED008	SOIL	In house: Referenced to Rayment & Lyons Method 15A2. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM Schedule B(3).
Major Anions - Soluble	ED040S	SOIL	In house: Soluble Anions are determined off a 1:5 soil / water extract by ICPAES.
Chloride Soluble By Discrete Analyser	ED045G	SOIL	In house: Referenced to APHA 4500-Cl- E. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the librated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm. Analysis is performed on a 1:5 soil / water leachate.
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)

Analytical Methods	Method	Matrix	Method Descriptions
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, 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)
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, 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)
Organic Matter	EP004	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique 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.
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	In house: Referenced to USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/µECD/µECD) This technique is compliant with NEPM Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	SOIL	In house: Referenced to USEPA 8270 GCMS Capiliary column, SIM mode.
Thermotolerant Coliforms & E.coli by MPN	MM804	SOIL	In house: Referenced to AS 4276.6 & AS 4276.23
Asbestos Identification in Bulk Solids	EA200	SOLID	In house: Referenced to AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.

Analytical Methods	Method	Matrix	Method Descriptions
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The 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).
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The 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).
Polychlorinated Biphenyls (PCB)	EP066	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode 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	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270 GCMS Capiliary column, SIM mode. This method is compliant with NEPM Schedule B(3)
Thermotolerant Coliforms & E.coli by Membrane Filtration	MW006	WATER	AS 4276.7

Preparation Methods	Method	Matrix	Method Descriptions
pH in soil using a 0.01M CaCl2 extract	EA001-PR	SOIL	In house: Referenced to Rayment and Lyons 4B1, 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
Exchangeable Cations Preparation Method	ED007PR	SOIL	In house: Referenced to Rayment & Lyons method 15A1. A 1M NH4Cl extraction by end over end tumbling at a ratio of 1:20. There is no pretreatment for soluble salts. Extracts can be run by ICP for cations.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of reagent grade water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
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).
Organic Matter	EP004-PR	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. 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.
Tumbler Extraction of Solids/ Acetylation	ORG17A-AC	SOIL	In house: Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to 1 mL with exchange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In house: Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2164 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

☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com

☐ 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

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE		
PROJECT:	Chisholm Due Deligence Assessment	ALS QUOTE NO.:	SY 497-20
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	CONTACT PH: 0432266617	
SAMPLER:	Luke Kerry	SAMPLER MOBILE: 0432266617	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default): Esdat	
Email Reports to (will default to PM if no other addresses are listed):	luke.kerry@EPrisk.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.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

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: 14 °C

Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 25/02/21 4:35pm	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21 5pm	DATE/TIME: 250221 07:30pm

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	NEPM Screen	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	TRH (F1) BTEXN Hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	TP01_0.1	25/02/2021	S			X				X				
	TP01_0.5	25/02/2021											X	
	TP02_0.1	25/02/2021											X	
	TP02_0.5	25/02/2021				X		X						
	TP03_0.1	25/02/2021				X				X				
	TP03_0.5	25/02/2021				X								
	TP04_0.1	25/02/2021											X	
	TP04_0.5	25/02/2021				X								
	TP05_0.1	25/02/2021				X				X				
	TP05_0.5	25/02/2021											X	
	TP06_0.1	25/02/2021								X				
	TP06_0.5	25/02/2021				X							X	
	TP07_0.1	25/02/2021				X				X				
	TP07_0.5	25/02/2021											X	
					TOTAL									

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.

Environmental Division Sydney

Work Order Reference

ES2106817

Telephone : + 61-2-8784 8555

CHAIN OF CUSTODY

ALS Laboratory: **please tick** →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2164 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

☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E: samples.brisbane@alsenviro.com

☐ 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

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE	**ALS QUOTE NO.:**	SY-497-20
PROJECT:	Chisholm Due Deligence Assessment		
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	**CONTACT PH:**	0432266617
SAMPLER:	Luke Kerry	**SAMPLER MOBILE:**	0432266617
COC emailed to ALS? (YES / NO)		**EDD FORMAT (or default):**	Esdat
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.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)

Free ice / frozen ice bricks present upon Arrival? (Yes) No N/A

Random Sample Temperature on Receipt: 14.1 °C

Other comment:

RELINQUISHED BY:		**RECEIVED BY:**	
DATE/TIME:	4:35pm	DATE/TIME:	25/2/21 16:35
RELINQUISHED BY:		**RECEIVED BY:**	
DATE/TIME:	25/02/21	DATE/TIME:	26/02/21 07:30

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	NEPM Screen	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / PCB	Field ~~Heavy Metals / TRH / BTEXN / PAH/Phenols (trace) / OCP / OPP~~	aggressivity ~~TRH / BTEXN~~	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	TP05_0.1	25/02/2021										X		
	TP08_0.5	25/02/2021				X								
	TP09_0.1	25/02/2021				X				X				
	TP09_0.5	25/02/2021										X		
	TP10_0.1	25/02/2021				X						X		
	TP10_0.5	25/02/2021				X								
	TP03_0.5_agg	25/02/2021											X	
	TP05_1.0_agg	25/02/2021											X	
	TP06_0.5_agg	25/02/2021											X	
	TP10_1.0_agg	25/02/2021											X	
	ASS01	25/02/2021					X							
	ASS02	25/02/2021					X		X					
	ASS03	25/02/2021					X							
	ASS04	25/02/2021					X							
					TOTAL									

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.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2164 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

☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com

☐ 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

CLIENT:	EP RISK MANAGEMENT PTY LTD	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):
OFFICE:	NEWCASTLE		☐ Non Standard or urgent TAT (List due date):
PROJECT:	Chisholm Due Deligence Assessment	**ALS QUOTE NO.:**	SY-497-20
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	**CONTACT PH:** 0432266617	
SAMPLER:	Luke Kerry	**SAMPLER MOBILE:** 0432266617	
COC emailed to ALS? (YES / NO)		**EDD FORMAT (or default):** Esdat	
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.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
Free ice / frozen ice packs present upon receipt	Yes	NO	N/A
Random Sample Temperature on Receipt		°C	
Other comment:	14 c/		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 4:35pm.	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	DATE/TIME: 25/02/21 07:30

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	~~TRH (F1) Screen~~	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	TRH (F1) / BTEXN	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	ASS05	25/02/2021					X							
	ASS06	25/02/2021					X							
	ASS07	25/02/2021					X		X					
	ASS08	25/02/2021					X							
	ASS09	25/02/2021					X							
	ASS10	25/02/2021					X							
	ASS11	25/02/2021					X							
	ASS12	25/02/2021					X	~~X~~	X					
	ASS13	25/02/2021					X							
	ASS14	25/02/2021					X	~~X~~	X					
	HSS15	25/02/2021					X							
	ASS16	25/02/2021					X							
	ASS17	25/02/2021					X							
	HSS18	25/02/2021					X		X					
					TOTAL									

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 Unpraserved; 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

CHAIN OF CUSTODY

ALS Laboratory: **please tick** →

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☐ 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

CLIENT:	**EP RISK MANAGEMENT PTY LTD**	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☑ Standard TAT (**List due date**):
OFFICE:	**NEWCASTLE**		☐ Non Standard or urgent TAT (**List due date**):
PROJECT:	**Chisholm Due Deligence Assessment**	**ALS QUOTE NO.:**	SY-497-20.
ORDER NUMBER:	**EP1977**		
PROJECT MANAGER:	**Luke Kerry**	**CONTACT PH: 0432266617**	
SAMPLER:	**Luke Kerry**	**SAMPLER MOBILE: 0432266617**	
COC emailed to ALS? (YES / NO)		**EDD FORMAT (or default): Esdat**	
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed): **Accounts@eprisk.com.au**			

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 (4) 5 6 7

OF: 1 2 3 (5) 6 7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free ice / Ice packs present upon receipt: Yes No N/A

Random Sample Temperature on Receipt: 16.4 °C

Other comment:

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
DATE/TIME: 25/02/21	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	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**	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	ACM a/w NEPM Screen	Chromium Reducible Sulfur	Faecal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	ACM ID Trace Asbestos	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	ASS19	25/02/2021					X							
	HSS20	25/02/2021					X							
	SED01	25/02/2021								X	X			
	SW01	25/02/2021								X		X		
	ACM01-ID	25/02/2021											X	
	ACM01	25/02/2021						X						
	ACM02	25/02/2021						X						
	ACM03-ID	25/02/2021											X	
	ACM03	25/02/2021						X						
	ACM04	25/02/2021						X						
		25/02/2021												
	ACM05	25/02/2021						X						
		25/02/2021												
		25/02/2021												
					TOTAL									

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.

CHAIN OF CUSTODY

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☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com

☐ 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

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE		
PROJECT:	Chisholm Due Deligence Assessment	**ALS QUOTE NO.:**	SY-497-20
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	**CONTACT PH:** 0432266617	
SAMPLER:	Luke Kerry	**SAMPLER MOBILE:** 0432266617	
COC emailed to ALS? (YES / NO)		**EDD FORMAT (or default):** Esdat	
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.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
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 4:35pm 25/02/21	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	DATE/TIME: 250221 07:30pm

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	NEPM Screen	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	TRH (F1) / BTEXN	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	Rinsate01	25/02/2021	W			X								
	Rinsate 02	25/02/2021	W			X								
	Rinsate 03	25/02/2021	W			X								
	QC01	25/02/2021	Soil			X								
	QC02	25/02/2021	Soil			X								
	QC03	25/02/2021	Sed								X			
	QC04	25/02/2021	Sed								X			
	QC05	25/02/2021	W									X		
	QC06	25/02/2021	W									X		
	TS_S	25/02/2021	Soil										X	
	TB-S	25/02/2021	Soil										X	
	TS-W	25/02/2021	W										X	
	TB-W	25/02/2021	W										X	
		25/02/2021												
				TOTAL										

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.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph 02 4968 9433 E: samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ 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: 2-4 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE		
PROJECT:	Chisholm Due Deligence Assessment	ALS QUOTE NO.: SY 497-20	
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	CONTACT PH: 0432266617	
SAMPLER:	Luke Kerry	SAMPLER MOBILE: 0432266617	
COC emailed to ALS? (YES / ~~NO~~)		EDD FORMAT (or default): Esdat	
Email Reports to (will default to PM if no other addresses are listed):	luke.kerry@EPrisk.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.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
Free ice / frozen ice bricks present upon receipt? (Yes) No N/A
Random Sample Temperature on Receipt: °C
Other comment: Ice °C

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 24/02/21 4:35pm	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21 5pm	DATE/TIME: 26/02/21 07:30am

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	NEPM Screen	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP ((trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	TRH (F1) BTEXN Hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	TP01_0.1	25/02/2021	S			X				X				
2	TP01_0.5	25/02/2021											X	
3	TP02_0.1	25/02/2021											X	
4	TP02_0.5	25/02/2021				X		X						
5	TP03_0.1	25/02/2021				X				X				
6	TP03_0.5	25/02/2021				~~X~~								
7	TP04_0.1	25/02/2021											X	
8	TP04_0.5	25/02/2021				X								
9	TP05_0.1	25/02/2021				X				X				
10	TP05_0.5	25/02/2021											X	
11	TP06_0.1	25/02/2021								X				
12	TP06_0.5	25/02/2021				X							X	
13	TP07_0.1	25/02/2021				X				X				
14	TP07_0.5	25/02/2021											X	
					TOTAL									

Custody / Forward Lab / Split WO
Lab / Analysis:
Organised By / Date: Brisbane
Relinquished By / Date: Newcastle
Courier / Courier:
WO No:
Attach to PO / Internal Sheet:

Environmental Division Sydney
Work Order Reference
ES2106817

Telephone : +61-2-8784 8555

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.

CHAIN OF CUSTODY

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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

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE		
PROJECT:	Chisholm Due Deligence Assessment	**ALS QUOTE NO.:**	SY-497-20
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	**CONTACT PH:**	0432266617
SAMPLER:	Luke Kerry	**SAMPLER MOBILE:**	0432266617
COC emailed to ALS? (YES / NO)		**EDD FORMAT (or default):**	Esdat
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.com.au		

COC SEQUENCE NUMBER (Circle)

COC: 1 (0) 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)

Cooling Media Present on Receipt? (Yes) No N/A

Random Sample Temperature on Receipt: 16.1 °C

Other comments:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 4:35pm	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	DATE/TIME: 250221 07:36

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	NEPM Screen	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH/Phenolics (trace) / OCP / OPP	agg asbestos	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	TP08_0.1	25/02/2021										+		
16	TP08_0.5	25/02/2021				X								
17	TP09_0.1	25/02/2021				X				X				
18	TP09_0.5	25/02/2021										+		
19	TP10_0.1	25/02/2021				X						+		
20	TP10_0.5	25/02/2021				X								
21	TP03_0.5_agg	25/02/2021											X	
22	TP05_1.0_agg	25/02/2021											X	
23	TP06_0.5_agg	25/02/2021											X	
24	TP10_1.0_agg	25/02/2021											X	
25	ASS01	25/02/2021					X							
26	ASS02	25/02/2021					X		X					
27	ASS03	25/02/2021					X							
28	ASS04	25/02/2021					X							
					TOTAL									

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;
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CHAIN OF CUSTODY

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CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE	**ALS QUOTE NO.:**	SY-497-20
PROJECT:	Chisholm Due Deligence Assessment	**COC SEQUENCE NUMBER (Circle)**	COC: 1 2 3 4 5 6 7 / OF: 1 2 3 4 5 6 7
ORDER NUMBER:	EP1977	**FOR LABORATORY USE ONLY (Circle)**	Custody Seal Intact? Yes No N/A; Free ice / Frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment: 14 - 1
PROJECT MANAGER:	Luke Kerry	**CONTACT PH:** 0432266617	
SAMPLER:	Luke Kerry	**SAMPLER MOBILE:** 0432266617	
COC emailed to ALS? (YES / NO)		**EDD FORMAT (or default):** Esdat	
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.com.au		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 4:35pm.	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	DATE/TIME: 25021 07:34

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	~~TRH/N Speciation~~	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	TRH (F1) / BTEXN	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
29	ASS05	25/02/2021					X							
30	HSS06	25/02/2021					X							
31	ASS07	25/02/2021					X		X					
32	ASS08	25/02/2021					X							
33	ASS09	25/02/2021					X							
34	ASS10	25/02/2021					X							
35	ASS11	25/02/2021					X							
36	HSS12	25/02/2021					X	NA	X					
37	ASS13	25/02/2021					X							
38	ASS14	25/02/2021					X	~~NA~~	X					
39	HSS15	25/02/2021					X							
40	ASS16	25/02/2021					X							
41	ASS17	25/02/2021					X							
42	HSS18	25/02/2021					X		X					
					TOTAL									

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.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2164 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

☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com

☐ 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 0590 E:adelaide@alsenviro.com

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE		
PROJECT:	Chisholm Due Deligence Assessment	**ALS QUOTE NO.:**	SY-497-20.
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	**CONTACT PH:** 0432266617	
SAMPLER:	Luke Kerry	**SAMPLER MOBILE:** 0432266617	
COC emailed to ALS?	(YES / NO)	**EDD FORMAT (or default):** Esdat	
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.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

Free ice / frozen ice bricks present upon Receipt: Yes No N/A

Random Sample Temperature on Receipt: 14.1 °C

Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 25/02/21	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	ACM asbestos ID	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	ACM ID	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	ASS19	25/02/2021					X							
44	ASS20	25/02/2021					X							
45	SED01	25/02/2021								X	X			
46	SW01	25/02/2021								X		X		
47	ACM01-ID	25/02/2021											X	
48	ACM01	25/02/2021						X						
49	ACM02	25/02/2021						X						
50	ACM03-ID	25/02/2021											X	
51	ACM03	25/02/2021						X						
52	ACM04	25/02/2021						X						
		25/02/2021												
53	ACM05	25/02/2021						X						
		25/02/2021												
		25/02/2021												
					TOTAL									

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.

CHAIN OF CUSTODY

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☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph. 08 8359 0890 E:adelaide@alsenviro.com

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE		
PROJECT:	Chisholm Due Deligence Assessment	**ALS QUOTE NO.:**	SY-497-20
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	**CONTACT PH:** 0432266617	
SAMPLER:	Luke Kerry	**SAMPLER MOBILE:** 0432266617	
COC emailed to ALS? (YES / NO)		**EDD FORMAT (or default):** Esdat	
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed): **Accounts@eprisk.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

Free ice / frozen ice bricks present upon arrival? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comment: 1 & 1

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 4:35pm 25/02/21	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	DATE/TIME: 250221 07:30pm

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	NEPM Screen	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	TRH (F1) / BTEXN	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
54	Rinsate01	25/02/2021	W			X								
55	Rinsate 02	25/02/2021	W			X								
56	Rinsate 03	25/02/2021	W			X								
57	QC01	25/02/2021	Soil			X								
58	QC02	25/02/2021	Soil			X								
59	QC03	25/02/2021	Sed								X			
60	QC04	25/02/2021	Sed								X			
61	QC05	25/02/2021	W									X		
62	QC06	25/02/2021	W									X		
63	TS_S	25/02/2021	Soil										X	
64	TB-S	25/02/2021	Soil										X	
65	TS-W	25/02/2021	W										X	
66	TB-W	25/02/2021	W										X	
67	TSC	25/02/2021												
				TOTAL										

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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.

eurofins | Environment Testing

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Australia

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NATA # 1261
Site # 1254 & 14271

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NATA # 1261 Site # 18217

Brisbane
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NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

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PO Box 60 Wickham 2293
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New Zealand

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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

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

Sample Receipt Advice

Company name:	EP Risk Management (NSW)
Contact name:	Luke Kerry
Project name:	CHISHOLM DUE DELIGENCE ASSESSMENT
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Feb 26, 2021 3:05 PM
Eurofins reference	776942

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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

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

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to Luke Kerry - luke.kerry@eprisk.com.au.

Note: A copy of these results will also be delivered to the general EP Risk Management (NSW) email address.

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

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Site # 1254 & 14271

Sydney
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

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2/91 Leach Highway
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NATA # 1261
Site # 23736

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4/52 Industrial Drive
Mayfield East NSW 2304
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New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

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

Company Name:	EP Risk Management (NSW)	**Order No.:**	EP1977	**Received:**	Feb 26, 2021 3:05 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	**Report #:**	776942	**Due:**	Mar 5, 2021
		Phone:	02 99225021	**Priority:**	5 Day
		Fax:		**Contact Name:**	Luke Kerry
Project Name:	CHISHOLM DUE DELIGENCE ASSESSMENT				

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Mercury (filtered low-level)	Mercury (low-level)	Polychlorinated Biphenyls	Metals M7	Metals M7 filtered	Suite B13: OCP/PCB	Suite B14: OCP/OPP	Moisture Set	Total Recoverable Hydrocarbons	Total Recoverable Hydrocarbons	Eurofins Suite B7	Polycyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X			X	X	X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217								X	X		X	X	X	X	X	X		
Brisbane Laboratory - NATA Site # 20794																		
Perth Laboratory - NATA Site # 23736																		
Mayfield Laboratory																		
External Laboratory																		
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**													
1	QC02	Feb 25, 2021		Soil	S21-Fe54994						X		X			X		
2	QC04	Feb 25, 2021		Soil	S21-Fe54995		X	X	X				X		X		X	X
3	QC06	Feb 25, 2021		Water	S21-Fe54996	X				X		X		X			X	
Test Counts						1	1	1	1	1	1	1	2	2	2	1	2	1

EP Risk Management (NSW)
109/283 Alfred Street
North Sydney
NSW 2060

NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Luke Kerry**

Report **776942-S**
Project name CHISHOLM DUE DELIGENCE ASSESSMENT
Received Date Feb 26, 2021

Client Sample ID			**QC02**	**QC04**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**S21-Fe54994**	**S21-Fe54995**
Date Sampled			**Feb 25, 2021**	**Feb 25, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50
BTEX				
Benzene	0.1	mg/kg	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	93	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-

Client Sample ID			QC02	QC04
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Fe54994	S21-Fe54995
Date Sampled			Feb 25, 2021	Feb 25, 2021
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Fluoranthene	0.5	mg/kg	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	91	-
p-Terphenyl-d14 (surr.)	1	%	120	-
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-BHC	0.05	mg/kg	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-
d-BHC	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-BHC (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	0.2	mg/kg	< 0.2	-
Toxaphene	0.1	mg/kg	< 0.1	-
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	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-
Dibutylchlorendate (surr.)	1	%	120	-
Tetrachloro-m-xylene (surr.)	1	%	116	-
Polychlorinated Biphenyls				
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	120	115
Tetrachloro-m-xylene (surr.)	1	%	116	98

Client Sample ID			QC02	QC04
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Fe54994	S21-Fe54995
Date Sampled			Feb 25, 2021	Feb 25, 2021
Test/Reference	LOR	Unit		
Heavy Metals				
Arsenic	2	mg/kg	19	15
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	45	40
Copper	5	mg/kg	6.2	5.0
Lead	5	mg/kg	21	24
Mercury	0.1	mg/kg	< 0.1	-
Mercury (low-level)			-	< 0.1
Nickel	5	mg/kg	5.6	< 5
Zinc	5	mg/kg	28	30
% Moisture	1	%	20	31
Polycyclic Aromatic Hydrocarbons (Trace level)				
Acenaphthene	0.005	mg/kg	-	< 0.005
Acenaphthylene	0.005	mg/kg	-	< 0.005
Anthracene	0.005	mg/kg	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	-	< 0.005
Benzo(a)pyrene	0.005	mg/kg	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005
Chrysene	0.005	mg/kg	-	0.006
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005
Fluoranthene	0.005	mg/kg	-	0.007
Fluorene	0.005	mg/kg	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005
Naphthalene	0.005	mg/kg	-	< 0.005
Phenanthrene	0.005	mg/kg	-	< 0.005
Pyrene	0.005	mg/kg	-	0.006
Total PAH*	0.005	mg/kg	-	0.019
2-Fluorobiphenyl (surr.)	1	%	-	84
p-Terphenyl-d14 (surr.)	1	%	-	92
Organochlorine Pesticides (Trace level)				
4.4'-DDD	0.005	mg/kg	-	< 0.005
4.4'-DDE	0.005	mg/kg	-	< 0.005
4.4'-DDT	0.005	mg/kg	-	< 0.005
a-BHC	0.005	mg/kg	-	< 0.005
Aldrin	0.005	mg/kg	-	< 0.005
b-BHC	0.005	mg/kg	-	< 0.005
Chlordanes - Total	0.01	mg/kg	-	< 0.01
d-BHC	0.005	mg/kg	-	< 0.005
Dieldrin	0.005	mg/kg	-	< 0.005
Endosulfan I	0.005	mg/kg	-	< 0.005
Endosulfan II	0.005	mg/kg	-	< 0.005
Endosulfan sulphate	0.005	mg/kg	-	< 0.005
Endrin	0.005	mg/kg	-	< 0.005
Endrin aldehyde	0.005	mg/kg	-	< 0.005
Endrin ketone	0.005	mg/kg	-	< 0.005
g-BHC (Lindane)	0.005	mg/kg	-	< 0.005
Heptachlor	0.005	mg/kg	-	< 0.005

Client Sample ID			QC02	QC04
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Fe54994	S21-Fe54995
Date Sampled			Feb 25, 2021	Feb 25, 2021
Test/Reference	LOR	Unit		
Organochlorine Pesticides (Trace level)				
Heptachlor epoxide	0.005	mg/kg	-	< 0.005
Hexachlorobenzene	0.005	mg/kg	-	< 0.005
Methoxychlor	0.005	mg/kg	-	< 0.005
Toxaphene	0.1	mg/kg	-	< 0.1
DDT + DDE + DDD (Total)*	0.005	mg/kg	-	< 0.005
Aldrin and Dieldrin (Total)*	0.005	mg/kg	-	< 0.005
Vic EPA IWRG 621 OCP (Total)*	0.01	mg/kg	-	< 0.01
Vic EPA IWRG 621 Other OCP (Total)*	0.01	mg/kg	-	< 0.01

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Mar 03, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Mar 03, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 03, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 03, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Mar 03, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Mar 03, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Suite B14: OCP/OPP			
Organochlorine Pesticides	Sydney	Mar 03, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Mar 03, 2021	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M7	Sydney	Mar 03, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Mercury (low-level)	Melbourne	Mar 11, 2021	0 Days
- Method:			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Mar 04, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Organochlorine Pesticides (Trace level)	Melbourne	Mar 04, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270) trace			
% Moisture	Sydney	Feb 28, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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IANZ # 1290

Company Name:	EP Risk Management (NSW)	**Order No.:**	EP1977	**Received:**	Feb 26, 2021 3:05 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	**Report #:**	776942	**Due:**	Mar 5, 2021
		Phone:	02 99225021	**Priority:**	5 Day
		Fax:		**Contact Name:**	Luke Kerry
Project Name:	CHISHOLM DUE DELIGENCE ASSESSMENT				

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Mercury (filtered low-level)	Mercury (low-level)	Polychlorinated Biphenyls	Metals M7	Metals M7 filtered	Suite B13: OCP/PCB	Suite B14: OCP/OPP	Moisture Set	Total Recoverable Hydrocarbons	Total Recoverable Hydrocarbons	Eurofins Suite B7	Polycyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X			X	X	X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217								X	X		X	X	X	X	X	X		
Brisbane Laboratory - NATA Site # 20794																		
Perth Laboratory - NATA Site # 23736																		
Mayfield Laboratory																		
External Laboratory																		
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**													
1	QC02	Feb 25, 2021		Soil	S21-Fe54994						X		X			X		
2	QC04	Feb 25, 2021		Soil	S21-Fe54995		X	X	X				X		X		X	X
3	QC06	Feb 25, 2021		Water	S21-Fe54996	X				X		X		X			X	
Test Counts						1	1	1	1	1	1	1	2	2	2	1	2	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.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

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

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.2	Pass	
Toxaphene	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Organochlorine Pesticides (Trace level)							
4.4'-DDD	mg/kg	< 0.005			0.005	Pass	
4.4'-DDE	mg/kg	< 0.005			0.005	Pass	
4.4'-DDT	mg/kg	< 0.005			0.005	Pass	
a-BHC	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aldrin	mg/kg	< 0.005			0.005	Pass	
b-BHC	mg/kg	< 0.005			0.005	Pass	
Chlordanes - Total	mg/kg	< 0.01			0.01	Pass	
d-BHC	mg/kg	< 0.005			0.005	Pass	
Dieldrin	mg/kg	< 0.005			0.005	Pass	
Endosulfan I	mg/kg	< 0.005			0.005	Pass	
Endosulfan II	mg/kg	< 0.005			0.005	Pass	
Endosulfan sulphate	mg/kg	< 0.005			0.005	Pass	
Endrin	mg/kg	< 0.005			0.005	Pass	
Endrin aldehyde	mg/kg	< 0.005			0.005	Pass	
Endrin ketone	mg/kg	< 0.005			0.005	Pass	
g-BHC (Lindane)	mg/kg	< 0.005			0.005	Pass	
Heptachlor	mg/kg	< 0.005			0.005	Pass	
Heptachlor epoxide	mg/kg	< 0.005			0.005	Pass	
Hexachlorobenzene	mg/kg	< 0.005			0.005	Pass	
Methoxychlor	mg/kg	< 0.005			0.005	Pass	
Toxaphene	mg/kg	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	70			70-130	Pass	
TRH C10-C14	%	85			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	80			70-130	Pass	
Toluene	%	89			70-130	Pass	
Ethylbenzene	%	84			70-130	Pass	
m&p-Xylenes	%	87			70-130	Pass	
o-Xylene	%	83			70-130	Pass	
Xylenes - Total*	%	86			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	87			70-130	Pass	
TRH C6-C10	%	73			70-130	Pass	
TRH >C10-C16	%	85			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	83			70-130	Pass	
Acenaphthylene	%	92			70-130	Pass	
Anthracene	%	79			70-130	Pass	
Benz(a)anthracene	%	89			70-130	Pass	
Benzo(a)pyrene	%	89			70-130	Pass	
Benzo(b&j)fluoranthene	%	91			70-130	Pass	
Benzo(g.h.i)perylene	%	103			70-130	Pass	
Benzo(k)fluoranthene	%	83			70-130	Pass	
Chrysene	%	84			70-130	Pass	
Dibenz(a.h)anthracene	%	105			70-130	Pass	
Fluoranthene	%	75			70-130	Pass	
Fluorene	%	88			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	83			70-130	Pass	
Phenanthrene	%	75			70-130	Pass	
Pyrene	%	74			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chlordanes - Total	%	83			70-130	Pass	
4.4'-DDD	%	84			70-130	Pass	
4.4'-DDE	%	84			70-130	Pass	
4.4'-DDT	%	94			70-130	Pass	
a-BHC	%	82			70-130	Pass	
Aldrin	%	82			70-130	Pass	
b-BHC	%	85			70-130	Pass	
d-BHC	%	87			70-130	Pass	
Dieldrin	%	83			70-130	Pass	
Endosulfan I	%	84			70-130	Pass	
Endosulfan II	%	88			70-130	Pass	
Endosulfan sulphate	%	79			70-130	Pass	
Endrin	%	86			70-130	Pass	
Endrin aldehyde	%	102			70-130	Pass	
Endrin ketone	%	92			70-130	Pass	
g-BHC (Lindane)	%	89			70-130	Pass	
Heptachlor	%	90			70-130	Pass	
Heptachlor epoxide	%	81			70-130	Pass	
Hexachlorobenzene	%	82			70-130	Pass	
Methoxychlor	%	116			70-130	Pass	
Toxaphene	%	0.0000000			70-130	Fail	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	96			70-130	Pass	
Aroclor-1260	%	106			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Cadmium	%	111			80-120	Pass	
Chromium	%	109			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	111			80-120	Pass	
Mercury	%	108			80-120	Pass	
Nickel	%	109			80-120	Pass	
Zinc	%	109			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	81			70-130	Pass	
Acenaphthylene	%	87			70-130	Pass	
Anthracene	%	82			70-130	Pass	
Benz(a)anthracene	%	74			70-130	Pass	
Benzo(a)pyrene	%	85			70-130	Pass	
Benzo(b&j)fluoranthene	%	81			70-130	Pass	
Benzo(g.h.i)perylene	%	71			70-130	Pass	
Benzo(k)fluoranthene	%	92			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	72			70-130	Pass	
Fluoranthene	%	80			70-130	Pass	
Fluorene	%	92			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	78			70-130	Pass	
Naphthalene	%	117			70-130	Pass	
Phenanthrene	%	81			70-130	Pass	
Pyrene	%	77			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Organochlorine Pesticides (Trace level)							
4.4'-DDD	%	88			70-130	Pass	
4.4'-DDE	%	76			70-130	Pass	
4.4'-DDT	%	84			70-130	Pass	
a-BHC	%	87			70-130	Pass	
Aldrin	%	75			70-130	Pass	
b-BHC	%	93			70-130	Pass	
Chlordanes - Total	%	81			70-130	Pass	
d-BHC	%	72			70-130	Pass	
Dieldrin	%	74			70-130	Pass	
Endosulfan I	%	74			70-130	Pass	
Endosulfan II	%	78			70-130	Pass	
Endosulfan sulphate	%	71			70-130	Pass	
Endrin	%	86			70-130	Pass	
Endrin aldehyde	%	72			70-130	Pass	
Endrin ketone	%	85			70-130	Pass	
g-BHC (Lindane)	%	87			70-130	Pass	
Heptachlor	%	87			70-130	Pass	
Heptachlor epoxide	%	76			70-130	Pass	
Hexachlorobenzene	%	75			70-130	Pass	
Methoxychlor	%	79			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	S21-Ma08989	NCP	%	94			70-130	Pass	
TRH C10-C14	S21-Fe53961	NCP	%	84			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Fe54966	NCP	%	72			70-130	Pass	
Toluene	S21-Fe54966	NCP	%	72			70-130	Pass	
Ethylbenzene	S21-Fe54966	NCP	%	79			70-130	Pass	
m&p-Xylenes	S21-Fe54966	NCP	%	75			70-130	Pass	
o-Xylene	S21-Fe54966	NCP	%	76			70-130	Pass	
Xylenes - Total*	S21-Fe54966	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S21-Fe54966	NCP	%	82			70-130	Pass	
TRH C6-C10	S21-Ma08989	NCP	%	95			70-130	Pass	
TRH >C10-C16	S21-Fe53961	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-Fe49078	NCP	%	96			70-130	Pass	
Acenaphthylene	S21-Fe49078	NCP	%	100			70-130	Pass	
Anthracene	S21-Fe49078	NCP	%	109			70-130	Pass	
Benz(a)anthracene	S21-Fe49078	NCP	%	97			70-130	Pass	
Benzo(a)pyrene	S21-Fe49078	NCP	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	S21-Fe49078	NCP	%	84			70-130	Pass	
Benzo(g.h.i)perylene	S21-Fe49078	NCP	%	92			70-130	Pass	
Benzo(k)fluoranthene	S21-Fe49078	NCP	%	94			70-130	Pass	
Chrysene	S21-Fe49078	NCP	%	94			70-130	Pass	
Dibenz(a.h)anthracene	S21-Fe49078	NCP	%	99			70-130	Pass	
Fluoranthene	S21-Fe49078	NCP	%	97			70-130	Pass	
Fluorene	S21-Fe49078	NCP	%	103			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S21-Fe49078	NCP	%	97			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	S21-Fe49078	NCP	%	96			70-130	Pass	
Phenanthrene	S21-Fe49078	NCP	%	109			70-130	Pass	
Pyrene	S21-Fe49078	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S21-Ma09871	NCP	%	96			70-130	Pass	
4.4'-DDD	S21-Ma09871	NCP	%	88			70-130	Pass	
4.4'-DDE	S21-Ma09871	NCP	%	89			70-130	Pass	
4.4'-DDT	S21-Ma09871	NCP	%	92			70-130	Pass	
a-BHC	S21-Ma09871	NCP	%	97			70-130	Pass	
Aldrin	S21-Ma09871	NCP	%	88			70-130	Pass	
b-BHC	S21-Ma09871	NCP	%	101			70-130	Pass	
d-BHC	S21-Ma09871	NCP	%	102			70-130	Pass	
Dieldrin	S21-Ma09871	NCP	%	83			70-130	Pass	
Endosulfan I	S21-Ma09871	NCP	%	90			70-130	Pass	
Endosulfan II	S21-Ma09871	NCP	%	85			70-130	Pass	
Endosulfan sulphate	S21-Ma09871	NCP	%	77			70-130	Pass	
Endrin	S21-Ma09871	NCP	%	93			70-130	Pass	
Endrin aldehyde	S21-Fe53806	NCP	%	106			70-130	Pass	
Endrin ketone	S21-Ma09871	NCP	%	90			70-130	Pass	
g-BHC (Lindane)	S21-Ma09871	NCP	%	104			70-130	Pass	
Heptachlor	S21-Ma09871	NCP	%	100			70-130	Pass	
Heptachlor epoxide	S21-Ma09871	NCP	%	100			70-130	Pass	
Hexachlorobenzene	S21-Ma09871	NCP	%	102			70-130	Pass	
Methoxychlor	S21-Ma09871	NCP	%	112			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S21-Ma09871	NCP	%	113			70-130	Pass	
Aroclor-1260	S21-Ma09871	NCP	%	106			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Fe53954	NCP	%	124			75-125	Pass	
Cadmium	S21-Fe53954	NCP	%	122			75-125	Pass	
Chromium	S21-Ma02585	NCP	%	107			75-125	Pass	
Copper	S21-Fe53954	NCP	%	122			75-125	Pass	
Lead	S21-Ma02585	NCP	%	111			75-125	Pass	
Mercury	S21-Ma02585	NCP	%	105			75-125	Pass	
Nickel	S21-Fe53954	NCP	%	122			75-125	Pass	
Zinc	S21-Ma02585	NCP	%	100			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S21-Ma05295	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S21-Fe48672	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Fe48672	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Fe48672	NCP	mg/kg	59	< 50	25	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Ma05295	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Ma05295	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Ma05295	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Ma05295	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Ma05295	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Ma05295	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S21-Ma05295	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Ma05295	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S21-Fe48672	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Fe48672	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Fe48672	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Fe49067	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDD	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDE	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDT	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
a-BHC	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Aldrin	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
b-BHC	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
d-BHC	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Dieldrin	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Endosulfan I	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Endosulfan II	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Endosulfan sulphate	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Endrin	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Endrin aldehyde	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Endrin ketone	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
g-BHC (Lindane)	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Heptachlor	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Heptachlor epoxide	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Hexachlorobenzene	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Methoxychlor	S21-Fe49067	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Toxaphene	S21-Fe49071	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Fe53953	NCP	mg/kg	4.5	6.3	34	30%	Fail	Q15
Cadmium	S21-Fe53953	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Fe53953	NCP	mg/kg	30	29	1.0	30%	Pass	
Copper	S21-Fe53953	NCP	mg/kg	21	18	16	30%	Pass	
Lead	S21-Fe53953	NCP	mg/kg	23	21	7.0	30%	Pass	
Mercury	S21-Fe53953	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Nickel	S21-Fe53953	NCP	mg/kg	15	11	31	30%	Fail	Q15
Zinc	S21-Fe53953	NCP	mg/kg	75	54	33	30%	Fail	Q15
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Fe54990	NCP	%	8.7	9.5	9.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Elvis Dsouza	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Emily Rosenberg	Senior Analyst-Metal (VIC)
John Nguyen	Senior Analyst-Metal (NSW)
Joseph Edouard	Senior Analyst-Organic (VIC)

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.

EP Risk Management (NSW)
109/283 Alfred Street
North Sydney
NSW 2060

NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Luke Kerry**

Report **776942-W**
Project name CHISHOLM DUE DELIGENCE ASSESSMENT
Received Date Feb 26, 2021

Client Sample ID			**QC06**
Sample Matrix			**Water**
Eurofins Sample No.			**S21-Fe54996**
Date Sampled			**Feb 25, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	0.2
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.2
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.01	mg/L	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	0.07
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.07
TRH >C16-C34	0.1	mg/L	0.2
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.27
Organochlorine Pesticides			
Chlordanes - Total	0.002	mg/L	< 0.002
4.4'-DDD	0.0002	mg/L	< 0.0002
4.4'-DDE	0.0002	mg/L	< 0.0002
4.4'-DDT	0.0002	mg/L	< 0.0002
a-BHC	0.0002	mg/L	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002
b-BHC	0.0002	mg/L	< 0.0002
d-BHC	0.0002	mg/L	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002
Endrin	0.0002	mg/L	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002
g-BHC (Lindane)	0.0002	mg/L	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002
Toxaphene	0.001	mg/L	< 0.001

Client Sample ID			QC06
Sample Matrix			Water
Eurofins Sample No.			S21-Fe54996
Date Sampled			Feb 25, 2021
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002
Dibutylchlorendate (surr.)	1	%	64
Tetrachloro-m-xylene (surr.)	1	%	67
Organophosphorus Pesticides			
Azinphos-methyl	0.002	mg/L	< 0.002
Bolstar	0.002	mg/L	< 0.002
Chlorfenvinphos	0.002	mg/L	< 0.002
Chlorpyrifos	0.02	mg/L	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	< 0.002
Coumaphos	0.02	mg/L	< 0.02
Demeton-S	0.02	mg/L	< 0.02
Demeton-O	0.002	mg/L	< 0.002
Diazinon	0.002	mg/L	< 0.002
Dichlorvos	0.002	mg/L	< 0.002
Dimethoate	0.002	mg/L	< 0.002
Disulfoton	0.002	mg/L	< 0.002
EPN	0.002	mg/L	< 0.002
Ethion	0.002	mg/L	< 0.002
Ethoprop	0.002	mg/L	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002
Fenitrothion	0.002	mg/L	< 0.002
Fensulfothion	0.002	mg/L	< 0.002
Fenthion	0.002	mg/L	< 0.002
Malathion	0.002	mg/L	< 0.002
Merphos	0.002	mg/L	< 0.002
Methyl parathion	0.002	mg/L	< 0.002
Mevinphos	0.002	mg/L	< 0.002
Monocrotophos	0.002	mg/L	< 0.002
Naled	0.002	mg/L	< 0.002
Omethoate	0.002	mg/L	< 0.002
Phorate	0.002	mg/L	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02
Pyrazophos	0.002	mg/L	< 0.002
Ronnel	0.002	mg/L	< 0.002
Terbufos	0.002	mg/L	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002
Tokuthion	0.002	mg/L	< 0.002
Trichloronate	0.002	mg/L	< 0.002
Triphenylphosphate (surr.)	1	%	60
Polycyclic Aromatic Hydrocarbons (Trace level)			
Acenaphthene	0.00001	mg/L	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001

Client Sample ID			QC06
Sample Matrix			Water
Eurofins Sample No.			S21-Fe54996
Date Sampled			Feb 25, 2021
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons (Trace level)			
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	72
p-Terphenyl-d14 (surr.)	1	%	67
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	0.002
Cadmium (filtered)	0.0002	mg/L	< 0.0002
Chromium (filtered)	0.001	mg/L	0.001
Copper (filtered)	0.001	mg/L	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered low-level)	0.00001	mg/L	< 0.00001
Nickel (filtered)	0.001	mg/L	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 28, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 28, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 28, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Suite B14: OCP/OPP			
Organochlorine Pesticides	Melbourne	Feb 28, 2021	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Organophosphorus Pesticides	Melbourne	Feb 28, 2021	7 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081)			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Mar 02, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Metals M7 filtered	Melbourne	Mar 02, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Mercury (filtered low-level)	Melbourne	Mar 02, 2021	28 Days
- Method: LTM-MET-3050 Mercury by Cold Vapour Atomic Absorption Analysis			

eurofins | Environment Testing

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Company Name:	EP Risk Management (NSW)	**Order No.:**	EP1977	**Received:**	Feb 26, 2021 3:05 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	**Report #:**	776942	**Due:**	Mar 5, 2021
		Phone:	02 99225021	**Priority:**	5 Day
		Fax:		**Contact Name:**	Luke Kerry
Project Name:	CHISHOLM DUE DELIGENCE ASSESSMENT				

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Mercury (filtered low-level)	Mercury (low-level)	Polychlorinated Biphenyls	Metals M7	Metals M7 filtered	Suite B13: OCP/PCB	Suite B14: OCP/OPP	Moisture Set	Total Recoverable Hydrocarbons	Total Recoverable Hydrocarbons	Eurofins Suite B7	Polycyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X			X	X	X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217								X	X		X	X	X	X	X	X		
Brisbane Laboratory - NATA Site # 20794																		
Perth Laboratory - NATA Site # 23736																		
Mayfield Laboratory																		
External Laboratory																		
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**													
1	QC02	Feb 25, 2021		Soil	S21-Fe54994						X		X			X		
2	QC04	Feb 25, 2021		Soil	S21-Fe54995		X	X	X				X		X		X	X
3	QC06	Feb 25, 2021		Water	S21-Fe54996	X				X		X		X			X	
Test Counts						1	1	1	1	1	1	1	2	2	2	1	2	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.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4.4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-BHC	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-BHC	mg/L	< 0.0002			0.0002	Pass	
d-BHC	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-BHC (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/L	< 0.002			0.002	Pass	
Bolstar	mg/L	< 0.002			0.002	Pass	
Chlorfenvinphos	mg/L	< 0.002			0.002	Pass	
Chlorpyrifos	mg/L	< 0.02			0.02	Pass	
Chlorpyrifos-methyl	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.02			0.02	Pass	
Demeton-S	mg/L	< 0.02			0.02	Pass	
Demeton-O	mg/L	< 0.002			0.002	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
EPN	mg/L	< 0.002			0.002	Pass	
Ethion	mg/L	< 0.002			0.002	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethoprop	mg/L	< 0.002			0.002	Pass	
Ethyl parathion	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Merphos	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.002			0.002	Pass	
Naled	mg/L	< 0.002			0.002	Pass	
Omethoate	mg/L	< 0.002			0.002	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Pirimiphos-methyl	mg/L	< 0.02			0.02	Pass	
Pyrazophos	mg/L	< 0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Terbufos	mg/L	< 0.002			0.002	Pass	
Tetrachlorvinphos	mg/L	< 0.002			0.002	Pass	
Tokuthion	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Total PAH*	mg/L	-			0.00001	N/A	
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	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	99			70-130	Pass	
TRH C10-C14	%	77			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	%	102			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
TRH >C10-C16	%	81			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	101			70-130	Pass	
4.4'-DDD	%	89			70-130	Pass	
4.4'-DDE	%	103			70-130	Pass	
4.4'-DDT	%	110			70-130	Pass	
a-BHC	%	98			70-130	Pass	
Aldrin	%	110			70-130	Pass	
b-BHC	%	97			70-130	Pass	
d-BHC	%	104			70-130	Pass	
Dieldrin	%	90			70-130	Pass	
Endosulfan I	%	95			70-130	Pass	
Endosulfan II	%	114			70-130	Pass	
Endosulfan sulphate	%	91			70-130	Pass	
Endrin	%	113			70-130	Pass	
Endrin aldehyde	%	116			70-130	Pass	
Endrin ketone	%	82			70-130	Pass	
g-BHC (Lindane)	%	127			70-130	Pass	
Heptachlor	%	104			70-130	Pass	
Heptachlor epoxide	%	89			70-130	Pass	
Hexachlorobenzene	%	87			70-130	Pass	
Methoxychlor	%	92			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	87			70-130	Pass	
Dimethoate	%	78			70-130	Pass	
Ethion	%	78			70-130	Pass	
Fenitrothion	%	105			70-130	Pass	
Methyl parathion	%	79			70-130	Pass	
Mevinphos	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	82			70-130	Pass	
Acenaphthylene	%	87			70-130	Pass	
Anthracene	%	88			70-130	Pass	
Benz(a)anthracene	%	76			70-130	Pass	
Benzo(a)pyrene	%	71			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g.h.i)perylene	%	82			70-130	Pass	
Benzo(k)fluoranthene	%	89			70-130	Pass	
Chrysene	%	95			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	88			70-130	Pass	
Naphthalene	%	75			70-130	Pass	
Phenanthrene	%	92			70-130	Pass	
Pyrene	%	95			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 C10-C14	M21-Ma18486	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Ma18486	NCP	%	104			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B21-Ma06025	NCP	%	98			70-130	Pass	
4.4'-DDD	B21-Ma06025	NCP	%	78			70-130	Pass	
4.4'-DDE	B21-Ma06025	NCP	%	81			70-130	Pass	
4.4'-DDT	B21-Ma06025	NCP	%	75			70-130	Pass	
a-BHC	B21-Ma06025	NCP	%	77			70-130	Pass	
Aldrin	B21-Ma06025	NCP	%	80			70-130	Pass	
b-BHC	B21-Ma06025	NCP	%	100			70-130	Pass	
d-BHC	B21-Ma06025	NCP	%	72			70-130	Pass	
Dieldrin	B21-Ma06025	NCP	%	110			70-130	Pass	
Endosulfan I	B21-Ma06025	NCP	%	97			70-130	Pass	
Endosulfan II	B21-Ma06025	NCP	%	81			70-130	Pass	
Endosulfan sulphate	B21-Ma06025	NCP	%	77			70-130	Pass	
Endrin	B21-Ma06025	NCP	%	91			70-130	Pass	
Endrin ketone	B21-Ma06025	NCP	%	77			70-130	Pass	
g-BHC (Lindane)	B21-Ma06025	NCP	%	122			70-130	Pass	
Heptachlor	B21-Ma06025	NCP	%	71			70-130	Pass	
Heptachlor epoxide	B21-Ma06025	NCP	%	71			70-130	Pass	
Hexachlorobenzene	B21-Ma06025	NCP	%	84			70-130	Pass	
Methoxychlor	B21-Ma06025	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	B21-Ma11239	NCP	%	78			70-130	Pass	
Dimethoate	B21-Ma11239	NCP	%	77			70-130	Pass	
Ethion	B21-Ma11239	NCP	%	77			70-130	Pass	
Fenitrothion	B21-Ma11239	NCP	%	90			70-130	Pass	
Methyl parathion	B21-Ma11239	NCP	%	80			70-130	Pass	
Mevinphos	B21-Ma11239	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	M21-Ma08252	NCP	%	93			70-130	Pass	
Acenaphthylene	M21-Ma08252	NCP	%	108			70-130	Pass	
Anthracene	M21-Ma08252	NCP	%	89			70-130	Pass	
Benz(a)anthracene	M21-Ma08252	NCP	%	98			70-130	Pass	
Benzo(a)pyrene	M21-Ma08252	NCP	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	M21-Ma08252	NCP	%	100			70-130	Pass	
Benzo(g.h.i)perylene	M21-Ma08252	NCP	%	78			70-130	Pass	
Benzo(k)fluoranthene	M21-Ma08252	NCP	%	90			70-130	Pass	
Chrysene	M21-Ma08252	NCP	%	109			70-130	Pass	
Dibenz(a.h)anthracene	M21-Ma08252	NCP	%	99			70-130	Pass	
Fluoranthene	M21-Ma08252	NCP	%	103			70-130	Pass	
Fluorene	M21-Ma08252	NCP	%	97			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M21-Ma08252	NCP	%	103			70-130	Pass	
Naphthalene	M21-Ma08252	NCP	%	94			70-130	Pass	
Phenanthrene	M21-Ma08252	NCP	%	101			70-130	Pass	
Pyrene	M21-Ma08252	NCP	%	104			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 (filtered)	B21-Fe52834	NCP	%	103			75-125	Pass	
Cadmium (filtered)	B21-Fe52834	NCP	%	108			75-125	Pass	
Chromium (filtered)	B21-Fe52834	NCP	%	119			75-125	Pass	
Copper (filtered)	B21-Fe52834	NCP	%	107			75-125	Pass	
Lead (filtered)	B21-Fe52834	NCP	%	111			75-125	Pass	
Nickel (filtered)	B21-Fe52834	NCP	%	115			75-125	Pass	
Zinc (filtered)	B21-Fe52834	NCP	%	105			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Fe54428	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-Ma18484	NCP	mg/L	0.19	0.15	24	30%	Pass	
TRH C15-C28	M21-Ma18484	NCP	mg/L	0.8	0.7	16	30%	Pass	
TRH C29-C36	M21-Ma18484	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Fe54428	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Fe54428	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-Ma18484	NCP	mg/L	0.25	0.21	15	30%	Pass	
TRH >C16-C34	M21-Ma18484	NCP	mg/L	0.6	0.5	19	30%	Pass	
TRH >C34-C40	M21-Ma18484	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M21-Ma03250	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4.4'-DDD	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDE	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDT	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
a-BHC	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-BHC	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-BHC	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin aldehyde	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin ketone	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
g-BHC (Lindane)	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor epoxide	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Hexachlorobenzene	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Methoxychlor	M21-Ma03250	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Bolstar	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorfenvinphos	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorpyrifos	B21-Ma11238	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Chlorpyrifos-methyl	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Coumaphos	B21-Ma11238	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-S	B21-Ma11238	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-O	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Diazinon	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dichlorvos	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dimethoate	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Disulfoton	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
EPN	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethion	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethoprop	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethyl parathion	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenitrothion	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fensulfothion	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenthion	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Malathion	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Merphos	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Methyl parathion	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Mevinphos	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Monocrotophos	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Naled	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Omethoate	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Phorate	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Pirimiphos-methyl	B21-Ma11238	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Pyrazophos	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ronnel	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Terbufos	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tetrachlorvinphos	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tokuthion	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Trichloronate	B21-Ma11238	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chrysene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Dibenz(a.h)anthracene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	M21-Ma08251	NCP	mg/L	0.0033	0.0030	11	30%	Pass	
Phenanthrene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	M21-Ma08251	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	B21-Fe52834	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	B21-Fe52834	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	B21-Fe52834	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	B21-Fe52834	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	B21-Fe52834	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Nickel (filtered)	B21-Fe52834	NCP	mg/L	0.006	0.006	11	30%	Pass	
Zinc (filtered)	B21-Fe52834	NCP	mg/L	0.044	0.043	3.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Authorised by:

Elvis Dsouza	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)

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.

Fadi Soro

From: Angus Harding
Sent: Friday, 26 February 2021 9:49 AM
To: Fadi Soro; Vishal Patel
Cc: Wael Saleh; Helen Simpson; Wanida Roberts
Subject: RE: [EXTERNAL] - EP1977 COC adjustment

Hi Fadi,

They are part of ES2106817, I think they are some of the micro jars for hold samples:

6	TP03-0.5	25/02/2021	Organised By / Date: DR SUM							
7	TP04-0.1	25/02/2021	Relinquished By / Date: Newcastle							
8	TP04-0.5	25/02/2021	Courier:		X					
9	TP05-0.1	25/02/2021	[illegible]		X				X	
10	TP05-0.5	25/02/2021	Attached PO / Internal Sheet:							
11	TP06-0.1	25/02/2021							X	

Can you or Vishal send QC02, QC04, QC06 to Eurofins for analysis?

Cheers.

Kind Regards,

Angus Harding
Client Services Officer, Environmental
Sydney

T +61 2 8784 8555
F +61 2 8784 8500
D +61 2 8784 8503
angus.harding@alsglobal.com
277-289 Woodpark Road
Smithfield NSW 2164 AUSTRALIA

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Recent releases (click to access directly):
EnviroMail™ 127 – Bacterial Diversity Profiling in NGS
EnviroMail™ 128 – Revised PFAS Bottle Requirements

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www.alsglobal.com

From: Fadi Soro
Sent: Friday, 26 February 2021 9:16 AM
To: Angus Harding <angus.harding@ALSGlobal.com>
Cc: Wael Saleh <Wael.Saleh@alsglobal.com>; Helen Simpson <helen.simpson@alsglobal.com>
Subject: RE: [EXTERNAL] - EP1977 COC adjustment

Sorry Angus, I found the attached samples from EP Risk that haven't been logged in yet.

Do you have a COC for these?

Regards

Fadi

From: Fadi Soro
Sent: Friday, 26 February 2021 9:01 AM
To: Angus Harding <angus.harding@ALSGlobal.com>
Cc: Wael Saleh <Wael.Saleh@alsglobal.com>; Helen Simpson <helen.simpson@alsglobal.com>
Subject: RE: [EXTERNAL] - EP1977 COC adjustment

Hey Angus,

We have nothing leftover. Everything that came in yesterday has been logged.

Regards

Fadi

From: Angus Harding
Sent: Friday, 26 February 2021 8:55 AM
To: Samples Sydney <Samples.Sydney@alsglobal.com>
Cc: Wael Saleh <Wael.Saleh@alsglobal.com>; Helen Simpson <helen.simpson@alsglobal.com>
Subject: FW: [EXTERNAL] - EP1977 COC adjustment

Hi Fadi,

Can you check if we have some EP Risk samples from Newcastle that are yet to be logged in?
I can't see any in GEL with this project.

Cheers.

Kind Regards,

Angus Harding

Client Services Officer, Environmental
Sydney

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2164 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

☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com

☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph:07 4796 0600 E: townsville.environmental@alsenviro.com

☐ Melbourne: 2-4 Westall Rd, Springvale VIC [illegible] Ph:03 8540 8600 E: samples.melbourne@alsenviro.com

☐ Adelaide: 2-4 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E:adelaide@alsenviro.com

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE	ALS QUOTE NO.:	SY 497-20
PROJECT:	Chisholm Due Deligence Assessment		
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	CONTACT PH: 0432266617	
SAMPLER:	Luke Kerry	SAMPLER MOBILE: 0432266617	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default): Esdat	
Email Reports to (will default to PM if no other addresses are listed):	luke.kerry@EPrisk.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.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)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 25/02/21 4:35pm	DATE/TIME: 25/2/21 16:55	DATE/TIME: 25/02/21 5pm	DATE/TIME: 25/02/21 07:30am

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHF and pHfox	NEPM Screen	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	TRH (F1) to N16 HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc. GON 26/2/21 3:05pm 772942
	TP01_0.1	25/02/2021	S			X				X				
	TP01_0.5	25/02/2021											X	
	TP02_0.1	25/02/2021											X	
	TP02_0.5	25/02/2021				X		X						
	TP03_0.1	25/02/2021				X				X				
	TP03_0.5	25/02/2021				[illegible]								
	TP04_0.1	25/02/2021											X	
	TP04_0.5	25/02/2021				X								
	TP05_0.1	25/02/2021				X				X				
	TP05_0.5	25/02/2021											X	
	TP06_0.1	25/02/2021								X				
	TP06_0.5	25/02/2021				X							X	
	TP07_0.1	25/02/2021				X				X				
	TP07_0.5	25/02/2021	↓										X	
				TOTAL										

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.

Environmental Division Sydney
Work Order Reference
ES2106817

Telephone : +61-2-8784 8555

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2164 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
☐ Brisbane: 32 Shand St Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ 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

CLIENT:	EP RISK MANAGEMENT PTY LTD
OFFICE:	NEWCASTLE
PROJECT:	Chisholm Due Deligence Assessment
ORDER NUMBER:	EP1977
PROJECT MANAGER:	Luke Kerry
CONTACT PH:	0432266617
SAMPLER:	Luke Kerry
SAMPLER MOBILE:	0432266617
COC emailed to ALS? (YES / NO)	
EDD FORMAT (or default):	Esdat
Email Reports to (will default to PM if no other addresses are listed):	
Email Invoice to (will default to PM if no other addresses are listed):	Accounts@eprisk.com.au

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):

ALS QUOTE NO.: SY-497-20

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)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
[signature]	[signature]	MM	[signature]
DATE/TIME: 4:35pm	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	DATE/TIME: 260221 09:34

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHfox	NEPM Screen	Chromium Reducible Sulfur	Feacal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Hold ~~Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP~~	agg ess.ul	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc. GTN 26/2/21 3:05pm 776942
	TP08_0.1	25/02/2021										+		
	TP08_0.5	25/02/2021				X								
	TP09_0.1	25/02/2021				X				X				
	TP09_0.5	25/02/2021										+		
	TP10_0.1	25/02/2021				X						+		
	TP10_0.5	25/02/2021				X								
	TP03_0.5_agg	25/02/2021											X	
	TP05_1.0_agg	25/02/2021											X	
	TP06_0.5_agg	25/02/2021											X	
	TP10_1.0_agg	25/02/2021											X	
	ASS01	25/02/2021					X							
	ASS02	25/02/2021					X		X					
	ASS03	25/02/2021					X							
	ASS04	25/02/2021					X							
				TOTAL										

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

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ALS Laboratory: please tick →

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☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com

☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com

☐ 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

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE		
PROJECT:	Chisholm Due Deligence Assessment	ALS QUOTE NO.: SY-497-20	
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	CONTACT PH: 0432266617	
SAMPLER:	Luke Kerry	SAMPLER MOBILE: 0432266617	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default): Esdat	
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.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

Cooling Method: Ice / Ice Pack / None

Sample Temperature on Receipt: 14.5 °C

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 4:35pm.	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	DATE/TIME: 25/02/21 07:35

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pHf and pHox	~~HSEP Screen~~	Chromium Reducible Sulfur	Faecal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	TRH (F1) / BTEXN	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	AS505	25/02/2021					X							GTN 26/2/21 3:05pm 776942
	AS506	25/02/2021					X							
	AS507	25/02/2021					X		X					
	AS508	25/02/2021					X							
	AS509	25/02/2021					X							
	AS510	25/02/2021					X							
	AS511	25/02/2021					X							
	AS512	25/02/2021					X	~~X~~	X					
	AS513	25/02/2021					X							
	AS514	25/02/2021					X	~~X~~	X					
	AS515	25/02/2021					X							
	AS516	25/02/2021					X							
	AS517	25/02/2021					X							
	AS518	25/02/2021					X		X					
				TOTAL										

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.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

Sydney: 277 Woodpark Rd Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com

Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph 02 4968 8433 E: samples.newcastle@alsenviro.com

Brisbane: 32 Shand St, Stafford QLD 4053 Ph 07 3243 7222 E: samples.brisbane@alsenviro.com

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

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE		FOR LABORATORY USE ONLY (Circle)
PROJECT:	Chisholm Due Deligence Assessment	ALS QUOTE NO.: SY-497-20.	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 SF: 1 2 3 4 5 6 7
ORDER NUMBER:	EP1977		
PROJECT MANAGER:	Luke Kerry	CONTACT PH: 0432266617	
SAMPLER:	Luke Kerry	SAMPLER MOBILE: 0432266617	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default): Esdat	
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 25/02/21	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pH and pHfox	ACM a/w [illegible]	Chromium Reducible Sulfur	Faecal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	ACM ID [illegible]	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
														GTW 26/2/21 3:03pm 776942
	ASS19	25/02/2021					X							
	HSS20	25/02/2021					X							
	SED01	25/02/2021								X	X			
	SW01	25/02/2021								X		X		
	ACM01-ID	25/02/2021											X	
	ACM01	25/02/2021						X						
	ACM02	25/02/2021						X						
	ACM03-ID	25/02/2021											X	
	ACM03	25/02/2021						X						
	ACM04	25/02/2021						X						
		25/02/2021												
	ACM05	25/02/2021						X						
		25/02/2021												
		25/02/2021												
				TOTAL										

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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

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com

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☐ Adelaide: 2-4 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com

CLIENT:	EP RISK MANAGEMENT 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:	NEWCASTLE		
PROJECT:	Chisholm Due Deligence Assessment	ALS QUOTE NO.:	SY-497-20
ORDER NUMBER:	EP1977		
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COC emailed to ALS? (YES / NO)		EDD FORMAT (or default): Esdat	
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Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.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)

Temperature on receipt (°C): 16.1

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 25/02/21 4:35pm	DATE/TIME: 25/2/21 16:35	DATE/TIME: 25/02/21	DATE/TIME: 250221 07:30pm

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	Heavy Metals / TRH / BTEXN / PAH / OCP / PCB	pH and pHox	NEPM Screen	Chromium Reducible Sulfur	Faecal Coliforms and E.Coli	Heavy metals (low level Hg) / TPH / Total PAH (trace) / OCP (trace) / PCB	Heavy Metals / TRH / BTEXN / PAH (ultra trace) / OCP / OPP	TRH (F1) / BTEXN	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc. GTN 26/2/21 3:05pm 776402
	Rinsate01	25/02/2021	W			X								
	Rinsate 02	25/02/2021	W			X								
	Rinsate 03	25/02/2021	W			X								
	QC01	25/02/2021	Soil			X								
	QC02	25/02/2021	Soil			X								
	QC03	25/02/2021	Sed								X			
	QC04	25/02/2021	Sed								X			
	QC05	25/02/2021	W									X		
	QC06	25/02/2021	W									X		
	TS_S	25/02/2021	Soil										X	
	TB-S	25/02/2021	Soil										X	
	TS-W	25/02/2021	W										X	
	TB-W	25/02/2021	W										X	
		25/02/2021												
				TOTAL										

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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;
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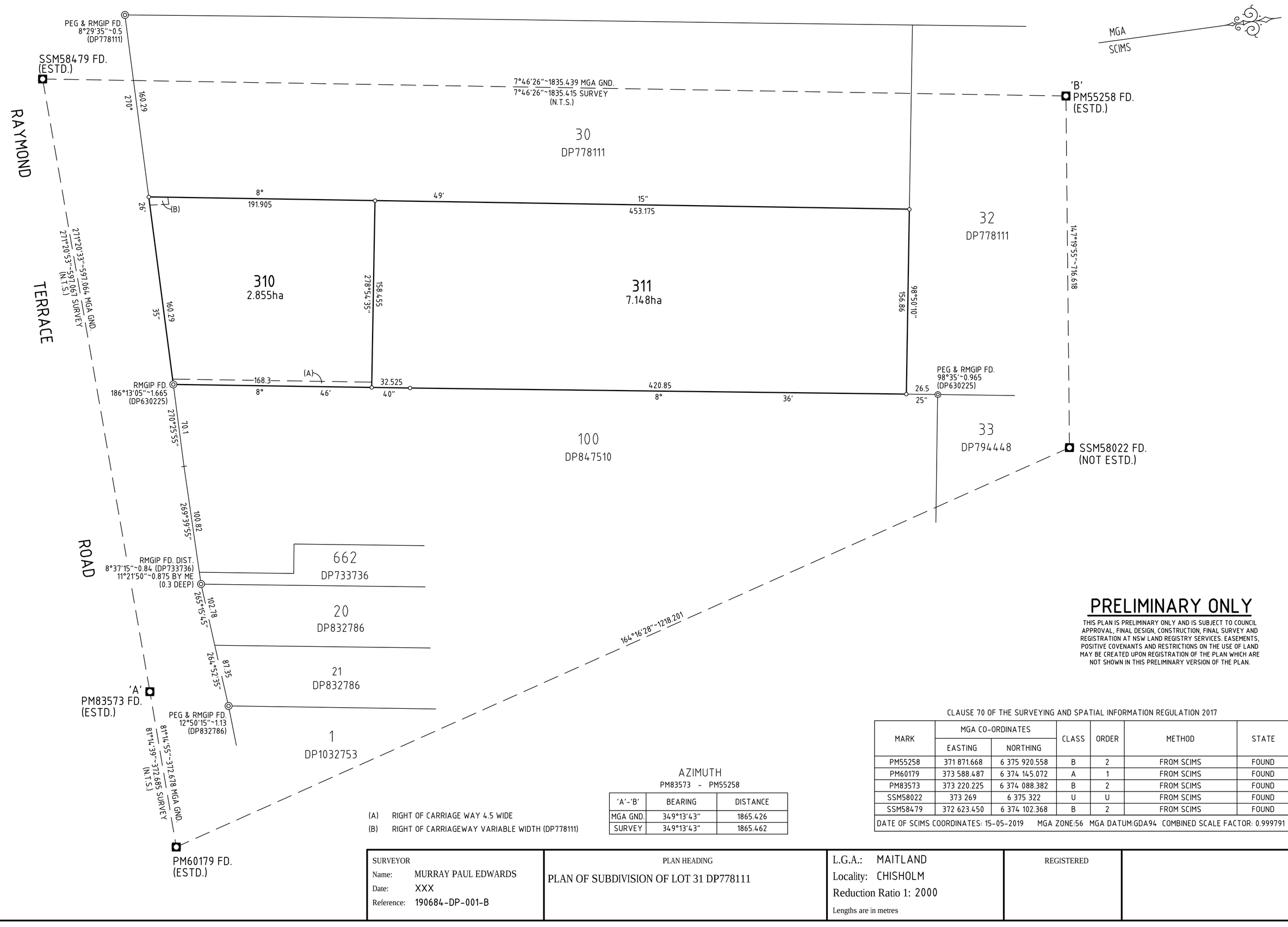
Appendix F
PROPSOED DEVELOPMENT PLANS



PRELIMINARY ONLY

THIS PLAN IS PRELIMINARY ONLY AND IS SUBJECT TO COUNCIL APPROVAL, FINAL DESIGN, CONSTRUCTION, FINAL SURVEY AND REGISTRATION AT NSW LAND REGISTRY SERVICES. EASEMENTS, POSITIVE COVENANTS AND RESTRICTIONS ON THE USE OF LAND MAY BE CREATED UPON REGISTRATION OF THE PLAN WHICH ARE NOT SHOWN IN THIS PRELIMINARY VERSION OF THE PLAN.

(A) RIGHT OF CARRIAGE WAY 4.5 WIDE

(B) RIGHT OF CARRIAGEWAY VARIABLE WIDTH (DP778111)

AZIMUTH

PM83573 - PM55258

'A'-'B'	BEARING	DISTANCE
MGA GND.	349°13'43"	1865.426
SURVEY	349°13'43"	1865.462

CLAUSE 70 OF THE SURVEYING AND SPATIAL INFORMATION REGULATION 2017

MARK	MGA CO-ORDINATES		CLASS	ORDER	METHOD	STATE
	EASTING	NORTHING				
PM55258	371 871.668	6 375 920.558	B	2	FROM SCIMS	FOUND
PM60179	373 588.487	6 374 145.072	A	1	FROM SCIMS	FOUND
PM83573	373 220.225	6 374 088.382	B	2	FROM SCIMS	FOUND
SSM58022	373 269	6 375 322	U	U	FROM SCIMS	FOUND
SSM58479	372 623.450	6 374 102.368	B	2	FROM SCIMS	FOUND

DATE OF SCIMS COORDINATES: 15-05-2019 MGA ZONE:56 MGA DATUM:GDA94 COMBINED SCALE FACTOR: 0.999791

SURVEYOR	PLAN HEADING	L.G.A.: MAITLAND	REGISTERED	
Name: MURRAY PAUL EDWARDS	PLAN OF SUBDIVISION OF LOT 31 DP778111	Locality: CHISHOLM		
Date: XXX		Reduction Ratio 1: 2000		
Reference: 190684-DP-001-B		Lengths are in metres		

ESK-011-012-B

PROPOSED LOT REQUIRE TURNING HEAD OR THROUGH ROAD.

LAND SWAP TO LOT 30 DP778111
TOTAL AREA = 2,111m²
ROAD AREA = 678m²
LOT AREA = 1,433m²

RESIDUE DEVELOPMENT SUBJECT TO LAND SWAP.

LAND SWAP TO ALLAM
TOTAL AREA = 1,415m²
ROAD AREA = 131m²
LOT AREA = 1,284m²

PROPOSED LOTS SUBJECT TO REMOVAL OF UPSTREAM DAM.

LOT 30
DP778111

PROPOSED LOTS

LOT 31
DP778111

LAND SWAP TO LOT 30 DP778111
AREA = 2,241m²
ROAD AREA = 712m²
LOT AREA = 1,529m²

RESIDUE DEVELOPMENT SUBJECT TO LAND SWAP.

LAND SWAP TO ALLAM
TOTAL AREA = 2,263m²
ROAD AREA = 172m²
LOT AREA = 2,091m²

RESIDUE DEVELOPMENT SUBJECT TO LAND SWAP.

NO DA
CONCEPT ONLY

STAGE 1

NO DA
CONCEPT ONLY

PROPOSED
STORMWATER BASIN

LOT 100
DP847510

DA
APPROVED

STAGE 2

NO DA
CONCEPT ONLY

LOT 662
DP733736

LEGEND

- SITE BOUNDARY
- LAND SWAP BOUNDARY
- PROPOSED LOT BOUNDARY
- DA LODGED LOT BOUNDARY
- INDICATIVE FUTURE LOT BOUNDARY
- LAND SWAP AREA - LOT 31 LOTS
- LAND SWAP AREA - LOT 31 ROAD
- LAND SWAP AREA - ALLAM LOTS
- LAND SWAP AREA - ALLAM ROAD

LOT BREAKDOWN

STAGE 1	59 LOTS
STAGE 2	31 LOTS
RESIDUE	6,830m²
PARK	5,000m²

CONCEPT ONLY

ver.	date	comment	drawn	pm
B	23.10.2020	UPDATED LAYOUT AS PER COMMENTS	PB	MK

level information: DATUM: N/A; CONTOUR INTERVAL: N/A

scale (A1 original size): A1 1:1000 — 0 25 50m — A3 1:2000

notes

working beyond expectations

drawing title: CONCEPT LOT LAYOUT

location: RAYMOND TERRACE RD, CHISHOLM, NSW

council: MAITLAND CITY COUNCIL

dwg ref: ESK-011

client: ALLAM PROPERTY GROUP

adw johnson
central coast office ph: (02) 4305 4300
hunter office ph: (02) 4978 5100
sydney office ph: (02) 8046 7411
www.adwjohnson.com.au

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ESK-011-012-B

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NO DA
CONCEPT ONLY

NO DA
CONCEPT ONLY

NO DA
CONCEPT ONLY

DA
APPROVED

PROPOSED LOTS

LOT 30
DP778111

LOT 31
DP778111

LOT 100
DP847510

LOT 662
DP733736

PROPOSED
STORMWATER BASIN

LEGEND

- SITE BOUNDARY
- LAND SWAP BOUNDARY
- PROPOSED LOT BOUNDARY
- DA LODGED LOT BOUNDARY
- FUTURE LOT BOUNDARY
- PROPOSED RESIDENTIAL LOT
- PROPOSED RESIDUE LOT
- LAND SWAP AREA - LOT 31 LOTS
- LAND SWAP AREA - LOT 31 ROAD
- LAND SWAP AREA - ALLAM LOTS
- LAND SWAP AREA - ALLAM ROAD

LOT BREAKDOWN

STAGE 1	59 LOTS
STAGE 2	31 LOTS
RESIDUE	6,830m²
PARK	5,000m²

CONCEPT ONLY

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
B	23.10.2020	UPDATED LAYOUT AS PER COMMENTS	PB	MK	DATUM: N/A CONTOUR INTERVAL: 5m	A1 1:1000 / A3 1:2000 (0, 25, 50m)	

working beyond expectations

drawing title:

CONCEPT LOT LAYOUT

location: RAYMOND TERRACE RD, CHISHOLM, NSW

council: MAITLAND CITY COUNCIL

dwg ref: ESK-012

client: ALLAM PROPERTY GROUP

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