



Preliminary Site Investigation

173 McFarlanes Road, Chisholm, NSW

Prepared for: Allam Homes c/- ADW Johnson Pty Ltd
EP1655.001 5 June 2020



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173 McFarlanes Road, Chisholm, NSW

Allam Homes c/- ADW Johnson Pty Ltd
27 Lawson Street
Penrith NSW 2751

5 June 2020

Our Ref: EP1655.001

LIMITATIONS

This Preliminary Site Investigation was conducted on the behalf of Allam Homes c/- ADW Johnson Pty Ltd for the purpose/s stated in **Section 1**.

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Executive Summary

Introduction

EP Risk Management Pty Ltd (EP Risk) was engaged by Allam Homes c/- ADW Johnson Pty Ltd (ADW Johnson) to undertake a Preliminary Site Investigation (PSI) of a property located at 173 McFarlanes Road, Chisholm, New South Wales (NSW) (the Site). It is understood that the Site is proposed to be redeveloped into a low-density residential development and that the PSI is required for due diligence purposes.

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 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 rectangular shaped lot situated to the south of McFarlanes Road. The land use comprised rural lifestyle living with most of the Site cleared of vegetation with the exception of large mature eucalypt trees scattered across the Site. The Site is located within an area of mixed zoned use comprising RU2 Rural Landscape, R1 General Residential and E3 Environmental Management.

Topographically the Site had gentle sloping gradients facing north west with elevations ranging from 29 metres above Australian Height Datum ('mAHD') in the south eastern portions of the Site to 6 m AHD in the lower north western corner of the Site. A small drainage line (gully) dissects the north western corner of the Site and runs to the south west on the adjacent land. The Site drainage is considered to consist of surface runoff migrating across the Site as overland flow leaving the Site in the north western portion of the Site.

Based on the information contained in the Newcastle Coalfield Regional Geological Map 9231 (Edition 1, 1995) the Site is underlain by late Permian age siltstone and sandstone from the Maitland Group. The Maitland Local Environment Plan (LEP) (2011) identified most of the Site to be within a Class 5 acid sulfate soil classification, where acid sulfate soils are not typically found. It is noted that the north western corner of the Site is within a Class 3 acid sulfate soil area and a Class 2 area is located within 500 m of the Site to the north.

A search of the NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation undertaken indicated that there were no registered groundwater bores located on-site. Review of the Hydrogeology Map of Australia identified fractured or fissured, extensive aquifers of low to moderate productivity and porous, extensive highly productive aquifers are present in the area. Regional groundwater flow direction is expected to be predominantly to the north east towards Hunter River. With reference to the Mining Subsidence District Data Source (2016), the Site is not located within a mining subsidence district.

Site History Review

The review of site history information identified the Site to have been used for rural lifestyle living since sometime between 1984 and 1993. Prior to this time the Site comprised of native eucalypt bushland. No major potentially contaminating Site activities were identified from the historical land ownership review. A search of the Universal Business Directory (UBD) (Lotsearch 2020), spanning circa 1950 to 1991 identified no adjacent commercial uses during this period.

Fieldwork

Fieldwork investigations for the PSI comprised the collection of soil samples from 22 grid and/or targeted based locations across the Site and the collection of three surface water and sediment samples from three dams located at the Site. Several fill mounds comprising of anthropogenic material were observed across the Site. The anthropogenic material comprised of concrete, brick, wood, steel and metal. The two largest areas (TP09 and TP12) covered an area of approximately 80 m² and 120 m² respectively. There was no visual or olfactory evidence of hydrocarbon or other contamination.

Subsurface conditions at the Site generally comprised of topsoil/fill overlying residual sandy silt CLAY/sandy CLAY overlying extremely weathered sandstone.

Results of Analytical Testing

Results of analytical testing reported concentration of the COPC all below laboratory LOR or adopted health and/or ecological based criteria with the exception of one elevated zinc concentration in soil in excess of the adopted ecological criteria. The sample was collected from the fill horizon comprising of sandy SILT. Anthropogenic material including corrugated iron roofing sheets and steel were observed in the fill horizon. The data set of all zinc concentrations, from 0.0 m BGL to 0.2 m BGL was subsequently inputted into the statistical package ProUCL 5.0 to derive 95% UCL_{mean} concentrations. The 95% UCL_{mean} zinc concentrations was calculated at 154.8 mg/kg, which is below the adopted ecological-based criteria of 310 mg/kg, indicating that the zinc concentration is unlikely to present an unacceptable risk to ecological health. Additionally, analysis of the deeper soil sample (0.5 m BGL) report zinc concretions below the adopted ecological criteria.

Elevated TAA concentrations for the chromium reducible sulfur suite analysis were reported in excess of the adopted action criteria for fine soils, should more than 1,000 tonnes of soil be disturbed. Based on the results of the additional assessment of the ASS results presented above, it is considered that the sandy silty CLAY soil profile located in the lower slopes of the north western portion of the Site may be representative of a highly weathered ASS. As a result, an ASS management plan will be required if this soil profile is to be disturbed during the proposed redevelopment of 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 future use of the site as a general residential land use, subject to completion of the recommended works in **Section 11**.

In order to address minor issues at the Site, EP Risk recommends that the following works are undertaken:

- 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 sandy silty CLAY horizon in the lower slopes of the northern portion of the Site.
- An unexpected finds protocol should be implemented during redevelopment to address any unidentified contamination that may be encountered during the proposed redevelopment works.

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1 Introduction

EP Risk Management Pty Ltd (EP Risk) was engaged by Allam Homes c/- ADW Johnson Pty Ltd (ADW Johnson) to undertake a Preliminary Site Investigation (PSI) of a property located at 173 McFarlanes Road, Chisholm, New South Wales (NSW) (the Site). The Site location and regional map is illustrated in **Figure 1**.

It is understood that the Site is proposed to be redeveloped into a low-density residential development and that the PSI is required for due diligence purposes.

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 to the proposed future residential 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 22 grid and targeted based locations across the Site, sediment and surface water samples from 3 dams at the Site.
- Submission of selected soil 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 pavement thickness design and preliminary site classification and supplementary contamination assessment in accordance with NSW EPA (2020) Consultants Reporting on Contaminated Land – Contaminated Land Guidelines (NSW EPA 2020) and the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended April 2013 (ASC NEPM 2013).

1.3 Site Identification

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

Table 1 – Site Identification	
Item	Description
Address	173 McFarlanes Road, Chisholm, NSW (Figure 1)
Legal description	Lot 32 in Deposited Plan (DP) 778111
Approximate Area	20 hectare (ha)
Municipality	Maitland City Council (Council)
Zoning	The Maitland LEP 2011 identifies the Site as RU1 General Residential and RU2 Rural Landscape

2 Technical Framework

The PSI was conducted in general accordance with:

- ASC NEPM (2013).
- 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 Environment Protection Authority ('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 2020). A copy of the Lotsearch (2020) report is attached as **Appendix A**.

3.1 Land Use and Layout

As of 8th May 2020, the Site comprised of a large rectangular shaped lot situated to the south of McFarlanes Road. The land use comprised rural lifestyle living with the majority of the Site cleared of vegetation with the exception of large mature eucalypt trees scattered across the Site. EP Risk undertook a site inspection on 1st May 2020 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**.

- Brick residential dwelling located in the northern portion of the Site (**Plate 1**);
- Machinery shed located adjacent to residential dwelling (**Plate 2**);
- Cattle yard located in the northern portion of the Site (**Plate 3**);
- The Site comprised rural/agricultural grazing land (**Plate 4**);
- A large dam (Dam 01) located in the southern portion of the Site (**Plate 5**);
- A natural drainage channel (gully) located in the southern portion of the Site, connecting to Dam 01 (**Plate 10**);
- Two smaller dams, located close to each other (Dam 02 and Dam 03) located in the central portion of the Site (**Plates 6 and 7**);
- Several fill mounds are located across the Site comprising of buried anthropogenic waste including brick, concrete, steel and tin (**Plates 9, 11, 12 and 13**); and
- Typical sub surface ground conditions comprised of residual sandy silty CLAY with shallow bedrock (sandstone) (**Plates 14 and 15**).

3.2 Surrounding Land Use

The Site is located within an area of mixed zoned use comprising RU2 Rural Landscape, R1 General Residential and E3 Environmental Management. As of 8th May 2020, surrounding land uses comprised:

- North: McFarlanes Road with rural land beyond.
- South: Rural/agricultural land adjacent with Raymond Terrace Road beyond.
- East: Environmental Management zoned land adjacent with rural/agricultural land beyond.
- West: Environmental Management zoned land adjacent with Waterford residential estate beyond.

3.3 Topography and Drainage

Topographically the Site had gentle sloping gradients facing north west with elevations ranging from 29 metres above Australian Height Datum ('mAHD') in the south eastern portions of the Site to 6 m AHD in the lower north western corner of the Site. A small drainage line (gully) dissects the north western corner of the Site and runs to the south west on the adjacent land. The Site drainage is considered to consist of surface runoff migrating across

the Site as overland flow leaving the Site in the north western portion of the Site. A plan showing the topographical contours of the Site is provided within the Lotsearch (2020) Report in **Appendix A**.

3.4 Geology

Based on the information contained in the Newcastle Coalfield Regional Geological Map 9231 (Edition 1, 1995) the Site is underlain by late Permian age siltstone and sandstone from the Maitland Group.

3.5 Soil Landscapes

Based on the soil landscapes data sourced from the NSW OEH (Lotsearch, 2020) most of the Site is located within the Beresfield residual soil landscape with a small portion on the northern boundary located within Hunter alluvial.

3.6 Natural Occurring Asbestos Potential

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

3.7 Acid Sulfate Soils

The Maitland LEP (2011) identified most of the Site to be within a Class 5 acid sulfate soil classification, where acid sulfate soils are not typically found. Areas classified as Class 5 are located within 500m of adjacent Class 1, 2, 3 or 4 land. A class 5 area where the water table is likely to be lowered below 1 m AHD on adjacent Class 1, 2, 3 or 4 land will trigger the requirement for assessment potentially management.

It is noted that the north western corner of the Site is within a Class 3 acid sulfate soil area and a Class 2 area is located within 500m of the Site to the north.

3.8 Hydrology and Hydrogeology

A search of the NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation undertaken by Lotsearch (2020) indicated that there were no registered groundwater bores located on-site.

Review of the Hydrogeology Map of Australia, Lotsearch (2020) identified fractured or fissured, extensive aquifers of low to moderate productivity and porous, extensive highly productive aquifers are present in the area. Regional groundwater flow direction is expected to be predominantly to the north east towards Hunter River.

3.9 Mining Subsidence

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

3.10 Regulatory Searches

A summary of the regulatory searches performed by Lotsearch (2020) 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 14 th May 2020, there are no records of contaminated sites notified to the NSW EPA in accordance with the <i>Contaminated Land Management Act 1979</i> ('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	No National Liquid Fuel Facilities were identified within 1 km of the Site.

3.11 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

¹ EPL – Environment Protection License.

3.12 Delicensed Activities Still Regulated by the NSW EPA

No delicensed activities still regulated by the NSW EPA have been identified within 1 km of the Site.

3.13 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 4**.

Table 4 – 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			

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 and Christopher O’Brien (Farmer). Since the title’s creation, the title had been transferred seven times with the current owners of the Site holding the titles since 1995. Certificates of title, plans of subdivision/title plans and title history search documents are attached as **Appendix C**.

No major potentially contaminating Site activities were identified from the historical land ownership review.

4.2 Review of Historical Aerial Photos

Aerial photographs from 1954, 1965, 1977, 1984, 1993, 2007 and 2019 were reviewed to identify past land uses of the Site and surroundings. **Table 5** provides a summary of the review.

Table 5 – Historical Aerial Photograph Review	
Year	Description
1954	Site: The Site is vacant and comprises of native bushland. Surroundings: McFarlanes Road is visible to the north, with surrounding land comprising of native bushland and cleared land.
1965	Site and Surroundings: No significant changes.
1977	Site: No significant changes. and Surroundings: Some clearing of land has occurred on the adjacent land to the south west.
1984	Site and surroundings: No significant changes.
1993	Site: Large areas of the Site have been cleared with a residential dwelling constructed in the north western corner of the Site. Additionally, three dams have been constructed. Surroundings: Some clearing has occurred on adjacent land.
2007	Site: No significant changes. Surroundings: Two residential dwellings have been constructed on adjacent land to the east.
2019	Site and Surroundings: No significant changes.

Based on the review of historical aerial photography none of the on-site or nearby land uses identified in the aerial photographs are considered to present a significant risk of contamination to the Site.

The aerial photographs reviewed are provided in the Lotsearch (2020) report provided as **Appendix A**.

4.3 Business Directory Search

A search of the Universal Business Directory (UBD) (Lotsearch 2020), spanning circa 1950 to 1991 identified no adjacent commercial uses during this period.

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 rezoning of the Site for residential land use.

Identify the Decision

To assess the soil conditions at the Site, the following decisions need to be addressed:

- Are there any unacceptable risks to likely future onsite receptors from impacted soil during or after development?
- Are there any aesthetic concerns in fill soil present at the Site?
- Is there sufficient information to provide preliminary characterisation of the nature and extent of any contamination that may be present at the Site that is associated with the historical land use?
- Is there sufficient information to provide characterisation of the nature and extent of any contamination at the Site.
- Is a Detailed Site Investigation ('DSI') required?

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 rezoning of the Site to general residential 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 32, DP 778111 with the maximum proposed depth for the investigation has been 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 be 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 6**.

Table 6 – 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?	<p>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.</p> <p>The following statistical criteria was adopted with respect to soil and soil leachate (where applicable):</p> <p>Either: the reported concentrations are all below the adopted site criteria;</p> <p>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.</p> <p>And: the 95% upper confidence limit of the arithmetic mean ('UCL_{mean}') for each analyte must be below the adopted site criterion.</p> <p>If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No.</p> <p>Otherwise, the decision is Yes.</p>
2. Have any aesthetic issues relating to site soils been adequately addressed?	<p>The following criteria was adopted with respect to aesthetic issues relating to site soils:</p> <p>Either: the reported concentrations are all below the adopted physical and aesthetic management limits;</p> <p>Or: Were any chemically discoloured or stained soils, chemical residues, putrescible refuse, anthropogenic materials, hydrocarbon sheens on groundwater identified?</p>

Table 6 – Summary of Decision Rules	
Decision	Rule
	<p>If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No.</p> <p>Otherwise, the decision is Yes.</p>
3. Has groundwater been assessed against relevant investigation levels?	<p>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.</p> <p>The following statistical criteria was adopted with respect to groundwater where assessment is required:</p> <p>Either: the reported concentrations are all below the adopted site criteria;</p> <p>Or: The reported concentrations are below upgradient concentrations and are therefore considered representative of background data.</p> <p>If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No.</p> <p>Otherwise, the decision is Yes.</p>
4. Have hazardous ground gases (where relevant) been assessed against relevant health-based investigation levels and screening values?	<p>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.</p> <p>The following statistical criteria was adopted with respect to ground gases (where likely to be present):</p> <p>Either: the reported soil vapour concentrations (where relevant) are all below the adopted site criteria;</p> <p>Or: The reported soil and groundwater concentrations were below the criteria for vapour intrusion.</p> <p>If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No.</p> <p>Otherwise, the decision is Yes.</p>
5. Are there any impacts of chemical mixtures?	<p>The following criteria was adopted with respect to chemical mixtures:</p> <p>The impacts of chemical mixtures have been considered and are not present.</p> <p>If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No.</p> <p>Otherwise, the decision is Yes.</p>
6. Are there any potential human health and/or ecological risks to the identified receptors?	<p>Are the statistical criteria stated above satisfied, and has an assessment of risk indicated no unacceptable risks?</p> <p>If yes, the decision is No.</p>

Table 6 – Summary of Decision Rules	
Decision	Rule
	Otherwise, the decision is Yes.
7. 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.
8. Is a site management strategy required?	Is the answer to any of the above decisions Yes? If yes, 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.

$$RPD\% = \frac{[C_p - C_d]}{C_p + C_d} \times 200$$

Where:

C_p = Primary sample
C_d = 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 7**.

Table 7 – 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

Table 7 – DQO, Requirements and Indicators		
DQO	Requirement	DQI
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
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 22 test pit/bore locations.
- 2 Test pits/bores were advanced via a 5-tonne excavator fitted with a 450mm bucket/300 mm auger 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 soil sampling was outlined as follows:

- 1 Three sediment samples were collected from the three dams located at the Site.
- 2 A dedicated pair of nitrile gloves was used for each 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 jars were 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 Three surface water samples were collected from the three dams located at the Site.
- 2 Surface water samples that were 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 Surface water samples were collected in preserved bottles specific to each analyte with a unique sample ID added to the label on each bottle.
- 4 The sample bottles 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.

5.4 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 8**.

Media	Sampling Locations	Number of Analysis ²
Soil	23	<ul style="list-style-type: none"> Heavy metals / OPP / PCB³ – 27 Faecal coliforms and <i>E. coli</i> – 8 TRH / BTEXN / PAH⁴ – 12 Asbestos w/w % (500 mL)⁵ – 4 Asbestos ID (AS.4964) in bulk materials – 1 Acid Sulfate soil field tests (pH_F and pH_{FOX}) – 19 Chromium reducible sulfur suite test – 11
Sediment	3	<ul style="list-style-type: none"> Heavy metals / OCP / PCB / PAH / faecal coliforms / <i>E. coli</i> – 3
Water	3	<ul style="list-style-type: none"> Heavy metals / TRH / BTEXN / PAH / OCP / OPP / faecal coliforms / <i>E. coli</i> – 2
Rinsate blank	-	<ul style="list-style-type: none"> Heavy metals / TRH / BTEXN / PAH / OCP / PCB – 2
Trip blank	-	<ul style="list-style-type: none"> TRH (C6-C9) / BTEXN – 1
Trip spike	-	<ul style="list-style-type: none"> 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 9**.

Parameter	Requirement	Objective Met
Precision		
Standard operating procedures appropriate and complied with	The sampling methods comply with industry standards and guidelines.	Yes
Field duplicates	<ul style="list-style-type: none"> 1 per 20 samples; and RPDs < 50%. 	Yes Yes ⁶
Field triplicates	<ul style="list-style-type: none"> 1 per 20 samples; and RPDs < 50%. 	Yes Yes ⁶
Laboratory duplicates	<ul style="list-style-type: none"> Minimum of 1 per batch per analyte; RPDs < 50%; and >10%, laboratory specified. 	Yes Yes Yes

² Excluding duplicates and triplicates.

³ Heavy metals (As, Cd, Cr, Cu, Hg, Pb, Ni and Zn); OCP – Organochlorine Pesticides; PCB – Polychlorinated Biphenyls.

⁴ TRH – Total Recoverable Hydrocarbons; BTEXN – Benzene; Toluene; Ethylbenzene, Xylene, Naphthalene; PAH – Polycyclic Aromatic Hydrocarbons

⁵ Non-NATA.

⁶ Exceedances of the adopted RPD criteria for heavy metals were observed which were attributed to the low concentrations observed and / or the heterogeneous distribution of contaminants.

Table 9 – DQI Results Summary

Parameter	Requirement	Objective Met
Accuracy		
Laboratory matrix spikes	<ul style="list-style-type: none"> 1 per batch per volatile/semi-volatile analyte; and Recoveries >70% to 130% 	Yes Yes ⁷
Laboratory surrogate spikes	<ul style="list-style-type: none"> 1 per volatile/semi-volatile analyte sample (as appropriate); and Recoveries 70% to 130% 	Yes Yes
Laboratory control samples	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 1 per field laboratory reporting limit 	Yes Yes
Trip spikes	<ul style="list-style-type: none"> 1 per field batch for volatile analytes; and Recoveries 70-130% 	Yes Yes
Rinsate	<ul style="list-style-type: none"> 1 per field batch for volatile analytes; and Result < laboratory reporting limit 	Yes Yes
Laboratory Method Blanks	<ul style="list-style-type: none"> 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
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

⁷ Laboratory matrix spike outliers exist for zinc, however this was considered not to impact on the outcome of the PSI as the recoveries were only marginally outside the lower recovery target of 70% and given the low concentrations recorded in the samples.

On the basis of the information provided in **Table 9**, 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.
- NSW Acid Sulfate Soil Manual (1998).

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 land use with garden/accessible soil 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 urban residential areas and public open space.
- **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 land 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 10**.

Table 10 – Adopted Soil Criteria		
Guidelines	COPC	Adopted Criteria
ASC NEPM 2013	Heavy metals/OCP/PCB /asbestos	HIL A (residential land use with garden/accessible soil)
	Heavy metals/OCP/PAH	EIL (urban residential areas and public open space); < 2 m
	TRH and BTEXN	Vapour intrusion HSL A (Low density residential); 0-<1m; clay 0-<1m; silt ESLs (urban residential); <2m
	TRH	Management limits (residential, parkland and public open space); fine soil

Table 10 – Adopted Soil Criteria		
Guidelines	COPC	Adopted Criteria
Friebel, E & Nadebaum, 2011	TRH and BTEXN	Direct contact and intrusive maintenance workers HSLs Vapour Intrusion HSLs for Intrusive Maintenance Workers (Shallow Trench)
Acid Sulfate Soil Manual 1998	pH (field/fox)	pH _f and pH _{fox} reaction
	Titrateable Peroxide Acidity (TPA), Titrateable Sulfidic Acidity (TSA) and Oxidisable Sulfur (S _{POS})	Sulfur trail and acid trail action criteria for fine textured soil >1000 tonnes

The future land use at the Site is low density residential. On the basis of the current and likely future land use, EP Risk has adopted the HILs, HSLs, EILs and ESLs for a residential land use with garden/accessible soil land use setting, which is a conservative approach.

6.2 Sediment Criteria

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

- Australia New Zealand Environmental and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand ('ANZECC & ARMCANZ') (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 1, The Guidelines.
- Simpson et al (2005) CSIRO Handbook for Sediment Quality Assessment.

The adopted criteria for initial screening of sediments were the interim sediment quality guidelines (ISQG) low and high values. 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.

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);
- CRC Care (2011);
- NSW EPA Auditor Guidelines (2017); and
- NHMRC (2008).

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/bores advanced across the Site are detailed on the report log sheets, attached in **Appendix D** with locations shown on **Figure 2**. A summary of subsurface conditions is presented in **Table 11**. In general, the subsurface can be summarised as follows:

Table 11 – Geotechnical Units			
Unit	Material	Description / Depth Encountered	Comment
1a	Topsoil	Dry, loose, sandy SILT from 0.0 to 0.9 m BGL	-
1b	Fill	silty sandy CLAY with gravel/ sandy SILT with gravel from 0.0 to 0.2 m BGL	Identified at TB01 (driveway) and TB02 adjacent to machinery shed.
1c	Fill	Sandy SILT from 0.0 to 1.2 m BGL.	Identified within fill mounds with anthropogenic material in areas across the Site.
2a	Colluvium	Natural sandy silty CLAY from 0.2 to 2.5 m BGL	Located at TP06 and TP07 in the lower elevation of the Site (north west corner).
3a	Residual	Natural sandy silty CLAY/sandy CLAY of medium plasticity from 0.1 to 2 m BGL	Stiff to hard.
3b	XW Sandstone	Fine to medium grained from 0.8 m BGL	-

A general summary of the subsurface conditions encountered across the site is presented in **Table 12**.

Table 12 – Summary of subsurface conditions			
Test Pit ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Summary of subsurface profile
TB01	0.2	NE ⁸	FILL (silty sandy CLAY with gravel) / sandy silty CLAY / sandy CLAY
TB02	0.4	NE	FILL (sandy SILT with gravel) / sandy CLAY
TP03	0.2	NE	TOPSOIL (sandy SILT with some clay) / sandy silty CLAY
TP04	0.1	1.2	TOPSOIL (sandy SILT) / sandy silty CLAY / sandy CLAY / XW ⁹ Sandstone
TP05	0.1	0.8	TOPSOIL (sandy SILT) / sandy silty CLAY / XW Sandstone
TP06	0.9	NE	TOPSOIL (sandy SILT) / sandy silty CLAY (slope wash)
TP07	0.2	NE	TOPSOIL (sandy SILT) / sandy silty CLAY (slope wash)
TP08	0.1	0.9	TOPSOIL (sandy SILT) / sandy silty CLAY / XW Sandstone
TP09	1.2	NE	FILL (sandy SILT) / sandy silty CLAY
TP10	0.1	0.9	TOPSOIL (sandy SILT) / sandy silty CLAY / sandy CLAY / XW Sandstone
TP11	0.1	0.8	TOPSOIL (sandy SILT) / sandy silty CLAY / XW Sandstone
TP12	0.4	NE	FILL (sandy SILT) / sandy silty CLAY
TP13	0.3	1.5	TOPSOIL (sandy SILT) / sandy silty CLAY / XW Sandstone

⁸ Not encountered

⁹ Extremely weathered sandstone

Table 12 – Summary of subsurface conditions

Test Pit ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Summary of subsurface profile
TP14	0.5	1.5	FILL (sandy SILT) / sandy silty CLAY / XW Sandstone
TP15	1.0	1.5	FILL (sandy SILT) / sandy silty CLAY / XW Sandstone
TP16	0.4	1.0	TOPSOIL (sandy SILT) / sandy silty CLAY / XW Sandstone
TP17	0.1	1.0	TOPSOIL (sandy SILT) / sandy silty CLAY / XW Sandstone
TP18	0.3	1.6	TOPSOIL (sandy SILT) / sandy CLAY / XW Sandstone
TP19	0.1	1.7	TOPSOIL (sandy SILT) / sandy silty CLAY / XW Sandstone
TP20	0.1	0.9	TOPSOIL (sandy SILT) / sandy silty CLAY / XW Sandstone
TB21	0.2	NE	TOPSOIL (sandy SILT) / sandy silty CLAY
TP22	0.1	0.9	TOPSOIL (sandy SILT) / sandy silty 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 with the exception of the following:

- Elevated zinc concentrations recorded in excess of the ecological based criteria at TP12_0.2 (390 mg/kg)

7.3.2 Asbestos

Asbestos was not detected in the one material sample (ACM01_ID) collected.

ACM (as 15% asbestos in ACM >7mm) was not reported in excess of the ASN NEPM HSL A w/w% criteria in any asbestos in soil sample collected.

Respirable (free) fibres were not reported in any asbestos sample collected

7.3.3 Acid Sulfate Soil

- pH_F results were recorded all greater than the adopted criteria.
- pH_{FOX} results were recorded all greater than the adopted criteria with exception of ASS12, ASS16 and ASS18.

- Results for chromium reducible sulfur suite analysis were below the adopted action criteria, should greater than 1,000 tonnes of soil be disturbed with the exception of elevated Titratable Actual Acidity (TAA) in samples ASS01, ASS05, ASS06, ASS07, ASS08, ASS09, ASS12, ASS16, ASS18 and ASS19.

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 PAH/OCP/PCB/Heavy Metals

PAH/OCP/PCB and heavy metal concentrations were reported below the adopted ISQG low level screening value criteria in all samples.

7.4.2 Microbiological

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

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

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.

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.

- Are there any unacceptable risks to likely future onsite receptors from impacted soils during development?
- Are there any aesthetic concerns in fill soils present at the site?
- Is there sufficient information to provide an assessment of any soil contamination that may be present at the Site, associated with the historical land use?
- Is a DSI required?

8.1 Potential Risk to Future Onsite Receptors?

8.1.1 Health-based Criteria Exceedances

Results of the soil analytical testing were recorded either below the adopted health-based assessment criteria or the LOR.

8.1.2 Ecological-based Criteria Exceedances

All results of the soil analytical testing were recorded either below the adopted ecological assessment criteria or the LOR, except for the following:

Zinc in Soil

An elevated zinc concentration was reported in excess of the adopted ecological-based criteria for residential land use in sample TP12_0.2. The sample was collected from the fill horizon comprising of sandy SILT. Anthropogenic material including corrugated iron roofing sheets and steel were observed in the fill horizon.

The data set of all zinc concentrations, from 0.0 m BGL to 0.2 m BGL was subsequently inputted into the statistical package ProUCL 5.0 to derive 95% UCL_{mean} concentrations with the following results:

- The 95% UCL_{mean} zinc concentrations was calculated at 154.8 mg/kg, which is below the adopted ecological-based criteria of 310 mg/kg;
- The elevated zinc concentration was less than 250% of the adopted criteria and therefore is not considered a hot spot; and
- the standard deviation (100 mg/kg) was less than 50% of the adopted criteria.

Based upon the 95% UCL_{mean} results, the zinc concentration is unlikely to present an unacceptable risk to ecological health. The ProUCL calculation outputs are provided as **Appendix F**.

Additionally, analysis of the deeper soil sample (0.5 m BGL) report zinc concretions below the adopted ecological criteria.

Acid Sulfate Soils

Analytical testing of soil for ASS was undertaken in the northern portion where Class 3 ASS were located on the ASS Risk Maps. Elevated TAA concentrations for the chromium reducible sulfur suite analysis were reported in excess of the adopted action criteria for fine soils, should more than 1,000 tonnes of soil be disturbed.

Based upon a review of the ASS analytical constituents the following was identified:

- All soil sample results reported concentrations of chromium reducible sulfur less than the laboratory limit of reporting indicating a low risk of potential ASS (PASS) being present at the Site.
- HCl extractable sulfur was reported >LOR in samples collected from sandy silty clay and topsoil consisting of sandy silt with some clay. The difference in KCl and HCl extractable sulfur is evidence of the potential for retained acidity to be present within these soils.
- Based upon the presence of retained acidity in the There is the potential that the TAA may be representative of a highly weathered ASS.
- However, there is no correlation between the TAA and the sulfur present indicating that the elevated TAA concentrations may also be representative of naturally acidic soil.

A summary of the additional assessment of the ASS results is provided in **Table 13**

Table 13 – Summary of Additional Assessment of ASS Results					
Sample ID	Soil Description	Depth encountered (m BGL)	Located within which Class of ASS	HCL Extractable Sulfur above LOR	Conclusion
ASS01	TOPSOIL (sandy silt with some clay)	0-0.2	Class 5	Yes	Likely to be associated with acidic soils and not representative of acid sulfate soils.
ASS05	sandy silty CLAY	0.1-1.0	Class 5	Yes	May be representative of a highly weathered ASS.
ASS06	sandy CLAY	1-1.2	Class 5	No	Likely to be associated with acidic soils and not representative of acid sulfate soils.
ASS07	TOPSOIL (sandy SILT)	0-0.1	Class 5	Yes	Likely to be associated with acidic soils and not representative of acid sulfate soils.
ASS08	sandy silty CLAY	0.1-0.8	Class 5	Yes	May be representative of a highly weathered ASS.
ASS09	sandy silty CLAY	0.9-1.6	Class 3	Yes	May be representative of a highly weathered ASS.
ASS12	TOPSOIL (sandy SILT)	0-0.2	Class 3	No	Likely to be associated with acidic soils and not representative of acid sulfate soils.
ASS16	TOPSOIL (sandy SILT)	0-0.1	Class 5	No	Likely to be associated with acidic soils and not representative of acid sulfate soils.
ASS18	TOPSOIL (sandy SILT)	0-0.1	Class 5	No	Likely to be associated with acidic soils and not representative of acid sulfate soils.
ASS19	sandy CLAY	0.5-0.9	Class 5	No	Likely to be associated with acidic soils and not representative of acid sulfate soils.

Based on the results of the additional assessment of the ASS results presented above, it is considered that there is some uncertainty regarding the source of acidity in the sandy silty CLAY soil profile located in the lower slopes of the north western portion of the Site. Given that the presence of retained acidity was identified the sandy silty clay these soils may be representative of a highly weathered ASS. The area considered to be impacted is northern portion of the Site. As a result, an ASS management plan will be required if this soil profile is to be disturbed during the proposed redevelopment of the Site.

8.2 Aesthetics

Several fill mounds comprising of anthropogenic material were observed across the Site. The anthropogenic material comprised of concrete, brick, wood, steel and metal. The two largest areas, TP09 and TP12, covered an area of approximately 80 m² and 120 m² respectively. There was no visual or olfactory evidence of hydrocarbon or other contamination. The location of the fill mounds are shown in **Figure 2**.

8.3 Is a DSI required?

The site history review and soil sampling program identified a low risk of contamination in soil at the Site. Therefore, a DSI is not required subject to implementation of the recommendations in this report.

8.4 Sufficient Information

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.

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 to be undertaken at the Site is:

- Burial of anthropogenic waste.

9.2 Affected Media

The potential affected media at the Site are considered to be soil.

9.3 Human and Ecological Receptors

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

- Future residents at the Site (ASC NEPM 2013 HIL A and HSL A – residential).
- Future construction and sub-surface maintenance workers at the Site (ASC NEPM 2013 HIL D and HSL D – commercial/industrial; CRC CARE 2011 Direct contact and intrusive maintenance workers HSLs and Vapour Intrusion HSLs for Intrusive Maintenance Workers (Shallow Trench)).
- Residents of surrounding residential properties to the east of the Site (ASC NEPM 2013 HIL A and HSL A – residential).
- Terrestrial fauna and flora at the Site and on adjoining land (ASC NEPM EIL and ESLs).
- Ecosystems dependent upon surface water bodies at the Site (ASC NEPM 2013 GILs).

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 14**.

Table 14 – Source-Pathway-Receptor Linkages

Sources				Pathways	Receptors	Linkages	Comments
Primary	Secondary	Contaminants	Affected Media	Exposure Pathways			
Burial of anthropogenic waste	Concentrations of heavy metals in soil	zinc	Soil	Ecological: <ul style="list-style-type: none"> Uptake by flora and fauna 	Terrestrial fauna and flora at the Site	Not complete	Results of the 95% UCL _{mean} calculations, indicated zinc is unlikely to present an unacceptable risk to ecological health.
	Presence of anthropogenic materials	Aesthetic	Soil	Visual amenity	Future residents	Potentially complete	-
Highly weathered ASS	Concentrations of TAA and retained acidity in sandy silty CLAY	TAA and extractable HCL sulfur	Soil and water	<ul style="list-style-type: none"> Acidification of soil and water 	Terrestrial and aquatic fauna and flora at the Site	Potentially complete	Based on the results of the additional assessment of the ASS results presented above, it is considered that the sandy silty CLAY soil profile located in the lower slopes of the north western portion of the Site may be representative of a highly weathered ASS.

10 Conclusion

This report presents the findings of a PSI undertaken at the Site, located at 173 McFarlanes Road, Chisholm, NSW. The Site is currently zoned as RU1 General Residential and RU2 Rural Landscape and it is understood that the Site is proposed for redevelopment into a low-density residential development. The Site is legally identified as Lot 32 in DP 778111 and is approximately 20 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 has been used for rural lifestyle living since sometime between 1984 and 1993. Prior to this time the Site comprised of native eucalypt bushland. No major potentially contaminating activities were identified from the historical land ownership review. A search of the Universal Business Directory (UBD) (Lotsearch 2020), spanning circa 1950 to 1991 identified no adjacent commercial uses during this period.

Fieldwork investigations for the PSI comprised the collection of soil samples from 22 grid and/or targeted based locations across the Site and the collection of three surface water and sediment samples from three dams located at the Site. Several fill mounds comprising of anthropogenic material were observed across the Site. The anthropogenic material comprised of concrete, brick, wood, steel and metal. The two largest areas (TP09 and TP12) covered an area of approximately 80 m² and 120 m² respectively. There was no visual or olfactory evidence of hydrocarbon or other contamination.

Results of analytical testing reported concentration of the COPC below laboratory LOR or adopted health and/or ecological based criteria with the exception of one elevated zinc concentration in soil in excess of the adopted ecological criteria. The sample was collected from the fill horizon comprising of sandy SILT. Anthropogenic material including corrugated iron roofing sheets and steel were observed in the fill horizon. The data set of all zinc concentrations, from 0.0 m BGL to 0.2 m BGL was subsequently inputted into the statistical package ProUCL 5.0 to derive 95% UCL_{mean} concentrations. The 95% UCL_{mean} zinc concentrations was calculated at 154.8 mg/kg, which is below the adopted ecological-based criteria of 310 mg/kg, indicating that the zinc concentration is unlikely to present an unacceptable risk to ecological health. Additionally, analysis of the deeper soil sample (0.5 m BGL) report zinc concretions below the adopted ecological criteria.

Elevated TAA concentrations for the chromium reducible sulfur suite analysis were reported in excess of the adopted action criteria for fine soils, should more than 1,000 tonnes of soil be disturbed. Based on the results of the additional assessment of the ASS results presented above, it is considered that the sandy silty CLAY soil profile located in the lower slopes of the north western portion of the Site may be representative of a highly weathered ASS. As a result, an ASS management plan will be required if this soil profile is to be disturbed during the proposed redevelopment of 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 future use of the site as a general residential land use, subject to completion of the recommended works in **Section 11**.

11 Recommendations

In order to address minor issues at the Site, EP Risk recommends that the following works are undertaken:

- 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 sandy silty CLAY horizon in the lower slopes of the northern portion of the Site.
- Preparation of an ASS management plan if the sandy silty CLAY soil profile is to be disturbed during the proposed redevelopment of the Site.
- An unexpected finds protocol should be implemented during redevelopment to address any unidentified contamination that may be identified during the proposed redevelopment works.

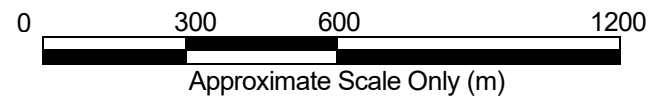
Figures



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Preliminary Site Investigation
173 McFarlanes Road, Chisholm, NSW

Job No: EP1655.001
 Date: 31/05/2020
 Drawing Ref: EP1655.001 Fig1_Site Location
 Version No: v1



Co-ordinate system: MGA 56
 Drawn by: SL Checked by: PS
 Scale of regional map not shown
 Source: Google Maps



Figure 1 – Site Location



Legend

- Approximate Site boundary
- Fill mound with anthropogenic waste
- Natural watercourse/gully



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Preliminary Site Investigation
173 McFarlanes Road, Chisholm, NSW

Job No: RP1655.001
Date: 1/06/2020
Drawing Ref: Fig2
Version No: v1

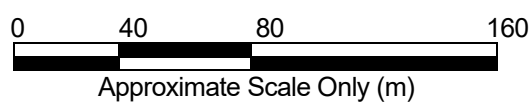


Figure 2 – Site Features and Areas of Environmental Concern

Co-ordinate system: MGA 56
Drawn by: SL Checked by: PS
Scale of regional map not shown
Source: Google Maps



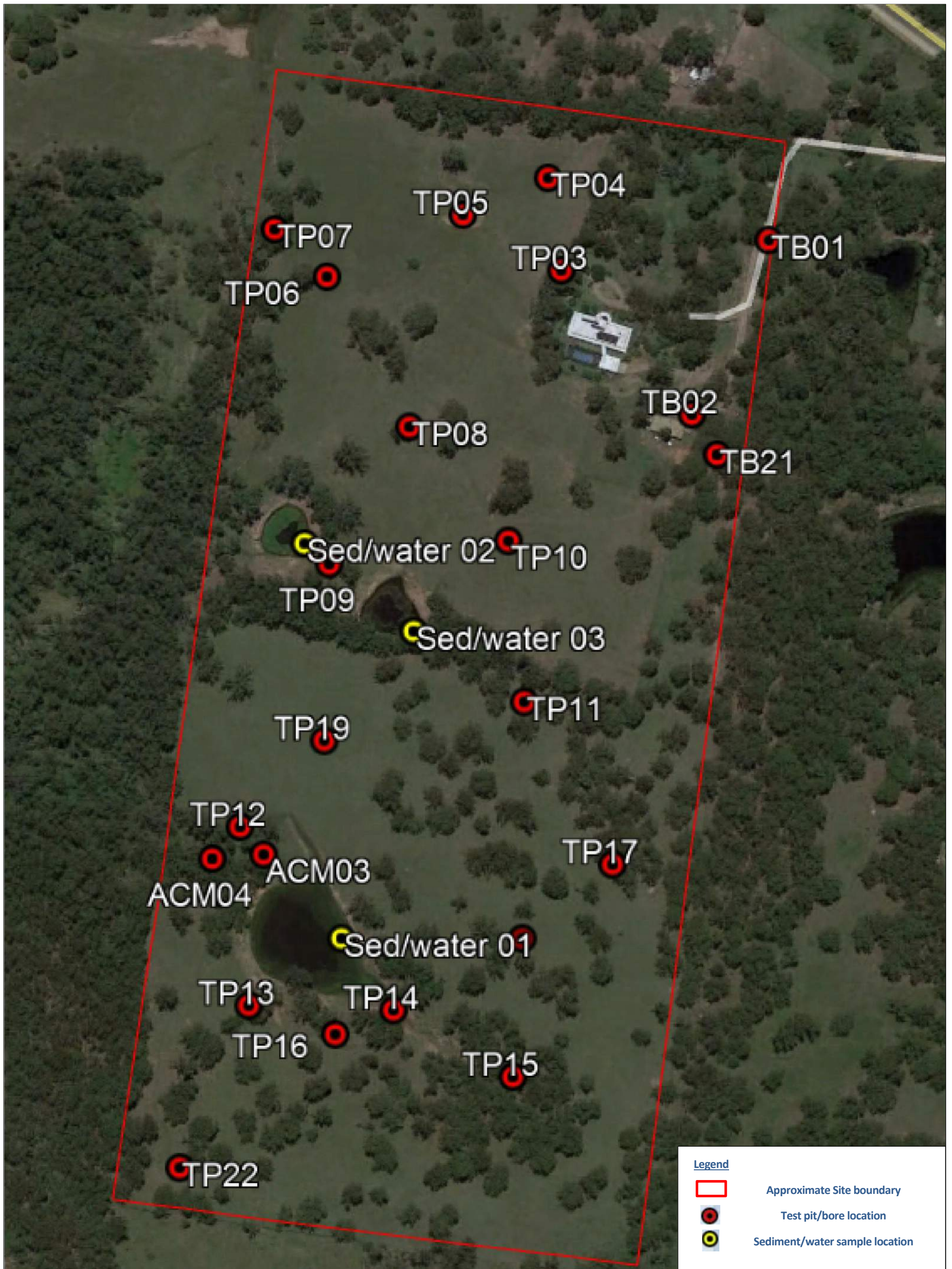
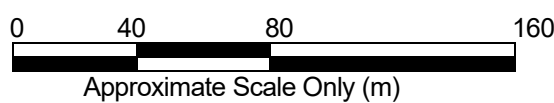


Figure 3 – Sampling Locations



Preliminary Site Investigation
173 McFarlanes Road, Chisholm, NSW

Job No: RP1655.001
Date: 1/06/2020
Drawing Ref: Fig2
Version No: v1



Co-ordinate system: MGA 56
Drawn by: SL Checked by: PS
Scale of regional map not shown
Source: Google Maps



Analytical Tables

Test pit ID	TP03			TP04			TP05		TP06				
Sample ID	ASS01	ASS02	ASS03	ASS04	ASS05	ASS06	ASS07	ASS08	ASS09	ASS10	ASS11		
Sample date	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020		
Depth (m BGL)	0.1	0.5	1.2	0.1	0.5	1	0.1	0.5	1	1.5	2		
Sample description	sandy SILT	sandy silty CLAY	sandy silty CLAY	TOPSOIL	sandy silty CLAY	sandy CLAY	TOPSOIL	sandy silty CLAY	sandy silty CLAY	sandy silty CLAY	sandy silty CLAY		
Analyte Group	NSW ASS Manual 1998												
Acid Sulfate Soils Field pH Test	pH-F (Field pH test)*	<4	5.3	5.2	5.4	6.5	5.6	5.8	6.1	5.7	5.6	4.7	4.5
	pH-FOX (Field pH Peroxide test)*	<3.5	3.8	4.3	4.4	3.5	4.5	4	3.7	4.3	4.1	4.1	3.9
	Reaction Ratings*		2	2	2	3	2	1	2	2	2	1	1

* Non NATA

Test pit ID		TP07				TP08		TP10		
Sample ID		ASS12	ASS13	ASS14	ASS15	ASS16	ASS17	ASS18	ASS19	
Sample date		8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	
Depth (m BGL)		0.1	0.5	1	2	0.1	0.5	0.05	0.5	
Sample description		TOPSOIL	sandy silty CLAY	sandy silty CLAY	sandy silty CLAY	TOPSOIL	sandy silty CLAY	TOPSOIL	sandy CLAY	
Analyte Group	Analyte	NSW ASS Manual 1998								
Acid Sulfate Soils Field pH Test	pH-F (Field pH test)*	<4	5.9	4.7	4.7	4.7	5.8	5.1	5.9	5.5
	pH-FOX (Field pH Peroxide test)*	<3.5	3.1	4.2	4	4	2.7	4.5	2.7	3.9
	Reaction Ratings*		3	2	1	1	3	2	3	2

* Non NATA

Test pit ID:			TP03	TP04		TP05		TP06	TP07	TP08	TP10		
Sample ID:			ASS01	ASS04	ASS05	ASS06	ASS07	ASS08	ASS09	ASS12	ASS16	ASS18	ASS19
Sample date:			8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020
Depth (m BGL):			0.1	0.1	0.5	1	0.1	0.5	1	0.1	0.1	0.05	0.5
Soil Description:			TOPSOIL	TOPSOIL	sandy silty CLAY	sandy CLAY	TOPSOIL	sandy silty CLAY	sandy silty CLAY	TOPSOIL	TOPSOIL	TOPSOIL	sandy CLAY
Verification Action Criteria NSW ASS Manual 1998 Fine Texture >1000 tonnes Disturbed													
Analyte grouping	Analyte	Units											
Extraneous Material	<2mm Fraction	g	41	39	41	39	32	28	29	41	15	51	43
	>2mm Fraction	g	< 0.005	4.1	< 0.005	< 0.005	3.9	< 0.005	6.3	< 0.005	< 0.005	0.57	< 0.005
	Analysed Material	%	100	91	100	100	89	100	82	100	100	99	100
	Extraneous Material	%	< 0.1	9.5	< 0.1	< 0.1	11	< 0.1	18	< 0.1	< 0.1	1.1	< 0.1
Actual Acidity	pH KCl (23A)	pH Unit	4.2	5.5	4	4.3	4.3	4	4.3	4.5	4.5	4.4	4
	Titratable Actual Acidity (23F)	mole H+ / t	18	70	13	100	51	69	100	97	48	60	64
	sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.11	0.02	0.16	0.081	0.11	0.16	0.16	0.078	0.096	0.1	0.19
Potential Acidity	Chromium Reducible Sulfur (22B)	% S	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	acidity - Chromium Reducible Sulfur (a-22B)	mole H+ / t	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Acid Neutralising Capacity	Acid Neutralising Capacity (19A2)	% CaCO3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	acidity - Acid Neutralising Capacity (a-19A2)	mole H+ / t	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	sulfidic - Acid Neutralising Capacity (s-19A2)	% pyrite S	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Retained Acidity	Net Acid Soluble Sulfur (20Ie)	% S	0.04	n/a	0.03	< 0.02	< 0.02	0.03	0.03	n/a	n/a	< 0.02	< 0.02
	acidity - Net Acid Soluble Sulfur (a-20I)	mole H+ / t	17	n/a	12	< 10	< 10	14	12	n/a	n/a	< 10	< 10
	sulfidic - Net Acid Soluble Sulfur (s-20I)	% pyrite S	0.03	n/a	< 0.02	< 0.02	< 0.02	0.02	< 0.02	n/a	n/a	< 0.02	< 0.02
	KCl Extractable Sulfur (23Ce)	% S	< 0.02	n/a	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	n/a	n/a	< 0.02	< 0.02
	HCl Extractable Sulfur (20Be)	% S	0.05	n/a	0.04	< 0.02	0.02	0.05	0.04	n/a	n/a	< 0.02	< 0.02
Acid Base Accounting	ANC Fineness Factor	-	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	Net Acidity (sulfur units)	% S	0.14	0.02	0.16	0.08	0.11	0.18	0.16	0.08	0.1	0.1	0.19
	Net Acidity (acidity units)	mole H+ / t	87	13	110	54	76	110	110	48	60	66	120
	Liming Rate	kg CaCO3/t	6.5	< 1	8.5	4	5.7	8.5	8.2	3.6	4.5	5	9.1

			Sample ID	ACM01	ACM02	ACM03	ACM04
			Date	8/05/2020	8/05/2020	8/05/2020	8/05/2020
			NEPM 2013 HSLs Residential A				
Analyte grouping	Analyte	Units	Presence	ACM01_ID	-	-	-
Bonded Asbestos in Soil Concentration by Gravimetric Approach	Material Sample ID	-		One piece of fibre cement fragment 80 x 30 x 5 mm	-	-	-
	Asbestos Detected in Material Sample	g/kg	No	-	-	-	-
	Asbestos Type	-	-	-	-	-	-
	Sample weight (dry)	g	-	-	-	-	-
	Minimum 10 L sample weight	kg	18	18	18	18	
	Soil Description	-	sandy SILT	sandy SILT	sandy SILT	sandy SILT	
	Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	% (w/w)	0.01	<0.01	<0.01	<0.1	<0.1
	Asbestos Quantification (non-NATA)	AF - Comment	Comment	ND	ND	ND	ND
	Asbestos from AF + FA in soil	w/w%	0.001	<0.001	<0.001	<0.001	<0.001

		Sample ID	SED_01	SED_02	SED_03	
		Sample date	8/05/2020	8/05/2020	8/05/2020	
Analyte Group	Analyte	ISQC - Low	ISQC - High			
Heavy Metals (1M HCl Extract)	Arsenic (1M HCl extract)	20	70	< 2	< 2	< 2
	Cadmium (1M HCl extract)	1.5	10	< 0.4	< 0.4	< 0.4
	Chromium (1M HCl extract)	80	370	< 5	< 5	< 5
	Copper (1M HCl extract)	65	270	< 5	< 5	< 5
	Lead (1M HCl extract)	50	220	6	13	< 5
	Mercury (1M HCl extract)*	0.15	1	< 0.1	< 0.1	< 0.1
	Nickel (1M HCl extract)	21	52	< 5	< 5	< 5
	Zinc (1M HCl extract)	200	410	< 5	28	< 5
Organochlorine Pesticides (Trace level)	4,4'-DDD	2		< 0.005	< 0.005	< 0.005
	4,4'-DDE	2.2	27	< 0.005	< 0.005	< 0.005
	4,4'-DDT	1.6	46	< 0.005	< 0.005	< 0.005
	a-BHC			< 0.005	< 0.005	< 0.005
	Aldrin			< 0.005	< 0.005	< 0.005
	Aldrin and Dieldrin (Total)*			< 0.005	< 0.005	< 0.005
	b-BHC			< 0.005	< 0.005	< 0.005
	Chlordanes - Total	0.5	6	< 0.01	< 0.01	< 0.01
	d-BHC			< 0.005	< 0.005	< 0.005
	DDT + DDE + DDD (Total)*			< 0.005	< 0.005	< 0.005
	Dieldrin	280	270	< 0.005	< 0.005	< 0.005
	Endosulfan I			< 0.005	< 0.005	< 0.005
	Endosulfan II			< 0.005	< 0.005	< 0.005
	Endosulfan sulphate			< 0.005	< 0.005	< 0.005
	Endrin	10	120	< 0.005	< 0.005	< 0.005
	Endrin aldehyde			< 0.005	< 0.005	< 0.005
	Endrin ketone			< 0.005	< 0.005	< 0.005
	g-BHC (Lindane)			< 0.005	< 0.005	< 0.005
	Heptachlor			< 0.005	< 0.005	< 0.005
	Heptachlor epoxide			< 0.005	< 0.005	< 0.005
	Hexachlorobenzene			< 0.005	< 0.005	< 0.005
	Methoxychlor			< 0.005	< 0.005	< 0.005
	Toxaphene			< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 OCP (Total)*			< 0.01	< 0.01	< 0.01	
Vic EPA IWRG 621 Other OCP (Total)*			< 0.01	< 0.01	< 0.01	
Polychlorinated Biphenyls	Aroclor-1016			< 0.1	< 0.1	< 0.1
	Aroclor-1221			< 0.1	< 0.1	< 0.1
	Aroclor-1232			< 0.1	< 0.1	< 0.1
	Aroclor-1242			< 0.1	< 0.1	< 0.1
	Aroclor-1248			< 0.1	< 0.1	< 0.1
	Aroclor-1254			< 0.1	< 0.1	< 0.1
	Aroclor-1260			< 0.1	< 0.1	< 0.1
	Total PCB*	23		< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)	Acenaphthene			< 0.005	< 0.005	< 0.005
	Acenaphthylene			< 0.005	< 0.005	< 0.005
	Anthracene			< 0.005	< 0.005	< 0.005
	Benz(a)anthracene			< 0.005	< 0.005	< 0.005
	Benzo(a)pyrene			< 0.005	< 0.005	< 0.005
	Benzo(b&j)fluoranthene			< 0.005	< 0.005	< 0.005
	Benzo(g,h,i)perylene			< 0.005	< 0.005	< 0.005
	Benzo(k)fluoranthene			< 0.005	< 0.005	< 0.005
	Chrysene			< 0.005	< 0.005	< 0.005
	Dibenz(a,h)anthracene			< 0.005	< 0.005	< 0.005
	Fluoranthene			< 0.005	< 0.005	< 0.005
	Fluorene			< 0.005	< 0.005	< 0.005
	Indeno(1,2,3-cd)pyrene			< 0.005	< 0.005	< 0.005
	Naphthalene			< 0.005	< 0.005	< 0.005
	Phenanthrene			< 0.005	< 0.005	< 0.005
	Pyrene			< 0.005	< 0.005	< 0.005
	Total PAH*	10000	50 000	< 0.005	< 0.005	< 0.005

Sample ID	SED_01	SED_02	SED_03	TP04_MICRO	TP10_MICRO	TP18_MICRO	TP19_MICRO	TP20_MICRO		
Sample date	1/05/2020	1/05/2020	1/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020		
Sample depth (m BGL)	0.05	0.05	0.05							
	NSW EPA 2000 Grade A									
Analyte Group	Analyte									
Pathogens	E.coli	<100	< 10	20	< 10	< 10	< 10	41	< 10	< 10
	Thermotolerant Coliforms	<1000	< 10	63	< 10	20	< 10	160	< 10	31

		Sample ID	depth (m BGL)	TB01 0.1	TB02 0.1	TP03 0.1	TP04 0.1	TP04 0.5	TP05 0.1	TP06 0.1	
		Sample date		8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	
Analyte Group	Analyte	NEPM 2013 Hills Residential A Soil	NEPM 2013 EILs Res/Parkland/Open Space	All results in mg/kg							
Heavy Metals	Arsenic	100	100	14	12	12	14	13	11	5.8	
	Cadmium	20		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	
	Chromium	100		25	19	30	26	25	16		
	Copper	6000	35	8.2	9.5	6	9.4	5.5	5	8.1	
	Lead	300	1100	17	18	15	27	16	15	21	
	Mercury	40		< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	
	Nickel	400	30	< 5	< 5	< 5	6.3	< 5	< 5	27	
	Zinc	7400	310	20	30	15	51	8.4	14	37	
	Organochlorine Pesticides	4,4'-DDD			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
		4,4'-DDE			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT			180	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
β-BHC				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Aldrin		6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Aldrin and Dieldrin (Total)*		6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
γ-BHC				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Chlordanes - Total		50		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
δ-BHC				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
DDT + DDE + DDD (Total)*		240		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Dieldrin				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endosulfan I				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endosulfan II				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endosulfan sulphate		270		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endrin		10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endrin aldehyde				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endrin ketone				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
γ-BHC (Lindane)				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Heptachlor				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Heptachlor epoxide				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Hexachlorobenzene		10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Methoxychlor		300		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Toxaphene				< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Vic EPA IWRG 621 OCP (Total)*			< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
Vic EPA IWRG 621 Other OCP (Total)*			< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
Polychlorinated Biphenyls	Aroclor-1016			-	-	< 0.1	-	< 0.1	-	-	
	Aroclor-1221			-	-	< 0.1	-	< 0.1	-	-	
	Aroclor-1232			-	-	< 0.1	-	< 0.1	-	-	
	Aroclor-1242			-	-	< 0.1	-	< 0.1	-	-	
	Aroclor-1248			-	-	< 0.1	-	< 0.1	-	-	
	Aroclor-1254			-	-	< 0.1	-	< 0.1	-	-	
	Aroclor-1260			-	-	< 0.1	-	< 0.1	-	-	
	Total PCB*	1		-	-	< 0.1	-	< 0.1	-	-	

		Sample ID	depth (m BGL)	TP06 1.0	TP07 0.1	TP08 0.1	TP09 0.5	TP09 1.5	TP10 0.05	TP11 0.1	TP12 0.2	TP12 0.5	TP13 0.2	
		Sample date		8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	
Analyte Group	Analyte	NEPM 2013 HILS Residential A Soil	NEPM 2013 EILs Resi/Parkland/Open Space	All results in mg/kg										
Heavy Metals	Arsenic	100	100	9.3	3.6	4.5	21	14	9.4	6.8	7.3	6.3	11	
	Cadmium	20		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	
	Chromium	100		30	14	12	30	25	18	16	18	23	21	
	Copper	6000	35	< 5	< 5	< 5	8.7	12	< 5	< 5	9.9	7.9	6.2	
	Lead	300	1100	17	9.4	14	21	21	14	12	18	15	22	
	Mercury	40		-	-	-	< 0.1	-	-	-	< 0.1	-	< 0.1	
	Nickel	400	30	7.8	6.1	< 5	5	< 5	< 5	< 5	21	10	5.9	
	Zinc	7400	310	24	13	15	260	26	10	14	390	28	24	
	Organochlorine Pesticides	4,4'-DDD			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
		4,4'-DDE			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT			180	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
α-BHC				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Aldrin		6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Aldrin and Dieldrin (Total)*		6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
β-BHC				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Chlordanes - Total		50		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
δ-BHC				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
DDT + DDE + DDD (Total)*		240		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Dieldrin				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endosulfan I				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endosulfan II				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endosulfan sulphate		270		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endrin		10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endrin aldehyde				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endrin ketone				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
γ-BHC (Lindane)				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Heptachlor				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Heptachlor epoxide				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Hexachlorobenzene	10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Methoxychlor	300		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Toxaphene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1		
Vic EPA IWRG 621 OCP (Total)*			< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
Vic EPA IWRG 621 Other OCP (Total)*			< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
Polychlorinated Biphenyls	Aroclor-1016			< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	-	
	Aroclor-1221			< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	-	
	Aroclor-1232			< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	-	
	Aroclor-1242			< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	-	
	Aroclor-1248			< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	-	
	Aroclor-1254			< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	-	
	Aroclor-1260			< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	-	
	Total PCB*	1		< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	-	

		Sample ID	depth (m BGL)	TP14 0.2	TP14 0.6	TP15 0.2	TP16 0.1	TP16 0.5	TP17 0.1	TP18 0.1	TP19 0.1	TP20 0.1	TB21 0.05	
		Sample date		8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	8/05/2020	
Analyte Group	Analyte	NEPM 2013 HILLS Residential A Soil	NEPM 2013 EILs Resi/Parkland/Open Space	All results in mg/kg										
Heavy Metals	Arsenic	100	100	6.2	11	12	4.7	8.4	26	11	4.8	7.2	12	
	Cadmium	20		< 0.4	< 0.4	< 0.4	0.9	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	
	Chromium	100		17	28	15	13	22	36	26	15	11	23	
	Copper	6000	35	< 5	6.2	8.1	11	< 5	5.1	6.5	5.7	6	7.9	
	Lead	300	1100	23	21	25	25	18	24	8.8	12	13	19	
	Mercury	40		< 0.1	-	< 0.1	< 0.1	-	-	-	-	-	< 0.1	
	Nickel	400	30	5.4	< 5	6.8	9.1	< 5	< 5	< 5	< 5	< 5	5.9	
	Zinc	7400	310	42	19	41	300	10	18	32	22	19	36	
	Organochlorine Pesticides	4,4'-DDD			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
		4,4'-DDE			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT			180	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
α-BHC				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Aldrin		6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Aldrin and Dieldrin (Total)*		6		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
β-BHC				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Chlordanes - Total		50		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
δ-BHC				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
DDT + DDE + DDD (Total)*		240		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Dieldrin				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endosulfan I				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endosulfan II				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endosulfan sulphate		270		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endrin		10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endrin aldehyde				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Endrin ketone				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
γ-BHC (Lindane)				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Heptachlor				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Heptachlor epoxide				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Hexachlorobenzene		10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Methoxychlor		300		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Toxaphene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1		
Vic EPA IWRG 621 OCP (Total)*			< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
Vic EPA IWRG 621 Other OCP (Total)*			< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
Polychlorinated Biphenyls	Aroclor-1016			-	< 0.1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	
	Aroclor-1221			-	< 0.1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	
	Aroclor-1232			-	< 0.1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	
	Aroclor-1242			-	< 0.1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	
	Aroclor-1248			-	< 0.1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	
	Aroclor-1254			-	< 0.1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	
	Aroclor-1260			-	< 0.1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	
	Total PCB*	1		-	< 0.1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	

		NEPM 2013 HIL Residential A		NEPM 2013 Residential A Soil HSL for Vapour Intrusion	NEPM 2013 ESIs for Residential, Fine Soil	NEPM 2013 EILs Resi/Parkland/Open Space	CRC Care (2011) HSL A Direct Contact	CRC Care (2011) Intrusive Maintenance Worker	NEPM 2013 Management Limits Residential, Fine Soil	All results in mg/kg		
Analyte Group	Analyte	0-1m	0-1m	0-2m						TB01_0.1	TB02_0.1	TP04_0.1
		Silt	Clay							8/05/2020	8/05/2020	8/05/2020
										FILL: silty sandy CLAY sandy SILT sandy SILT		
BTEX	Benzene	0.6	0.7	65			100	1,100		< 0.1	< 0.1	< 0.1
	Ethylbenzene	NL	NL	125			4,500	85,000		< 0.1	< 0.1	< 0.1
	m&p-Xylenes									< 0.2	< 0.2	< 0.2
	o-Xylene									< 0.1	< 0.1	< 0.1
	Toluene	390	480	105			14,000	120,000		< 0.1	< 0.1	< 0.1
	Xylenes - Total*	95	110	45			12,000	130,000		< 0.3	< 0.3	< 0.3
Polycyclic Aromatic Hydrocarbons	Acenaphthene									< 0.5	< 0.5	< 0.5
	Acenaphthylene									< 0.5	< 0.5	< 0.5
	Anthracene									< 0.5	< 0.5	< 0.5
	Benz(a)anthracene									< 0.5	< 0.5	< 0.5
	Benzo(a)pyrene									< 0.5	< 0.5	< 0.5
	Benzo(a)pyrene TEQ (lower bound) *	3		1.4						0.6	0.6	0.6
	Benzo(a)pyrene TEQ (medium bound) *									1.2	1.2	1.2
	Benzo(a)pyrene TEQ (upper bound) *									< 0.5	< 0.5	< 0.5
	Benzo(b&f)fluoranthene									< 0.5	< 0.5	< 0.5
	Benzo(g,h,i)perylene									< 0.5	< 0.5	< 0.5
	Benzo(k)fluoranthene									< 0.5	< 0.5	< 0.5
	Chrysene									< 0.5	< 0.5	< 0.5
	Dibenz(a,h)anthracene									< 0.5	< 0.5	< 0.5
	Fluoranthene									< 0.5	< 0.5	< 0.5
	Fluorene									< 0.5	< 0.5	< 0.5
	Indeno(1,2,3-cd)pyrene									< 0.5	< 0.5	< 0.5
	Naphthalene									< 0.5	< 0.5	< 0.5
	Phenanthrene									< 0.5	< 0.5	< 0.5
	Pyrene									< 0.5	< 0.5	< 0.5
	Total PAH*	300								< 0.5	< 0.5	< 0.5
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	TRH C10-C14									< 20	< 20	< 20
	TRH C10-C36 (Total)									< 50	< 50	< 50
	TRH C15-C28									< 50	< 50	< 50
	TRH C29-C36									< 50	< 50	< 50
	TRH C6-C9									< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Naphthalene	4	5				1,400	29,000		< 0.5	< 0.5	< 0.5
	TRH >C10-C16						3,300	62,000	1000	< 50	< 50	< 50
	TRH >C10-C16 less Naphthalene (F2)	230	280	120						< 50	< 50	< 50
	TRH >C10-C40 (total)*									< 100	< 100	< 100
	TRH >C16-C34			1300			4,500	85,000	3,500	< 100	< 100	< 100
	TRH >C34-C40			5600			6,300	120,000	10,000	< 100	< 100	< 100
	TRH C6-C10						4,400	82,000	800	< 20	< 20	< 20
	TRH C6-C10 less BTEX (F1)	40	50	180						< 20	< 20	< 20

		NEPM 2013 HIL Residential A		NEPM 2013 ESLS for Residential, Fine Soil	NEPM 2013 EILs Resi/Parkland/Open Space	CRC Care (2011) HSL A Direct Contact	CRC Care (2011) Intrusive Maintenance Worker	NEPM 2013 Management Limits Residential, Fine Soil	All results in mg/kg				
Analyte Group	Analyte	0-1m Silt	0-1m Clay	0-2m			0-2m	0-2m	TP05_0.1	TP06_0.1	TP09_0.5	TP12_0.2	TP13_0.2
BTEX	Benzene	0.6	0.7	65		100	1,100		<0.1	<0.1	<0.1	<0.1	<0.1
	Ethylbenzene	NL	NL	125		4,500	85,000		<0.1	<0.1	<0.1	<0.1	<0.1
	m&p-Xylenes								<0.2	<0.2	<0.2	<0.2	<0.2
	o-Xylene								<0.1	<0.1	<0.1	<0.1	<0.1
	Toluene	390	480	105		14,000	120,000		<0.1	<0.1	<0.1	<0.1	<0.1
	Xylenes - Total*	95	110	45		12,000	130,000		<0.3	<0.3	<0.3	<0.3	<0.3
									<0.5	<0.5	<0.5	<0.5	<0.5
Polycyclic Aromatic Hydrocarbons	Acenaphthene								<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene								<0.5	<0.5	<0.5	<0.5	<0.5
	Anthracene								<0.5	<0.5	<0.5	<0.5	<0.5
	Benz(a)anthracene								<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene								<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound) *	3		1.4					0.6	0.6	0.6	0.6	0.6
	Benzo(a)pyrene TEQ (medium bound) *								1.2	1.2	1.2	1.2	1.2
	Benzo(a)pyrene TEQ (upper bound) *								<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(b&j)fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(g,h,i)perylene								<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(k)fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5
	Chrysene								<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenz(a,h)anthracene								<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene								<0.5	<0.5	<0.5	<0.5	<0.5
	Indeno(1,2,3-cd)pyrene								<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene								<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene								<0.5	<0.5	<0.5	<0.5	<0.5
	Pyrene								<0.5	<0.5	<0.5	<0.5	<0.5
	Total PAH*	300							<0.5	<0.5	<0.5	<0.5	<0.5
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	TRH C10-C14								<20	<20	<20	<20	<20
	TRH C10-C36 (Total)								129	<50	<50	<50	<50
	TRH C15-C28								75	<50	<50	<50	<50
	TRH C29-C36								54	<50	<50	<50	<50
	TRH C6-C9								<20	<20	<20	<20	<20
									<0.5	<0.5	<0.5	<0.5	<0.5
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Naphthalene	4	5			1,400	29,000		<0.5	<0.5	<0.5	<0.5	<0.5
	TRH >C10-C16					3,300	62,000	1000	<50	<50	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	230	280	120					<50	<50	<50	<50	<50
	TRH >C10-C40 (total)*								<100	<100	<100	<100	<100
	TRH >C16-C34			1300		4,500	85,000	3,500	<100	<100	<100	<100	<100
	TRH >C34-C40			5600		6,300	120,000	10,000	<100	<100	<100	<100	<100
	TRH C6-C10					4,400	82,000	800	<20	<20	<20	<20	<20
	TRH C6-C10 less BTEX (F1)	40	50	180					<20	<20	<20	<20	<20
									<20	<20	<20	<20	<20

		NEPM 2013 HIL Residential A		NEPM 2013 ESLS for Residential, Fine Soil	NEPM 2013 EILs Resi/Parkland/Open Space	CRC Care (2011) HSL A Direct Contact	CRC Care (2011) Intrusive Maintenance Worker	NEPM 2013 Management Limits Residential, Fine Soil	All results in mg/kg			
Analyte Group	Analyte	0-1m Silt	0-1m Clay	0-2m			0-2m	0-2m	TP14_0.2	TP15_0.2	TP16_0.1	TB21_0.05
BTEX	Benzene	0.6	0.7	65		100	1,100		< 0.1	< 0.1	< 0.1	< 0.1
	Ethylbenzene	NL	NL	125		4,500	85,000		< 0.1	< 0.1	< 0.1	< 0.1
	m&p-Xylenes								< 0.2	< 0.2	< 0.2	< 0.2
	o-Xylene								< 0.1	< 0.1	< 0.1	< 0.1
	Toluene	390	480	105		14,000	120,000		< 0.1	< 0.1	< 0.1	< 0.1
	Xylenes - Total*	95	110	45		12,000	130,000		< 0.3	< 0.3	< 0.3	< 0.3
	Polycyclic Aromatic Hydrocarbons	Acenaphthene								< 0.5	< 0.5	< 0.5
Acenaphthylene									< 0.5	< 0.5	< 0.5	< 0.5
Anthracene									< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene									< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene									< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (lower bound) *		3		1.4					< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *									0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *									1.2	1.2	1.2	1.2
Benzo(b&j)fluoranthene									< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene									< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene									< 0.5	< 0.5	< 0.5	< 0.5
Chrysene									< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene									< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene									< 0.5	< 0.5	< 0.5	< 0.5
Fluorene									< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene									< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene									< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene									< 0.5	< 0.5	< 0.5	< 0.5
Pyrene									< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*		300							< 0.5	< 0.5	< 0.5	< 0.5
Total Recoverable Hydrocarbons - 1999 NEPM Fractions		TRH C10-C14								< 20	< 20	< 20
	TRH C10-C36 (Total)								< 50	< 50	< 50	59
	TRH C15-C28								< 50	< 50	< 50	< 50
	TRH C29-C36								< 50	< 50	< 50	59
	TRH C6-C9								< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Naphthalene	4	5			1,400	29,000		< 0.5	< 0.5	< 0.5	< 0.5
	TRH >C10-C16					3,300	62,000	1000	< 50	< 50	< 50	< 50
	TRH >C10-C16 less Naphthalene (F2)	230	280	120					< 50	< 50	< 50	< 50
	TRH >C10-C40 (total)*								< 100	< 100	< 100	< 100
	TRH >C16-C34			1300		4,500	85,000	3,500	< 100	< 100	< 100	< 100
	TRH >C34-C40			5600		6,300	120,000	10,000	< 100	< 100	< 100	< 100
	TRH C6-C10					4,400	82,000	800	< 20	< 20	< 20	< 20
	TRH C6-C10 less BTEX (F1)	40	50	180					< 20	< 20	< 20	< 20



	Sample ID_depth (m BGL)	TB	TS
	Sample date	8/05/2020	8/05/2020
Analyte Group	Analyte	All results in mg/kg	
BTEX	Benzene	< 0.1	99
	Ethylbenzene	< 0.1	110
	m&p-Xylenes	< 0.2	110
	o-Xylene	< 0.1	120
	Toluene	< 0.1	100
	Xylenes - Total*	< 0.3	110
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	TRH C6-C9	< 20	100
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Naphthalene	< 0.5	120
	TRH C6-C10	< 20	110
	TRH C6-C10 less BTEX (F1)	< 20	-

Sample ID_depth (m BGL)	RW01	
Sample date	8/05/2020	
Analyte Group	Analyte	Results in mg/L
BTEX	Benzene	< 0.001
	Ethylbenzene	< 0.001
	m&p-Xylenes	< 0.002
	o-Xylene	< 0.001
	Toluene	< 0.001
	Xylenes - Total*	< 0.003
	Heavy Metals	Arsenic
Cadmium		< 0.0002
Chromium		0.001
Copper		< 0.001
Lead		< 0.001
Mercury		< 0.0001
Nickel		< 0.001
Zinc		< 0.005
Organochlorine Pesticides		4.4'-DDD
	4.4'-DDE	< 0.0001
	4.4'-DDT	< 0.0001
	a-BHC	< 0.0001
	Aldrin	< 0.0001
	Aldrin and Dieldrin (Total)*	< 0.0001
	b-BHC	< 0.0001
	Chlordanes - Total	< 0.001
	d-BHC	< 0.0001
	DDT + DDE + DDD (Total)*	< 0.0001
	Dieldrin	< 0.0001
	Endosulfan I	< 0.0001
	Endosulfan II	< 0.0001
	Endosulfan sulphate	< 0.0001
	Endrin	< 0.0001
	Endrin aldehyde	< 0.0001
	Endrin ketone	< 0.0001
	g-BHC (Lindane)	< 0.0001
	Heptachlor	< 0.0001
	Heptachlor epoxide	< 0.0001
	Hexachlorobenzene	< 0.0001
	Methoxychlor	< 0.0001
	Toxaphene	< 0.01
	Vic EPA IWRG 621 OCP (Total)*	< 0.001
	Vic EPA IWRG 621 Other OCP (Total)*	< 0.001

	Sample ID_depth (m BGL)	RW01
	Sample date	8/05/2020
Analyte Group	Analyte	Results in mg/L
Polycyclic Aromatic Hydrocarbons	Acenaphthene	< 0.001
	Acenaphthylene	< 0.001
	Anthracene	< 0.001
	Benz(a)anthracene	< 0.001
	Benzo(a)pyrene	< 0.001
	Benzo(b&j)fluoranthene	< 0.001
	Benzo(g,h,i)perylene	< 0.001
	Benzo(k)fluoranthene	< 0.001
	Chrysene	< 0.001
	Dibenz(a,h)anthracene	< 0.001
	Fluoranthene	< 0.001
	Fluorene	< 0.001
	Indeno(1,2,3-cd)pyrene	< 0.001
	Naphthalene	< 0.001
	Phenanthrene	< 0.001
	Pyrene	< 0.001
	Total PAH*	< 0.001
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	TRH C10-C14	< 0.05
	TRH C10-C36 (Total)	< 0.1
	TRH C15-C28	< 0.1
	TRH C29-C36	< 0.1
	TRH C6-C9	< 0.02
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Naphthalene	< 0.01
	TRH >C10-C16	< 0.05
	TRH >C10-C16 less Naphthalene (F2)	< 0.05
	TRH >C10-C40 (total)*	< 0.1
	TRH >C16-C34	< 0.1
	TRH >C34-C40	< 0.1
	TRH C6-C10	< 0.02
TRH C6-C10 less BTEX (F1)	< 0.02	

Sample ID	SED_01	SQ01	RPD %	SQ02	RPD %	
Sample date	8/05/2020	8/05/2020		8/05/2020		
Analyte Group	Analyte					
Heavy Metals (1M HCl Extract)	Arsenic (1M HCl extract)	< 2	< 2	0%	< 2	0%
	Cadmium (1M HCl extract)	< 0.4	< 0.4	0%	< 0.4	0%
	Chromium (1M HCl extract)	< 5	< 5	0%	< 5	0%
	Copper (1M HCl extract)	< 5	< 5	0%	< 5	0%
	Lead (1M HCl extract)	6	< 5	18%	6.1	2%
	Mercury (1M HCl extract)*	< 0.1	< 0.1	0%	< 0.1	0%
	Nickel (1M HCl extract)	< 5	< 5	0%	< 5	0%
	Zinc (1M HCl extract)	< 5	< 5	0%	5.4	8%
Organochlorine Pesticides (Trace level)	4,4'-DDD	< 0.005	< 0.005	0%	< 0.005	0%
	4,4'-DDE	< 0.005	< 0.005	0%	< 0.005	0%
	4,4'-DDT	< 0.005	< 0.005	0%	< 0.005	0%
	a-BHC	< 0.005	< 0.005	0%	< 0.005	0%
	Aldrin	< 0.005	< 0.005	0%	< 0.005	0%
	Aldrin and Dieldrin (Total)*	< 0.005	< 0.005	0%	< 0.005	0%
	b-BHC	< 0.005	< 0.005	0%	< 0.005	0%
	Chlordanes - Total	< 0.01	< 0.01	0%	< 0.01	0%
	d-BHC	< 0.005	< 0.005	0%	< 0.005	0%
	DDT + DDE + DDD (Total)*	< 0.005	< 0.005	0%	< 0.005	0%
	Dieldrin	< 0.005	< 0.005	0%	< 0.005	0%
	Endosulfan I	< 0.005	< 0.005	0%	< 0.005	0%
	Endosulfan II	< 0.005	< 0.005	0%	< 0.005	0%
	Endosulfan sulphate	< 0.005	< 0.005	0%	< 0.005	0%
	Endrin	< 0.005	< 0.005	0%	< 0.005	0%
	Endrin aldehyde	< 0.005	< 0.005	0%	< 0.005	0%
	Endrin ketone	< 0.005	< 0.005	0%	< 0.005	0%
	g-BHC (Lindane)	< 0.005	< 0.005	0%	< 0.005	0%
	Heptachlor	< 0.005	< 0.005	0%	< 0.005	0%
	Heptachlor epoxide	< 0.005	< 0.005	0%	< 0.005	0%
	Hexachlorobenzene	< 0.005	< 0.005	0%	< 0.005	0%
	Methoxychlor	< 0.005	< 0.005	0%	< 0.005	0%
	Toxaphene	< 0.1	< 0.1	0%	< 0.1	0%
	Vic EPA IWRG 621 OCP (Total)*	< 0.01	< 0.01	0%	< 0.01	0%
Vic EPA IWRG 621 Other OCP (Total)*	< 0.01	< 0.01	0%	< 0.01	0%	
Polychlorinated Biphenyls	Aroclor-1016	< 0.1	< 0.1	0%	< 0.1	0%
	Aroclor-1221	< 0.1	< 0.1	0%	< 0.1	0%
	Aroclor-1232	< 0.1	< 0.1	0%	< 0.1	0%
	Aroclor-1242	< 0.1	< 0.1	0%	< 0.1	0%
	Aroclor-1248	< 0.1	< 0.1	0%	< 0.1	0%
	Aroclor-1254	< 0.1	< 0.1	0%	< 0.1	0%
	Aroclor-1260	< 0.1	< 0.1	0%	< 0.1	0%
	Total PCB*	< 0.1	< 0.1	0%	< 0.1	0%
Polycyclic Aromatic Hydrocarbons (Trace level)	Acenaphthene	< 0.005	< 0.005	0%	< 0.005	0%
	Acenaphthylene	< 0.005	< 0.005	0%	< 0.005	0%
	Anthracene	< 0.005	< 0.005	0%	< 0.005	0%
	Benz(a)anthracene	< 0.005	< 0.005	0%	< 0.005	0%
	Benzo(a)pyrene	< 0.005	< 0.005	0%	< 0.005	0%
	Benzo(b&j)fluoranthene	< 0.005	< 0.005	0%	< 0.005	0%
	Benzo(g,h,i)perylene	< 0.005	< 0.005	0%	< 0.005	0%
	Benzo(k)fluoranthene	< 0.005	< 0.005	0%	< 0.005	0%
	Chrysene	< 0.005	< 0.005	0%	< 0.005	0%
	Dibenz(a,h)anthracene	< 0.005	< 0.005	0%	< 0.005	0%
	Fluoranthene	< 0.005	< 0.005	0%	< 0.005	0%
	Fluorene	< 0.005	< 0.005	0%	< 0.005	0%
	Indeno(1,2,3-cd)pyrene	< 0.005	< 0.005	0%	< 0.005	0%
	Naphthalene	< 0.005	< 0.005	0%	< 0.005	0%
	Phenanthrene	< 0.005	< 0.005	0%	< 0.005	0%
	Pyrene	< 0.005	< 0.005	0%	< 0.005	0%
Total PAH*	< 0.005	< 0.005	0%	< 0.005	0%	

		Sample ID_ depth (m BGL)	TP14_ 0.2	QA01	RPD %	QA02	RPD %	
		Sample date	8/05/2020	8/05/2020		8/05/2020		
Analyte Group	Analyte	NEPM 2013 HILs Residential A Soil	NEPM 2013 EILs Resi/Parkland/Open Space	All results in mg/kg				
Heavy Metals	Arsenic	100	100	6.2	9.2	39%	9	37%
	Cadmium	20		< 0.4	< 0.4	0%	<1	0%
	Chromium	100		17	17	0%	14	19%
	Copper	6000	35	< 5	5.1	2%	8	46%
	Lead	300	1100	23	7.9	98%	14	49%
	Mercury	40		< 0.1	< 0.1	0%	<0.1	0%
	Nickel	400	30	5.4	< 5	8%	4	30%
	Zinc	7400	230	42	15	95%	26	47%
Organochlorine Pesticides	4.4'-DDD			< 0.05	< 0.05	0%	<0.05	0%
	4.4'-DDE			< 0.05	< 0.05	0%	<0.05	0%
	4.4'-DDT		180	< 0.05	< 0.05	0%	<0.2	0%
	a-BHC			< 0.05	< 0.05	0%	<0.05	0%
	Aldrin	6		< 0.05	< 0.05	0%	<0.05	0%
	Aldrin and Dieldrin (Total)*	6		< 0.05	< 0.05	0%	<0.05	0%
	b-BHC			< 0.05	< 0.05	0%	<0.05	0%
	Chlordanes - Total	50		< 0.1	< 0.1	0%	<0.05	0%
	d-BHC			< 0.05	< 0.05	0%	<0.05	0%
	DDT + DDE + DDD (Total)*	240		< 0.05	< 0.05	0%	<0.05	0%
	Dieldrin			< 0.05	< 0.05	0%	<0.05	0%
	Endosulfan I			< 0.05	< 0.05	0%	<0.05	0%
	Endosulfan II			< 0.05	< 0.05	0%	<0.05	0%
	Endosulfan sulphate	270		< 0.05	< 0.05	0%	<0.05	0%
	Endrin	10		< 0.05	< 0.05	0%	<0.05	0%
	Endrin aldehyde			< 0.05	< 0.05	0%	<0.05	0%
	Endrin ketone			< 0.05	< 0.05	0%	<0.05	0%
	g-BHC (Lindane)			< 0.05	< 0.05	0%	<0.05	0%
	Heptachlor			< 0.05	< 0.05	0%	<0.05	0%
	Heptachlor epoxide			< 0.05	< 0.05	0%	<0.05	0%
	Hexachlorobenzene	10		< 0.05	< 0.05	0%	<0.05	0%
	Methoxychlor	300		< 0.05	< 0.05	0%	<0.2	0%
	Toxaphene			< 1	< 1	0%	<0.05	0%
	Vic EPA IWRG 621 OCP (Total)*			< 0.1	< 0.1	0%	<0.05	0%
	Vic EPA IWRG 621 Other OCP (Total)*			< 0.1	< 0.1	0%	<0.05	0%

		Sample ID_depth (m BGL)	TP16_0.1	QA03	RPD %	QA04	RPD %	
		Sample date	8/05/2020	8/05/2020		8/05/2020		
Analyte Group	Analyte	NEPM 2013 HILs Residential A Soil	NEPM 2013 EILs Resi/Parkland/Open Space	All results in mg/kg				
Heavy Metals	Arsenic	100	100	4.7	8.8	61%	6	24%
	Cadmium	20		0.9	< 0.4	77%	<1	11%
	Chromium	100		13	18	32%	10	26%
	Copper	6000	35	11	23	71%	7	44%
	Lead	300	1100	25	24	4%	21	17%
	Mercury	40		< 0.1	< 0.1	0%	<0.1	0%
	Nickel	400	30	9.1	6.4	35%	6	41%
	Zinc	7400	230	300	380	24%	160	61%
Organochlorine Pesticides	4.4'-DDD			< 0.05	< 0.05	0%	<0.05	0%
	4.4'-DDE			< 0.05	< 0.05	0%	<0.05	0%
	4.4'-DDT		180	< 0.05	< 0.05	0%	<0.2	0%
	a-BHC			< 0.05	< 0.05	0%	<0.05	0%
	Aldrin	6		< 0.05	< 0.05	0%	<0.05	0%
	Aldrin and Dieldrin (Total)*	6		< 0.05	< 0.05	0%	<0.05	0%
	b-BHC			< 0.05	< 0.05	0%	<0.05	0%
	Chlordanes - Total	50		< 0.1	< 0.1	0%	<0.05	0%
	d-BHC			< 0.05	< 0.05	0%	<0.05	0%
	DDT + DDE + DDD (Total)*	240		< 0.05	< 0.05	0%	<0.05	0%
	Dieldrin			< 0.05	< 0.05	0%	<0.05	0%
	Endosulfan I			< 0.05	< 0.05	0%	<0.05	0%
	Endosulfan II			< 0.05	< 0.05	0%	<0.05	0%
	Endosulfan sulphate	270		< 0.05	< 0.05	0%	<0.05	0%
	Endrin	10		< 0.05	< 0.05	0%	<0.05	0%
	Endrin aldehyde			< 0.05	< 0.05	0%	<0.05	0%
	Endrin ketone			< 0.05	< 0.05	0%	<0.05	0%
	g-BHC (Lindane)			< 0.05	< 0.05	0%	<0.05	0%
	Heptachlor			< 0.05	< 0.05	0%	<0.05	0%
	Heptachlor epoxide			< 0.05	< 0.05	0%	<0.05	0%
	Hexachlorobenzene	10		< 0.05	< 0.05	0%	<0.05	0%
	Methoxychlor	300		< 0.05	< 0.05	0%	<0.2	0%
	Toxaphene			< 1	< 1	0%	<0.05	0%
Vic EPA IWRG 621 OCP (Total)*			< 0.1	< 0.1	0%	<0.05	0%	
Vic EPA IWRG 621 Other OCP (Total)*			< 0.1	< 0.1	0%	<0.05	0%	

	Sample ID_depth (m BGL)	TP14_0.2	QA01	RPD %	QA02	RPD %
	Sample date	8/05/2020	8/05/2020		8/05/2020	
Analyte Group	Analyte	All results in mg/kg				
BTEX	Benzene	< 0.1	< 0.1	0%	<0.2	0%
	Ethylbenzene	< 0.1	< 0.1	0%	<0.5	0%
	m&p-Xylenes	< 0.2	< 0.2	0%	<0.5	0%
	o-Xylene	< 0.1	< 0.1	0%	<0.5	0%
	Toluene	< 0.1	< 0.1	0%	<0.5	0%
	Xylenes - Total*	< 0.3	< 0.3	0%	<0.5	0%
Polycyclic Aromatic Hydrocarbons	Acenaphthene	< 0.5	< 0.5	0%	< 0.5	0%
	Acenaphthylene	< 0.5	< 0.5	0%	< 0.5	0%
	Anthracene	< 0.5	< 0.5	0%	< 0.5	0%
	Benz(a)anthracene	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(a)pyrene	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(a)pyrene TEQ (lower bound) *	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(a)pyrene TEQ (medium bound) *	0.6	0.6	0%	0.6	0%
	Benzo(a)pyrene TEQ (upper bound) *	1.2	1.2	0%	1.2	0%
	Benzo(b&j)fluoranthene	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(g,h,i)perylene	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(k)fluoranthene	< 0.5	< 0.5	0%	< 0.5	0%
	Chrysene	< 0.5	< 0.5	0%	< 0.5	0%
	Dibenz(a,h)anthracene	< 0.5	< 0.5	0%	< 0.5	0%
	Fluoranthene	< 0.5	< 0.5	0%	< 0.5	0%
	Fluorene	< 0.5	< 0.5	0%	< 0.5	0%
	Indeno(1.2.3-cd)pyrene	< 0.5	< 0.5	0%	< 0.5	0%
	Naphthalene	< 0.5	< 0.5	0%	< 0.5	0%
	Phenanthrene	< 0.5	< 0.5	0%	< 0.5	0%
Pyrene	< 0.5	< 0.5	0%	< 0.5	0%	
Total PAH*	< 0.5	< 0.5	0%	< 0.5	0%	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	TRH C10-C14	< 20	< 20	0%	<50	0%
	TRH C10-C36 (Total)	< 50	< 50	0%	<50	0%
	TRH C15-C28	< 50	< 50	0%	<100	0%
	TRH C29-C36	< 50	< 50	0%	<100	0%
	TRH C6-C9	< 20	< 20	0%	<10	0%
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Naphthalene	< 0.5	< 0.5	0%	<1	0%
	TRH >C10-C16	< 50	< 50	0%	<50	0%
	TRH >C10-C16 less Naphthalene (F2)	< 50	< 50	0%	<50	0%
	TRH >C10-C40 (total)*	< 100	< 100	0%	<50	0%
	TRH >C16-C34	< 100	< 100	0%	<100	0%
	TRH >C34-C40	< 100	< 100	0%	<100	0%
	TRH C6-C10	< 20	< 20	0%	<10	0%
	TRH C6-C10 less BTEX (F1)	< 20	< 20	0%	<10	0%

	Sample ID_depth (m BGL)	TP16_0.1	QA03	RPD %	QA04	RPD %
	Sample date	8/05/2020	8/05/2020		8/05/2020	
Analyte Group	Analyte	All results in mg/kg				
BTEX	Benzene	< 0.1	< 0.1	0%	<0.2	0%
	Ethylbenzene	< 0.1	< 0.1	0%	<0.5	0%
	m&p-Xylenes	< 0.2	< 0.2	0%	<0.5	0%
	o-Xylene	< 0.1	< 0.1	0%	<0.5	0%
	Toluene	< 0.1	< 0.1	0%	<0.5	0%
	Xylenes - Total*	< 0.3	< 0.3	0%	<0.5	0%
Polycyclic Aromatic Hydrocarbons	Acenaphthene	< 0.5	< 0.5	0%	< 0.5	0%
	Acenaphthylene	< 0.5	< 0.5	0%	< 0.5	0%
	Anthracene	< 0.5	< 0.5	0%	< 0.5	0%
	Benz(a)anthracene	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(a)pyrene	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(a)pyrene TEQ (lower bound) *	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(a)pyrene TEQ (medium bound) *	0.6	0.6	0%	0.6	0%
	Benzo(a)pyrene TEQ (upper bound) *	1.2	1.2	0%	1.2	0%
	Benzo(b&j)fluoranthene	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(g,h,i)perylene	< 0.5	< 0.5	0%	< 0.5	0%
	Benzo(k)fluoranthene	< 0.5	< 0.5	0%	< 0.5	0%
	Chrysene	< 0.5	< 0.5	0%	< 0.5	0%
	Dibenz(a,h)anthracene	< 0.5	< 0.5	0%	< 0.5	0%
	Fluoranthene	< 0.5	< 0.5	0%	< 0.5	0%
	Fluorene	< 0.5	< 0.5	0%	< 0.5	0%
	Indeno(1.2.3-cd)pyrene	< 0.5	< 0.5	0%	< 0.5	0%
	Naphthalene	< 0.5	< 0.5	0%	< 0.5	0%
	Phenanthrene	< 0.5	< 0.5	0%	< 0.5	0%
Pyrene	< 0.5	< 0.5	0%	< 0.5	0%	
Total PAH*	< 0.5	< 0.5	0%	< 0.5	0%	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	TRH C10-C14	< 20	< 20	0%	<50	0%
	TRH C10-C36 (Total)	< 50	< 50	0%	<50	0%
	TRH C15-C28	< 50	< 50	0%	<100	0%
	TRH C29-C36	< 50	< 50	0%	<100	0%
	TRH C6-C9	< 20	< 20	0%	<10	0%
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Naphthalene	< 0.5	< 0.5	0%	<1	0%
	TRH >C10-C16	< 50	< 50	0%	<50	0%
	TRH >C10-C16 less Naphthalene (F2)	< 50	< 50	0%	<50	0%
	TRH >C10-C40 (total)*	< 100	< 100	0%	<50	0%
	TRH >C16-C34	< 100	< 100	0%	<100	0%
	TRH >C34-C40	< 100	< 100	0%	<100	0%
	TRH C6-C10	< 20	< 20	0%	<10	0%
	TRH C6-C10 less BTEX (F1)	< 20	< 20	0%	<10	0%

Analyte Group	Analyte	ASC NEPM 2013 GILs, Drinking Water	ASC NEPM 2013 GILs, Fresh Waters	Sample ID	WATER_01	WATER_02	WATER_03
				Sample Date	1/05/2020	1/05/2020	1/05/2020
				All results in mg/L			
BTEX	Benzene	0.001	0.95	< 0.001	< 0.001	< 0.001	< 0.001
	Ethylbenzene	0.3		< 0.001	< 0.001	< 0.001	< 0.001
	m&p-Xylenes			< 0.002	< 0.002	< 0.002	< 0.002
	o-Xylene		0.35	< 0.001	< 0.001	< 0.001	< 0.001
	Toluene	0.8		< 0.001	< 0.001	< 0.001	< 0.001
	Xylenes - Total*	0.6		< 0.003	< 0.003	< 0.003	< 0.003
Heavy Metals	Arsenic (filtered)	0.01		< 0.001	< 0.001	< 0.001	0.002
	Cadmium (filtered)	0.002	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
	Chromium (filtered)			< 0.001	< 0.001	< 0.001	< 0.001
	Copper (filtered)	2	0.0014	< 0.001	< 0.001	< 0.001	0.015
	Lead (filtered)	0.01	0.0034	< 0.001	< 0.001	< 0.001	0.002
	Mercury (filtered)	0.001	0.00006	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Nickel (filtered)	0.02	0.011	< 0.001	< 0.001	< 0.001	0.003
	Zinc (filtered)		0.008	0.006	< 0.005	< 0.005	0.026
Organochlorine Pesticides	4,4'-DDD			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	4,4'-DDE			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	4,4'-DDT	9	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	a-BHC			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Aldrin			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Aldrin and Dieldrin (Total)*			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	b-BHC			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Chlordanes - Total	2	0.03	< 0.001	< 0.001	< 0.001	< 0.001
	d-BHC			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	DDT + DDE + DDD (Total)*			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Dieldrin			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Endosulfan I			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Endosulfan II		0.01	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Endosulfan sulphate			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Endrin			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Endrin aldehyde			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Endrin ketone			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	g-BHC (Lindane)		0.2	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Heptachlor		0.01	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Heptachlor epoxide	0.3		< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Hexachlorobenzene			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Methoxychlor			< 0.0001	< 0.0001	< 0.0001	< 0.0001
	Toxaphene			< 0.01	< 0.01	< 0.01	< 0.01
	Vic EPA IWRG 621 OCP (Total)*			< 0.001	< 0.001	< 0.001	< 0.001
Vic EPA IWRG 621 Other OCP (Total)*			< 0.001	< 0.001	< 0.001	< 0.001	
Organophosphorus Pesticides	Azinphos-methyl	30		< 0.002	< 0.002	< 0.002	< 0.002
	Bolstar			< 0.002	< 0.002	< 0.002	< 0.002
	Chlorfenvinphos	2		< 0.002	< 0.002	< 0.002	< 0.002
	Chlorpyrifos	10	0.01	< 0.02	< 0.02	< 0.02	< 0.02
	Chlorpyrifos-methyl			< 0.002	< 0.002	< 0.002	< 0.002
	Coumaphos			< 0.02	< 0.02	< 0.02	< 0.02
	Demeton-O			< 0.002	< 0.002	< 0.002	< 0.002
	Demeton-S			< 0.02	< 0.02	< 0.02	< 0.02
	Diazinon	4	0.01	< 0.002	< 0.002	< 0.002	< 0.002
	Dichlorvos	5		< 0.002	< 0.002	< 0.002	< 0.002
	Dimethoate	7	0.15	< 0.002	< 0.002	< 0.002	< 0.002
	Disulfoton			< 0.002	< 0.002	< 0.002	< 0.002
	EPN			< 0.002	< 0.002	< 0.002	< 0.002
	Ethion	4		< 0.002	< 0.002	< 0.002	< 0.002
	Ethoprop			< 0.002	< 0.002	< 0.002	< 0.002
	Ethyl parathion			< 0.002	< 0.002	< 0.002	< 0.002
	Fenitrothion	7	0.2	< 0.002	< 0.002	< 0.002	< 0.002
	Fensulfotthion			< 0.002	< 0.002	< 0.002	< 0.002
	Fenthion	7		< 0.002	< 0.002	< 0.002	< 0.002
	Malathion	70	0.05	< 0.002	< 0.002	< 0.002	< 0.002
	Merphos			< 0.002	< 0.002	< 0.002	< 0.002
	Methyl parathion			< 0.002	< 0.002	< 0.002	< 0.002
	Mevinphos	6		< 0.002	< 0.002	< 0.002	< 0.002
	Monocrotophos			< 0.002	< 0.002	< 0.002	< 0.002
	Naled			< 0.002	< 0.002	< 0.002	< 0.002
	Omethoate	1		< 0.002	< 0.002	< 0.002	< 0.002
	Phorate			< 0.002	< 0.002	< 0.002	< 0.002
	Pirimiphos-methyl	90		< 0.02	< 0.02	< 0.02	< 0.02
	Pyrazophos	20		< 0.002	< 0.002	< 0.002	< 0.002
	Ronnel			< 0.002	< 0.002	< 0.002	< 0.002
	Terbufos	0.9		< 0.002	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos			< 0.002	< 0.002	< 0.002	< 0.002	
Tokuthion			< 0.002	< 0.002	< 0.002	< 0.002	
Trichloronate			< 0.002	< 0.002	< 0.002	< 0.002	

		Sample ID	WATER_01	WATER_02	WATER_03
		Sample Date	1/05/2020	1/05/2020	1/05/2020
Analyte Group	Analyte	ASC NEPM 2013 GILs, Drinking Water	ASC NEPM 2013 GILs, Fresh Waters	All results in mg/L	
Pathogens	E.coli	0		21	24
	Thermotolerant Coliforms	0		83	150
Polycyclic Aromatic Hydrocarbons (Trace level)	Acenaphthene			< 0.00001	< 0.00001
	Acenaphthylene			< 0.00001	< 0.00001
	Anthracene			< 0.00001	< 0.00001
	Benzo(a)anthracene			< 0.00001	< 0.00001
	Benzo(a)pyrene	0.00001		< 0.00001	< 0.00001
	Benzo(b&j)fluoranthene			< 0.00001	< 0.00001
	Benzo(g,h,i)perylene			< 0.00001	< 0.00001
	Benzo(k)fluoranthene			< 0.00001	< 0.00001
	Chrysene			< 0.00001	< 0.00001
	Dibenz(a,h)anthracene			< 0.00001	< 0.00001
	Fluoranthene			< 0.00001	< 0.00001
	Fluorene			< 0.00001	< 0.00001
	Indeno(1,2,3-cd)pyrene			< 0.00001	< 0.00001
	Naphthalene		0.016	< 0.00001	< 0.00001
	Phenanthrene			< 0.00001	< 0.00001
	Pyrene			< 0.00001	< 0.00001
		Total PAH*			< 0.00001
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	TRH C10-C14			< 0.05	< 0.05
	TRH C10-C36 (Total)			< 0.1	< 0.1
	TRH C15-C28			< 0.1	< 0.1
	TRH C29-C36			< 0.1	< 0.1
	TRH C6-C9			< 0.02	< 0.02
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Naphthalene			< 0.01	< 0.01
	TRH >C10-C16			< 0.05	< 0.05
	TRH >C10-C16 less Naphthalene (F2)			< 0.05	< 0.05
	TRH >C10-C40 (total)*			< 0.1	< 0.1
	TRH >C16-C34			< 0.1	< 0.1
	TRH >C34-C40			< 0.1	< 0.1
	TRH C6-C10			< 0.02	< 0.02
	TRH C6-C10 less BTEX (F1)			< 0.02	< 0.02

Sample ID	WATER_01	QW01	RPD %	QW02	RPD %	
Sample Date	1/05/2020	1/05/2020		1/05/2020		
Analyte Group	Analyte					
BTEX	Benzene	< 0.001	< 0.001	0%	< 0.001	0%
	Ethylbenzene	< 0.001	< 0.001	0%	< 0.002	0%
	m&p-Xylenes	< 0.002	< 0.002	0%	< 0.002	0%
	o-Xylene	< 0.001	< 0.001	0%	< 0.002	0%
	Toluene	< 0.001	< 0.001	0%	< 0.002	0%
	Xylenes - Total*	< 0.003	< 0.003	0%	< 0.002	0%
Heavy Metals	Arsenic (filtered)	< 0.001	< 0.001	0%	<0.001	0%
	Cadmium (filtered)	< 0.0002	< 0.0002	0%	<0.0001	0%
	Chromium (filtered)	< 0.001	< 0.001	0%	<0.001	0%
	Copper (filtered)	< 0.001	< 0.001	0%	<0.001	0%
	Lead (filtered)	< 0.001	< 0.001	0%	<0.001	0%
	Mercury (filtered)	< 0.00001	< 0.00001	0%	<0.00001	0%
	Nickel (filtered)	< 0.001	< 0.001	0%	<0.001	0%
	Zinc (filtered)	0.006	< 0.005	0%	<0.005	0%
Organochlorine Pesticides	4,4'-DDD	< 0.0001	< 0.0001	0%	<0.0005	0%
	4,4'-DDE	< 0.0001	< 0.0001	0%	<0.0005	0%
	4,4'-DDT	< 0.0001	< 0.0001	0%	<0.002	0%
	a-BHC	< 0.0001	< 0.0001	0%	<0.0005	0%
	Aldrin	< 0.0001	< 0.0001	0%	<0.0005	0%
	Aldrin and Dieldrin (Total)*	< 0.0001	< 0.0001	0%	<0.0005	0%
	b-BHC	< 0.0001	< 0.0001	0%	<0.0005	0%
	Chlordanes - Total	< 0.001	< 0.001	0%	<0.0005	0%
	d-BHC	< 0.0001	< 0.0001	0%	<0.0005	0%
	DDT + DDE + DDD (Total)*	< 0.0001	< 0.0001	0%	<0.0005	0%
	Dieldrin	< 0.0001	< 0.0001	0%	<0.0005	0%
	Endosulfan I	< 0.0001	< 0.0001	0%	<0.0005	0%
	Endosulfan II	< 0.0001	< 0.0001	0%	<0.0005	0%
	Endosulfan sulphate	< 0.0001	< 0.0001	0%	<0.0005	0%
	Endrin	< 0.0001	< 0.0001	0%	<0.0005	0%
	Endrin aldehyde	< 0.0001	< 0.0001	0%	<0.0005	0%
	Endrin ketone	< 0.0001	< 0.0001	0%	<0.0005	0%
	g-BHC (Lindane)	< 0.0001	< 0.0001	0%	<0.0005	0%
	Heptachlor	< 0.0001	< 0.0001	0%	<0.0005	0%
	Heptachlor epoxide	< 0.0001	< 0.0001	0%	<0.0005	0%
	Hexachlorobenzene	< 0.0001	< 0.0001	0%	<0.0005	0%
	Methoxychlor	< 0.0001	< 0.0001	0%	<0.002	0%
	Toxaphene	< 0.01	< 0.01	0%	<0.0005	0%
	Vic EPA IWRG 621 OCP (Total)*	< 0.001	< 0.001	0%	<0.0005	0%
Vic EPA IWRG 621 Other OCP (Total)*	< 0.001	< 0.001	0%	<0.0005	0%	
Organophosphorus Pesticides	Azinphos-methyl	< 0.002	< 0.002	0%	<0.0005	0%
	Bolstar	< 0.002	< 0.002	0%	-	-
	Chlorfenvinphos	< 0.002	< 0.002	0%	<0.0005	0%
	Chlorpyrifos	< 0.02	< 0.02	0%	-	-
	Chlorpyrifos-methyl	< 0.002	< 0.002	0%	<0.0005	0%
	Coumaphos	< 0.02	< 0.02	0%	-	-
	Demeton-O	< 0.002	< 0.002	0%	-	-
	Demeton-S	< 0.02	< 0.02	0%	<0.0005	0%
	Diazinon	< 0.002	< 0.002	0%	<0.0005	0%
	Dichlorvos	< 0.002	< 0.002	0%	<0.0005	0%
	Dimethoate	< 0.002	< 0.002	0%	<0.0005	0%
	Disulfoton	< 0.002	< 0.002	0%	-	-
	EPN	< 0.002	< 0.002	0%	-	-
	Ethion	< 0.002	< 0.002	0%	<0.0005	0%
	Ethoprop	< 0.002	< 0.002	0%	-	-
	Ethyl parathion	< 0.002	< 0.002	0%	-	-
	Fenitrothion	< 0.002	< 0.002	0%	-	-
	Fensulfothion	< 0.002	< 0.002	0%	-	-
	Fenthion	< 0.002	< 0.002	0%	<0.0005	0%
	Malathion	< 0.002	< 0.002	0%	<0.0005	0%
	Merphos	< 0.002	< 0.002	0%	-	-
	Methyl parathion	< 0.002	< 0.002	0%	-	-
	Mevinphos	< 0.002	< 0.002	0%	-	-
	Monocrotophos	< 0.002	< 0.002	0%	<0.002	0%
	Naled	< 0.002	< 0.002	0%	-	-
	Omethoate	< 0.002	< 0.002	0%	-	-
	Phorate	< 0.002	< 0.002	0%	-	-
	Pirimiphos-methyl	< 0.02	< 0.02	0%	<0.0005	0%
	Pyrazophos	< 0.002	< 0.002	0%	-	-
	Ronnel	< 0.002	< 0.002	0%	-	-
	Terbufos	< 0.002	< 0.002	0%	-	-
	Tetrachlorvinphos	< 0.002	< 0.002	0%	-	-
Tokuthion	< 0.002	< 0.002	0%	-	-	
Trichloronate	< 0.002	< 0.002	0%	-	-	

Pathogens	E.coli	21	20	5%	34	0%	
	Thermotolerant Coliforms	83	57	37%	42	0%	
Polycyclic Aromatic Hydrocarbons (Trace level)	Acenaphthene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Acenaphthylene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Anthracene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Benz(a)anthracene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Benzo(a)pyrene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Benzo(b&j)fluoranthene	< 0.00001	< 0.00001	0%	< 0.00005	0%	
	Benzo(g,h,i)perylene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Benzo(k)fluoranthene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Chrysene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Dibenz(a,h)anthracene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Fluoranthene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Fluorene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Indeno(1,2,3-cd)pyrene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Naphthalene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Phenanthrene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Pyrene	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Total PAH*	< 0.00001	< 0.00001	0%	< 0.0001	0%	
	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	TRH C10-C14	< 0.05	< 0.05	0%	< 0.05	0%
		TRH C10-C36 (Total)	< 0.1	< 0.1	0%	< 0.05	0%
		TRH C15-C28	< 0.1	< 0.1	0%	< 0.1	0%
TRH C29-C36		< 0.1	< 0.1	0%	< 0.05	0%	
TRH C6-C9		< 0.02	< 0.02	0%	< 0.02	0%	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Naphthalene	< 0.01	< 0.01	0%	<0.005	0%	
	TRH >C10-C16	< 0.05	< 0.05	0%	<0.1	0%	
	TRH >C10-C16 less Naphthalene (F2)	< 0.05	< 0.05	0%	<0.1	0%	
	TRH >C10-C40 (total)*	< 0.1	< 0.1	0%	<0.1	0%	
	TRH >C16-C34	< 0.1	< 0.1	0%	<0.1	0%	
	TRH >C34-C40	< 0.1	< 0.1	0%	<0.1	0%	
	TRH C6-C10	< 0.02	< 0.02	0%	< 0.02	0%	
	TRH C6-C10 less BTEX (F1)	< 0.02	< 0.02	0%	< 0.02	0%	



Analytical Summary

Sample ID	TB	TS
Sample Date	1/05/2020	1/05/2020
Analyte Group	Analyte	All results in mg/L
BTEX	Benzene	< 0.001 94
	Ethylbenzene	< 0.001 88
	m&p-Xylenes	< 0.002 81
	o-Xylene	< 0.001 92
	Toluene	< 0.001 91
	Xylenes - Total*	< 0.003 85
	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	TRH C6-C9
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	TRH C6-C10	< 0.02 70
	TRH C6-C10 less BTEX (F1)	< 0.02 -



Preliminary Site Investigation
173 McFarlanes Road, Chisholm, NSW
Allam Homes c/- ADW Johnson Pty Ltd
Appendices

Appendix A

LOT SEARCH ENVIRONMENTAL REPORT (2020)



LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 28 Apr 2020 10:06:40

Reference: LS012143 EP

Address: 173 McFarlanes Road, Chisholm, NSW 2322

Disclaimer:

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

Dataset Listing

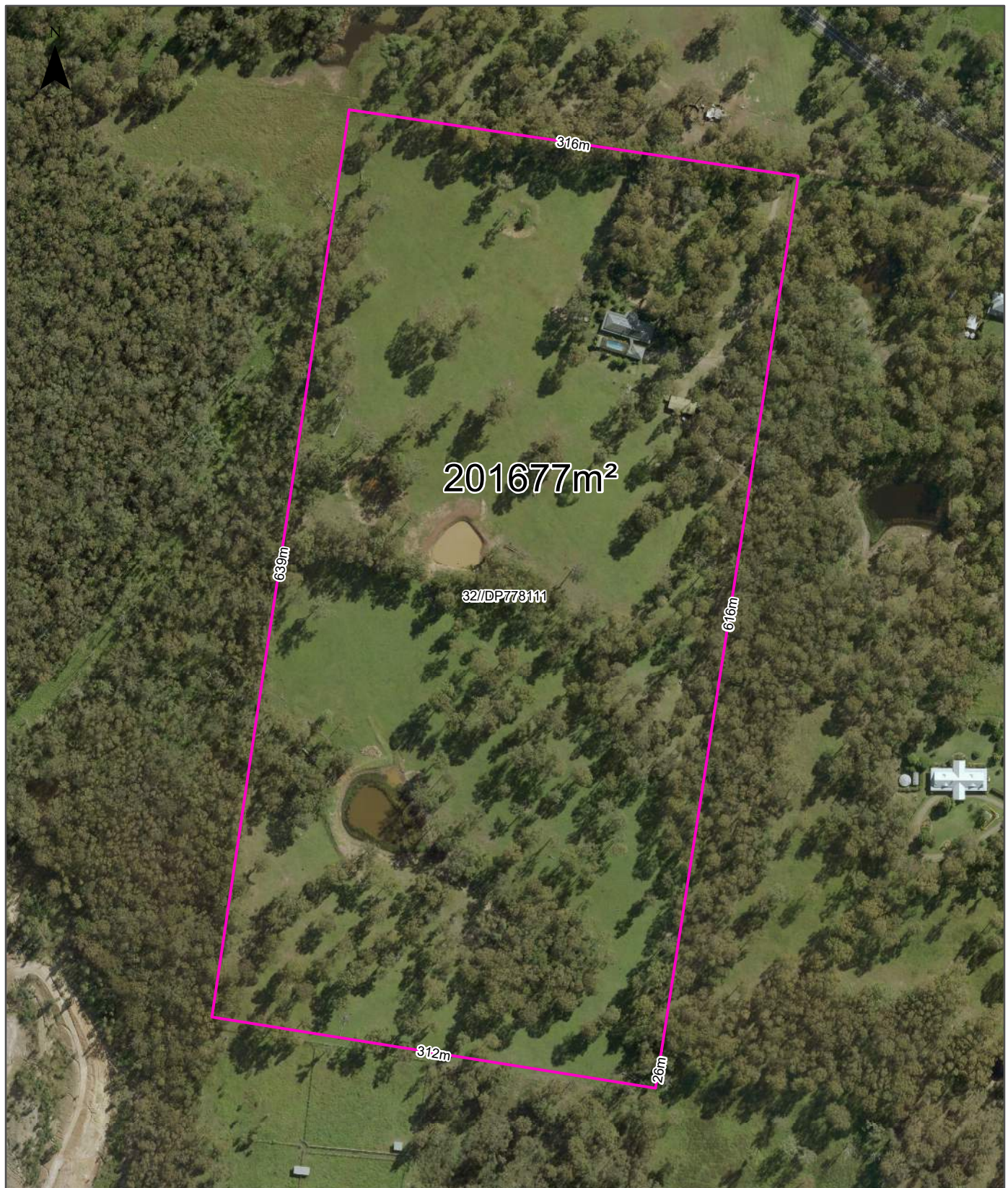
Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Finance, Services & Innovation	20/03/2020	20/03/2020	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	15/04/2020	15/04/2020	Monthly	1000	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	21/04/2020	21/04/2020	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	21/04/2020	11/10/2017	Monthly	1000	0	0	0
National Waste Management Facilities Database	Geoscience Australia	12/02/2020	07/03/2017	Quarterly	1000	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	05/02/2020	13/07/2012	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	22/04/2020	22/04/2020	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	12/02/2020	12/02/2020	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	12/02/2020	12/02/2020	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	22/04/2020	22/04/2020	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	03/04/2020	03/04/2020	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	04/02/2020	13/12/2018	Annually	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	09/04/2020	09/04/2020	Monthly	1000	1	1	1
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	09/04/2020	09/04/2020	Monthly	1000	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	09/04/2020	09/04/2020	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	-	0	0
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	19/02/2020	19/02/2020	Quarterly	1000	1	1	4
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	19/02/2020	19/02/2020	Quarterly	1000	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	19/02/2020	19/02/2020	Quarterly	1000	0	0	0
Major Easements	NSW Department of Finance, Services & Innovation	19/02/2020	19/02/2020	Quarterly	1000	0	0	3
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	21/01/2020	30/09/2019	Annually	1000	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	2	2	2
Botany Groundwater Management Zones	NSW Department of Planning, Industry and Environment	15/03/2018	01/10/2005	As required	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		None planned	1000	1	-	5
Geological Structures 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		None planned	1000	0	-	5
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	NSW Department of Planning, Industry and Environment	12/08/2014		None planned	1000	2	-	4
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	24/04/2020	28/02/2020	Monthly	500	2	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	2	2	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	19/02/2020	19/02/2020	Quarterly	1000	0	0	0
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	24/04/2020	07/12/2018	Monthly	1000	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	24/04/2020	17/04/2020	Monthly	1000	2	3	7
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	04/02/2020	31/07/2018	Quarterly	1000	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	04/02/2020	20/11/2019	Quarterly	1000	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	12/02/2020	09/11/2018	Quarterly	1000	0	0	0
Environmental Planning Instrument Heritage	NSW Department of Planning, Industry and Environment	24/04/2020	17/04/2020	Monthly	1000	0	0	0
Bush Fire Prone Land	NSW Rural Fire Service	04/02/2020	14/12/2019	Quarterly	1000	2	2	3
Lower Hunter and Central Coast Regional Vegetation Survey	NSW Office of Environment & Heritage	28/02/2015	16/11/2009	As required	1000	4	4	8
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	Unknown	1000	2	2	4
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	11	12	13
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	23/04/2020	23/04/2020	Weekly	10000	-	-	-

Site Diagram

173 McFarlanes Road, Chisholm, NSW 2322



Legend Site Boundary Internal Parcel Boundaries	Total Area: 201677m ² Total Perimeter: 1911m	Scale: 		
	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.	Data Sources: Aerial Imagery: © Aerometrex Pty Ltd		Coordinate System: GDA 1994 MGA Zone 56

Contaminated Land

173 McFarlanes 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
 © State of New South Wales through the Environment Protection Authority

Contaminated Land

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

Former Gasworks

Former Gasworks within the dataset buffer:

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

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

Waste Management & Liquid Fuel Facilities

173 McFarlanes 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											

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

National Liquid Fuel Facilities

National Liquid Fuel Facilities 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										

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

PFAS Investigation & Management Programs

173 McFarlanes 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
© State of New South Wales through the Environment Protection Authority

Defence PFAS Investigation Program

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

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

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

Defence PFAS Management Program

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

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

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

Airservices Australia National PFAS Management Program

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

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

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

173 McFarlanes 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

173 McFarlanes 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
- Pasmenco Lead Abatement Strategy Area

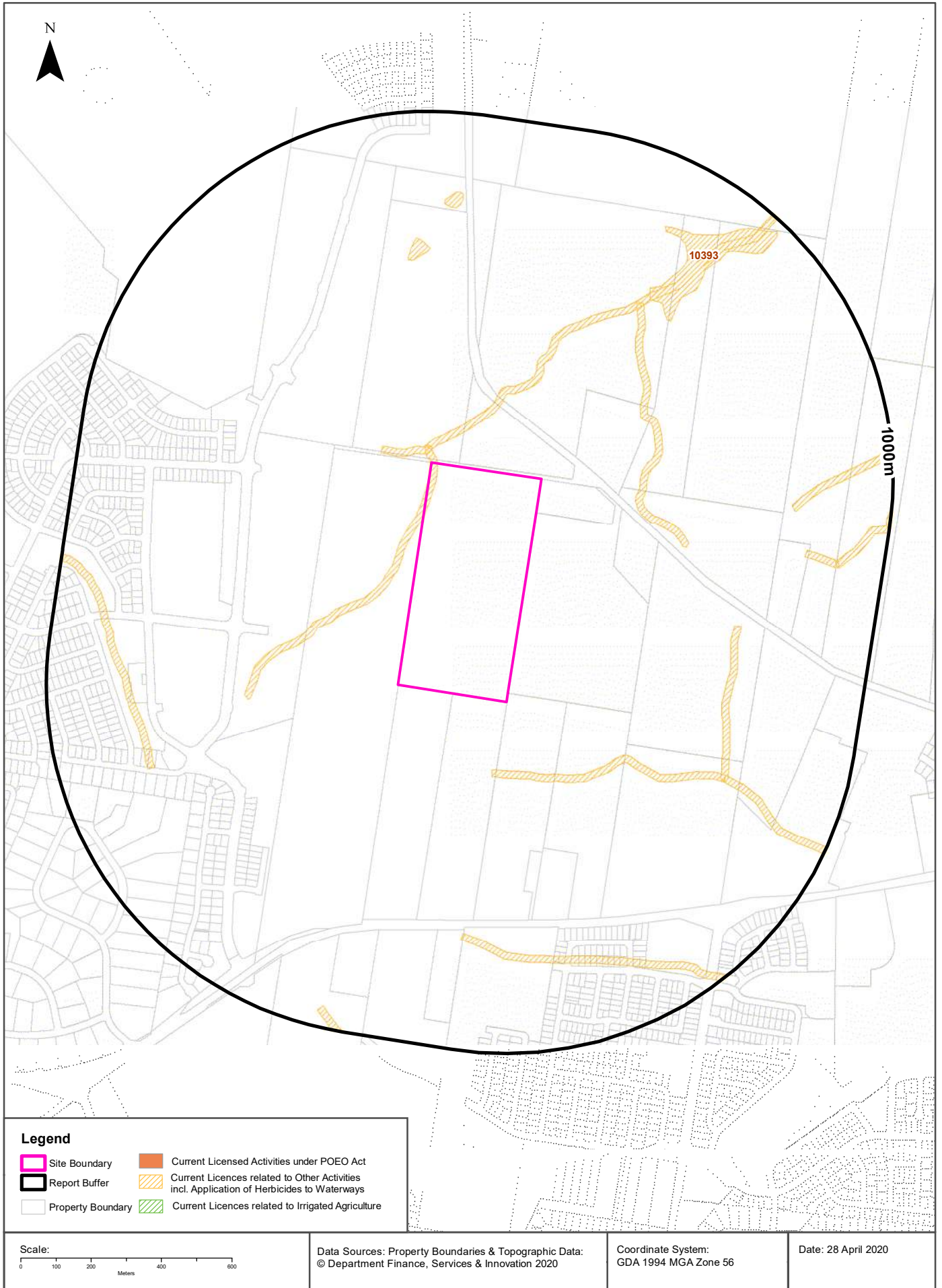
Sites within the dataset buffer:

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

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

Current EPA Licensed Activities

173 McFarlanes Road, Chisholm, NSW 2322



EPA Activities

173 McFarlanes Road, Chisholm, NSW 2322

Licensed Activities under the POEO Act 1997

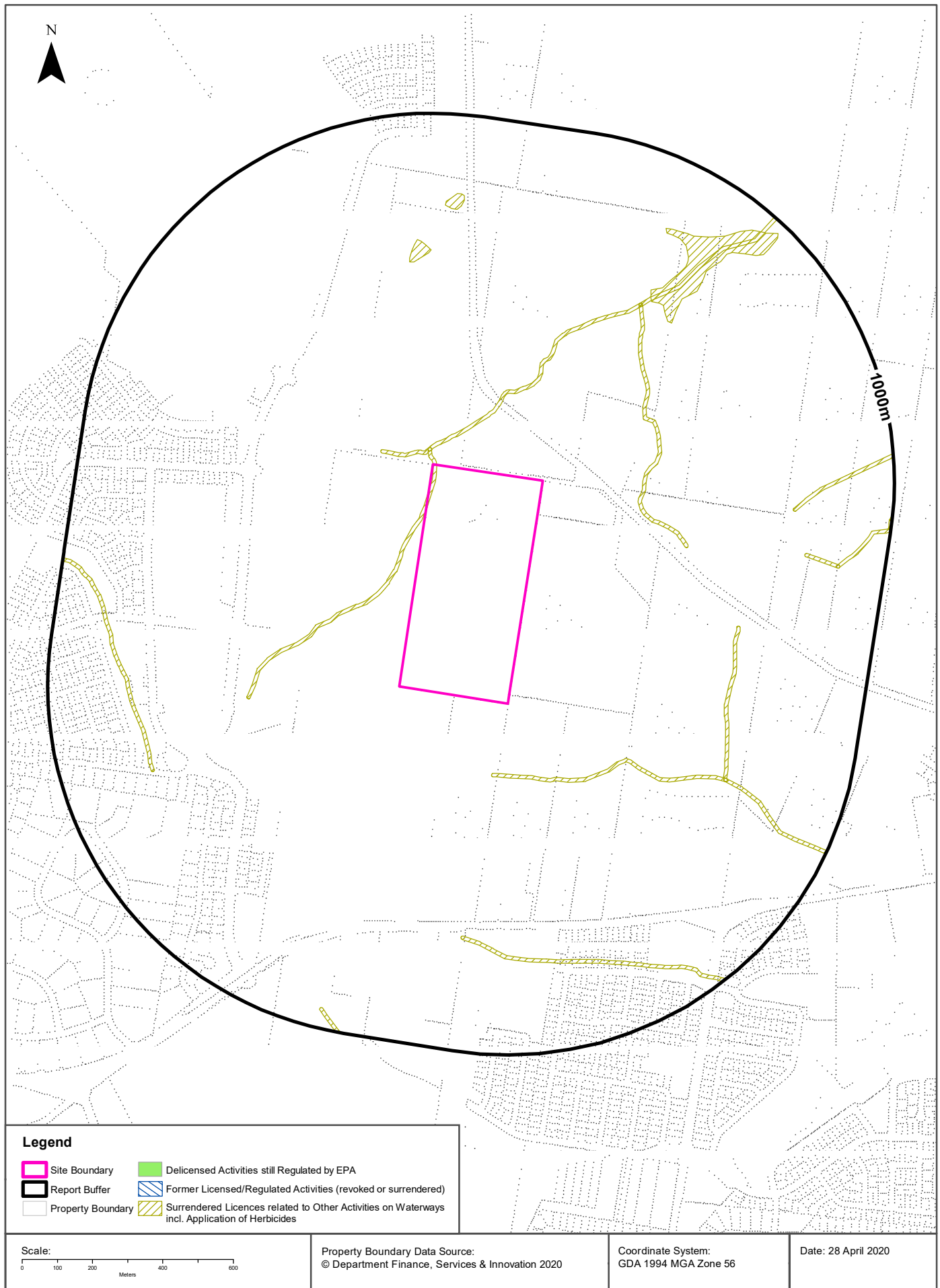
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

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
© State of New South Wales through the Environment Protection Authority

Delicensed & Former Licensed EPA Activities

173 McFarlanes Road, Chisholm, NSW 2322



EPA Activities

173 McFarlanes 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
© State of New South Wales through the Environment Protection Authority

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

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

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
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
© State of New South Wales through the Environment Protection Authority

Historical Business Directories

173 McFarlanes 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						

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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
	No records in buffer					

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Historical Business Directories

173 McFarlanes 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						

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

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

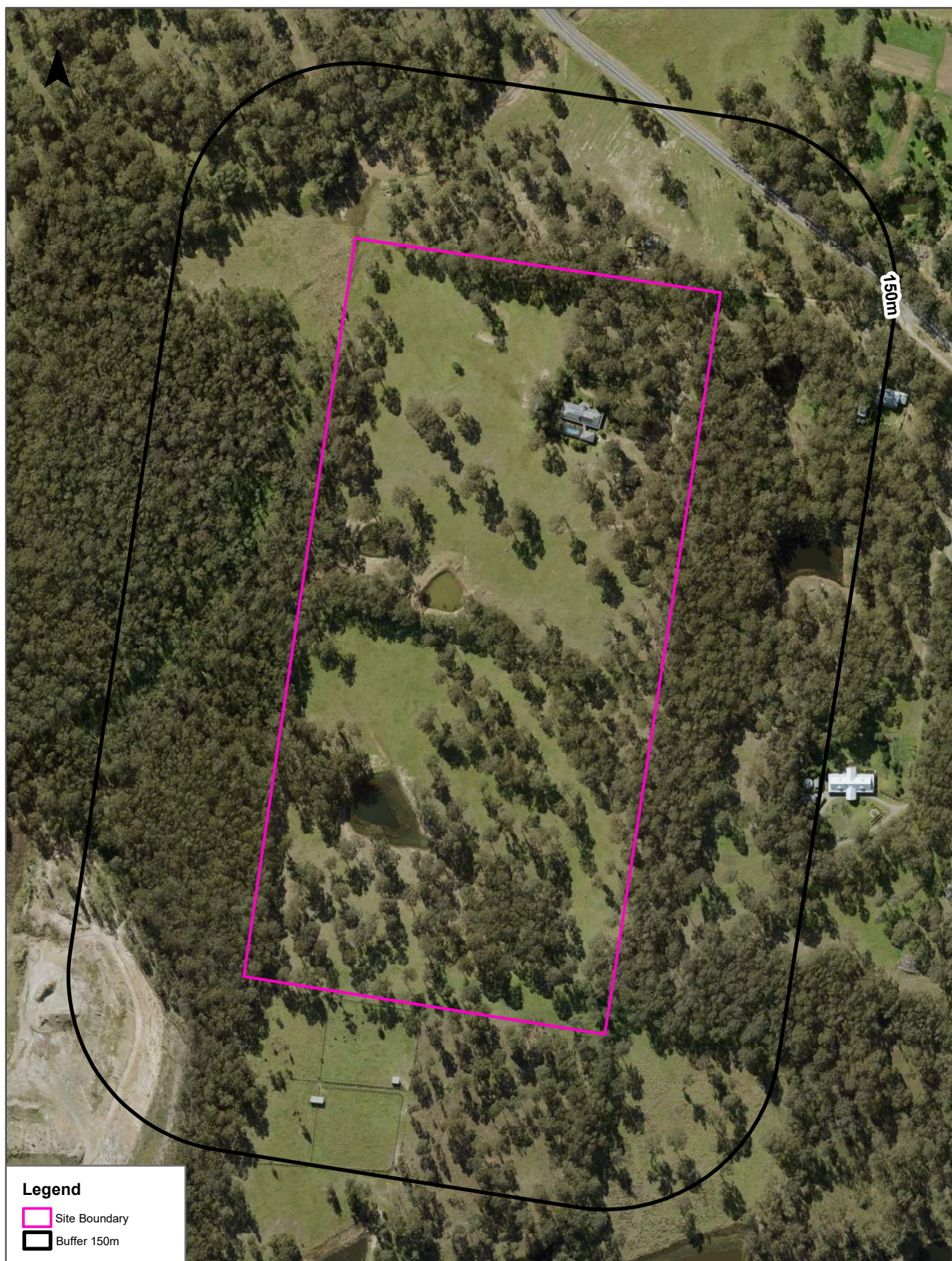
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

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



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

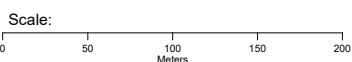
Aerial Imagery 2019

173 McFarlanes Road, Chisholm, NSW 2322



Legend

-  Site Boundary
-  Buffer 150m



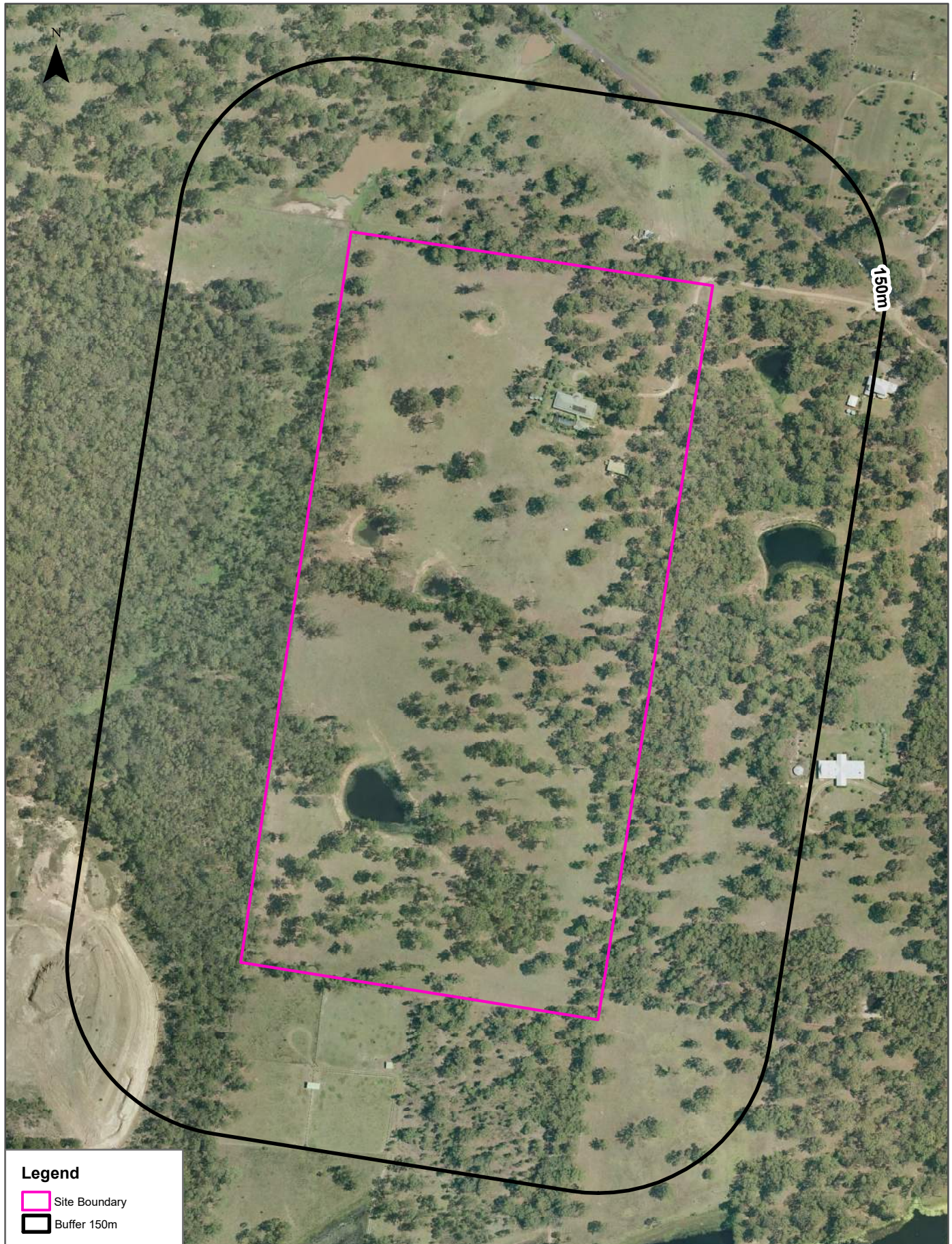
Data Sources: Aerial Imagery © Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 56



Date: 28 April 2020

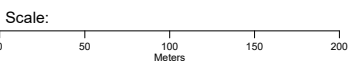
Aerial Imagery 2007

173 McFarlanes Road, Chisholm, NSW 2322



Legend

-  Site Boundary
-  Buffer 150m



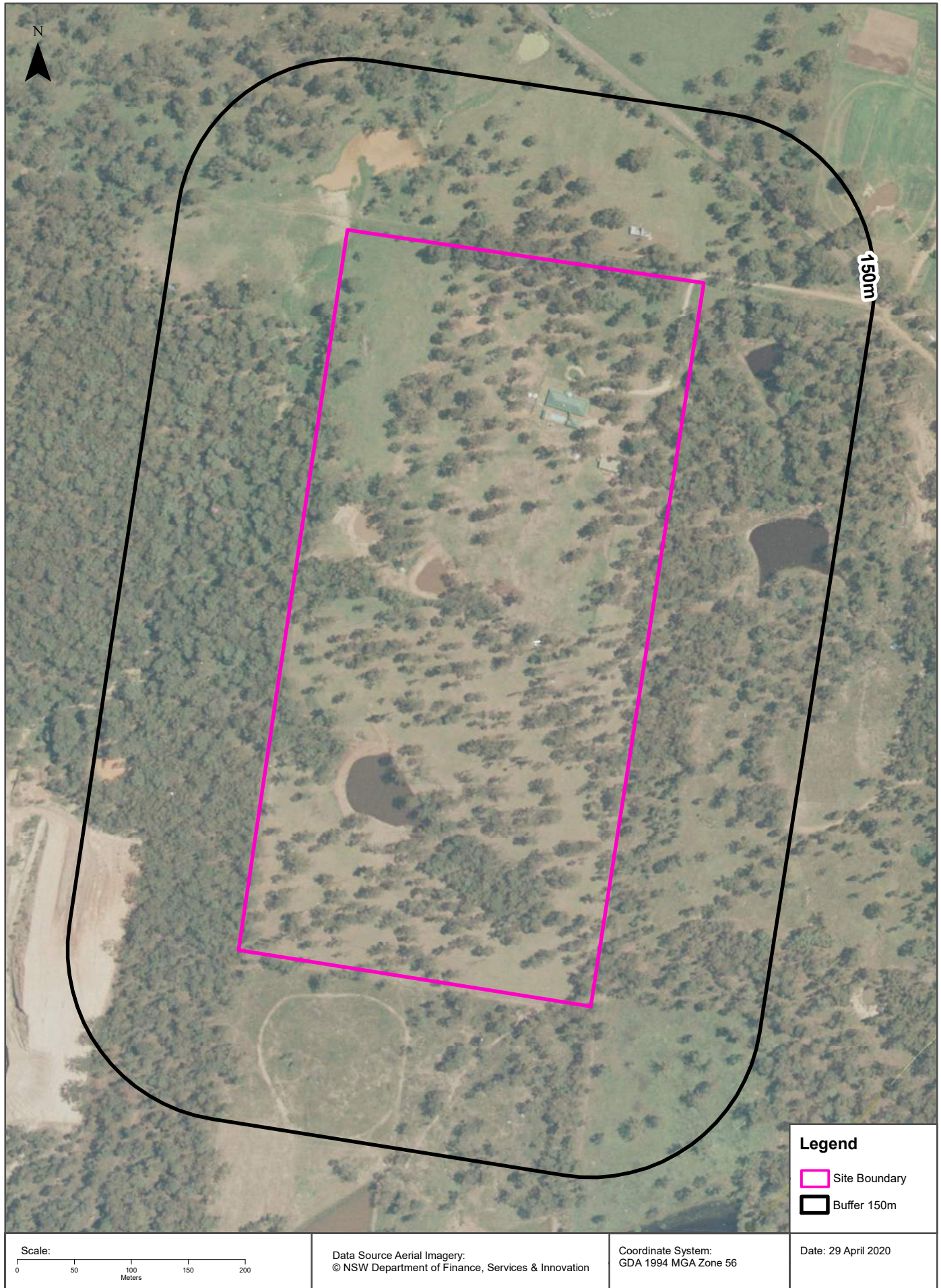
Data Sources: Aerial Imagery © Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 56

Date: 28 April 2020

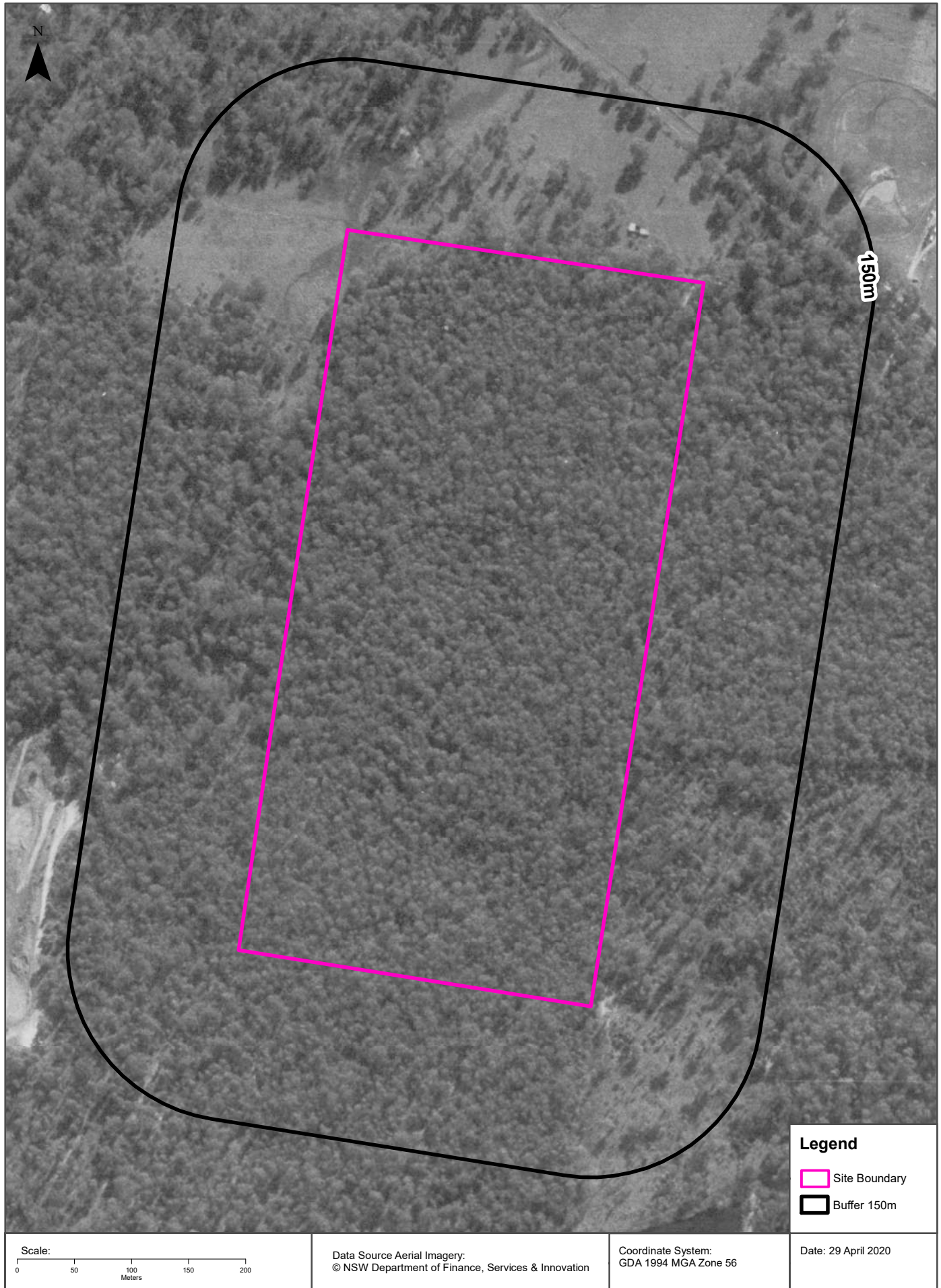
Aerial Imagery 1993

173 McFarlanes Road, Chisholm, NSW 2322



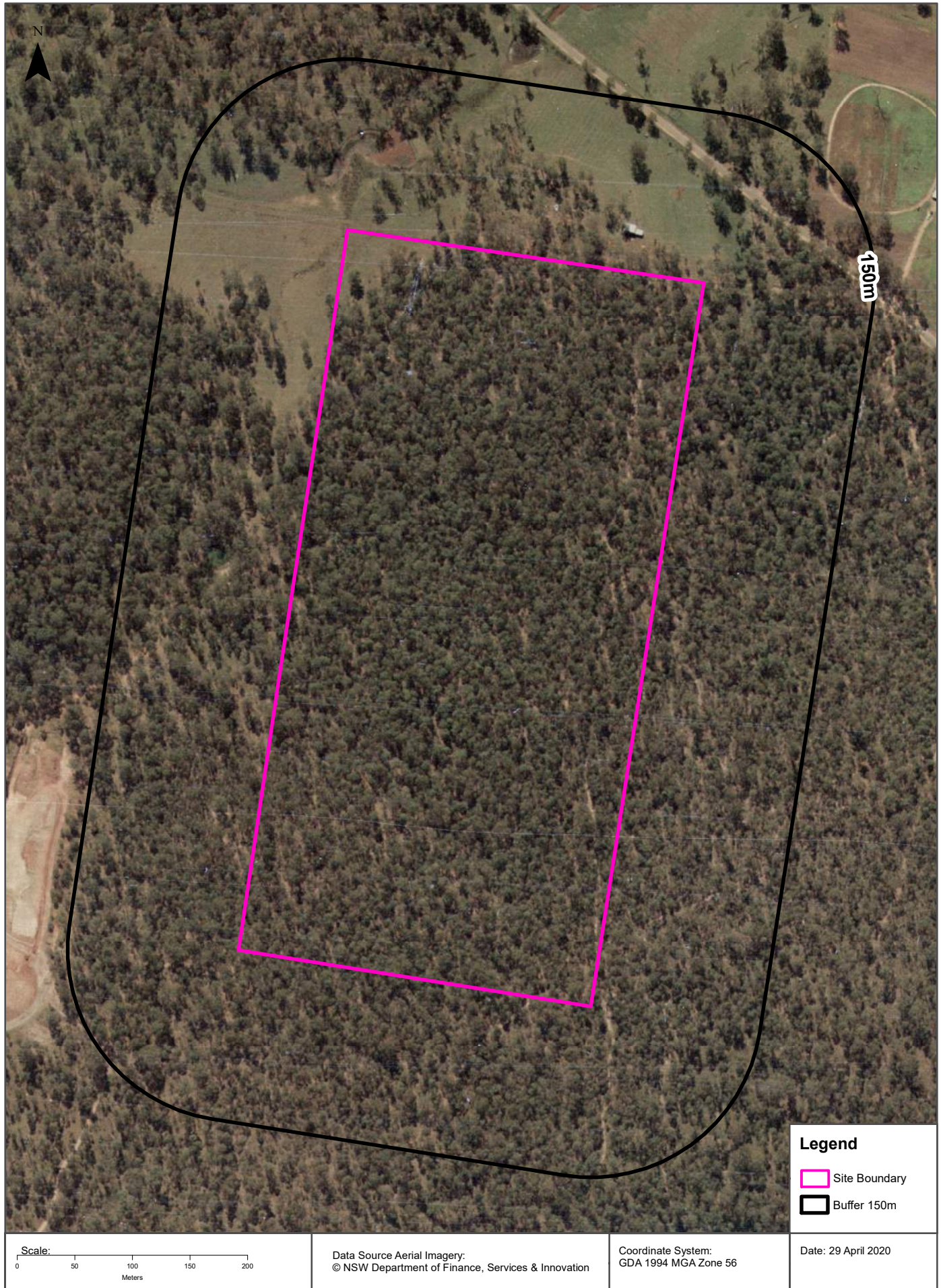
Aerial Imagery 1984

173 McFarlanes Road, Chisholm, NSW 2322



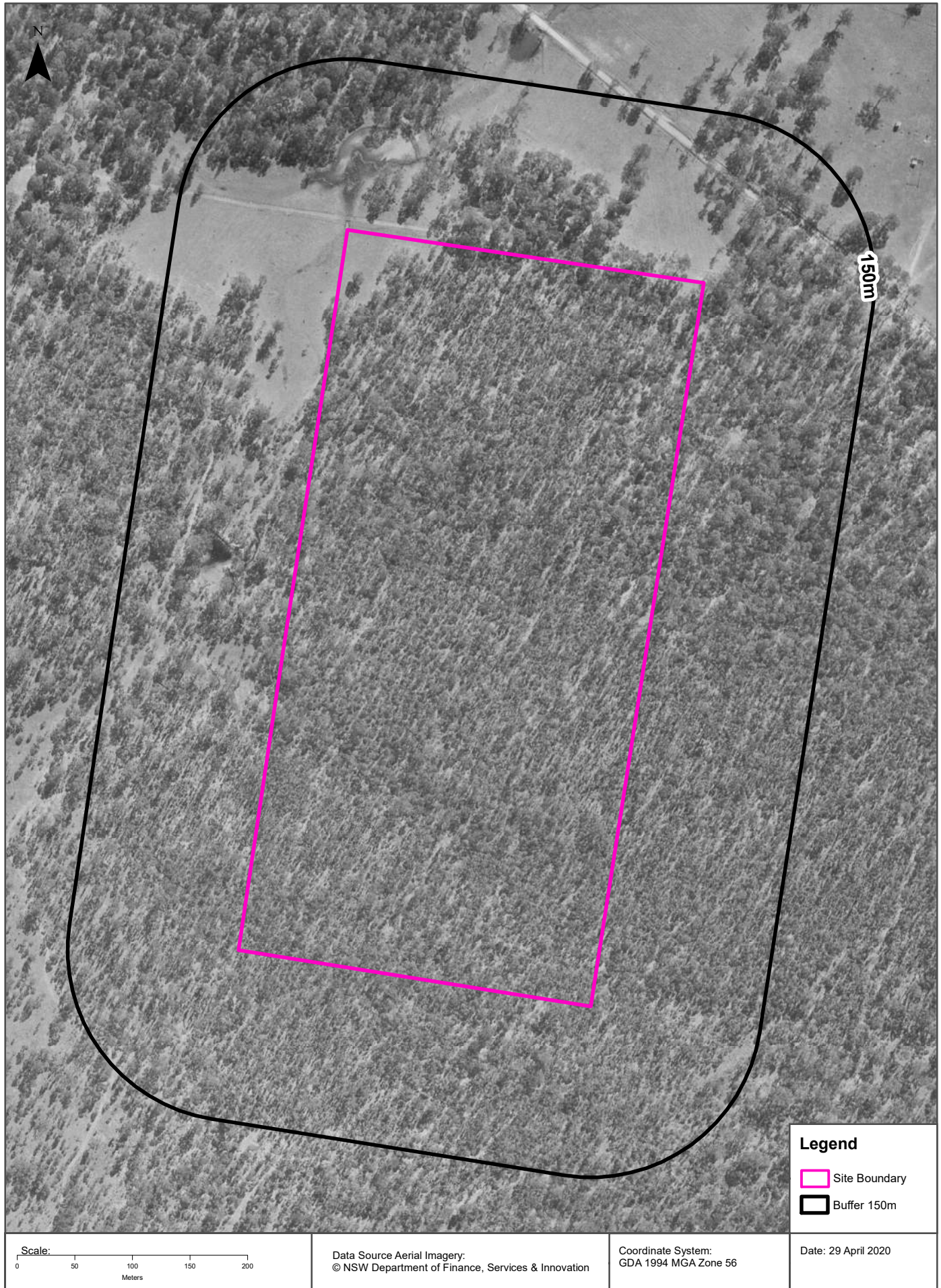
Aerial Imagery 1977

173 McFarlanes Road, Chisholm, NSW 2322



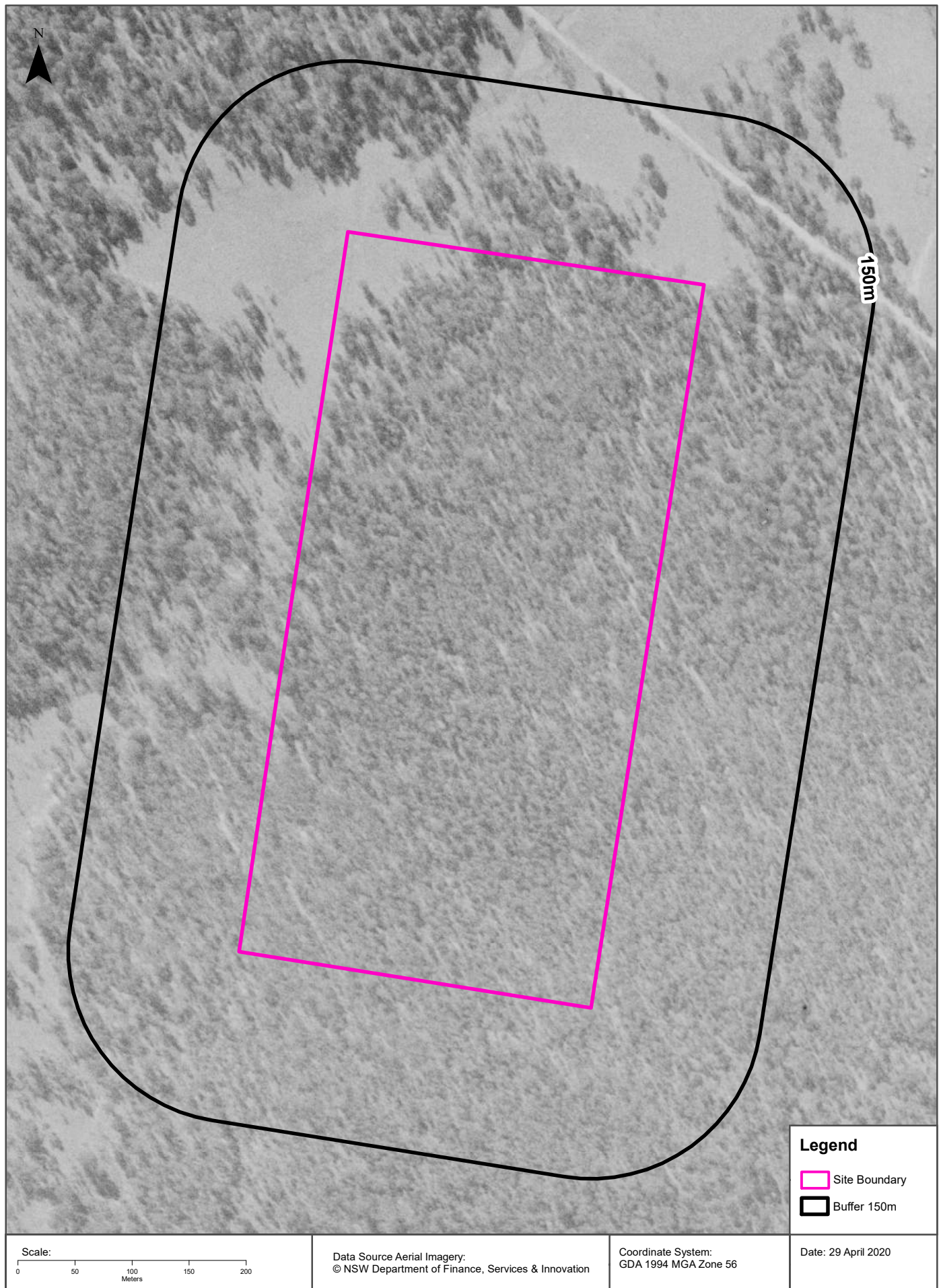
Aerial Imagery 1965

173 McFarlanes Road, Chisholm, NSW 2322



Aerial Imagery 1954

173 McFarlanes Road, Chisholm, NSW 2322



Legend

- Site Boundary
- Buffer 150m

Scale:

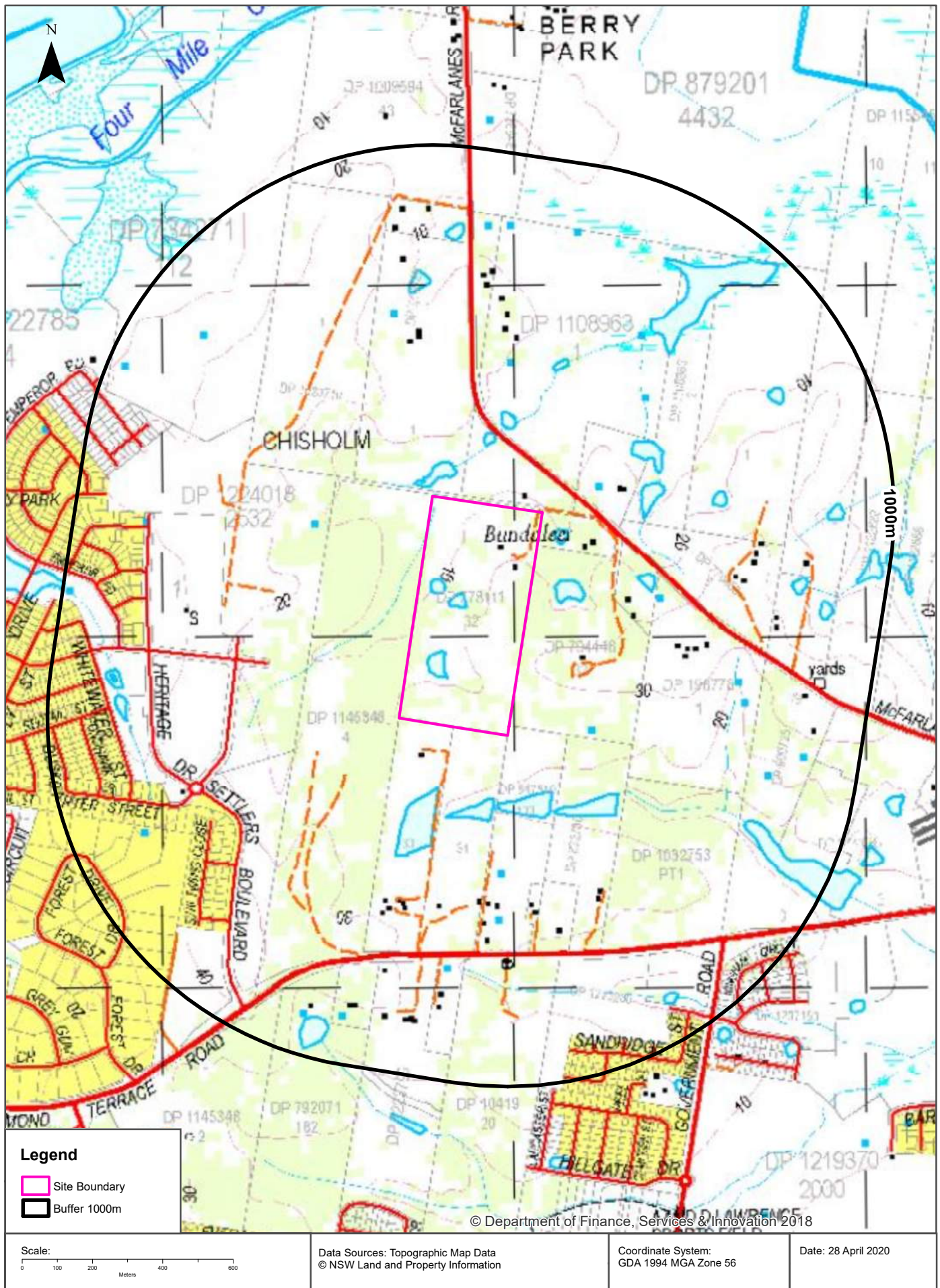
Data Source Aerial Imagery:
© NSW Department of Finance, Services & Innovation

Coordinate System:
GDA 1994 MGA Zone 56

Date: 29 April 2020

Topographic Map 2015

173 McFarlanes Road, Chisholm, NSW 2322



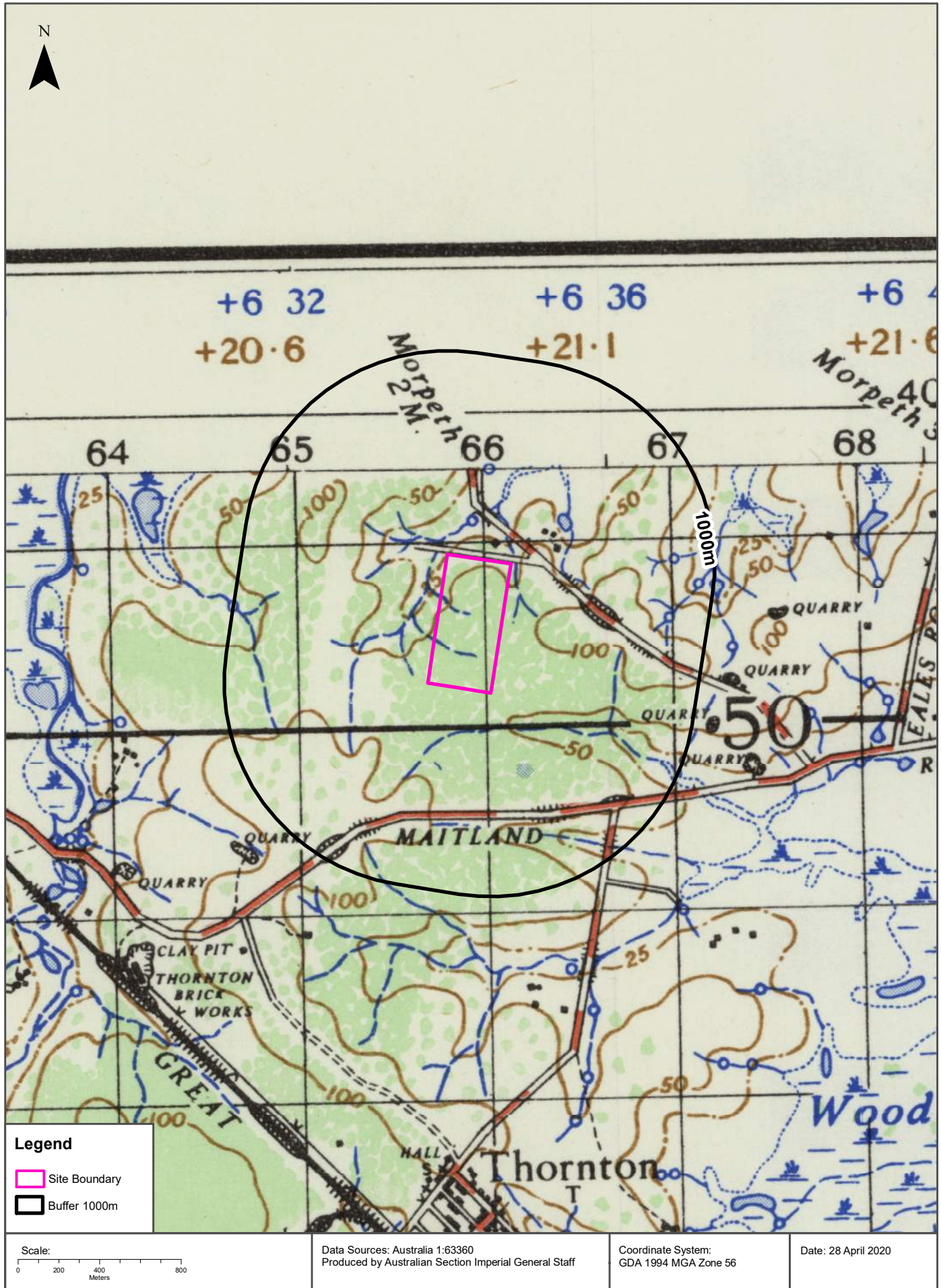
Historical Map 1981

173 McFarlanes Road, Chisholm, NSW 2322



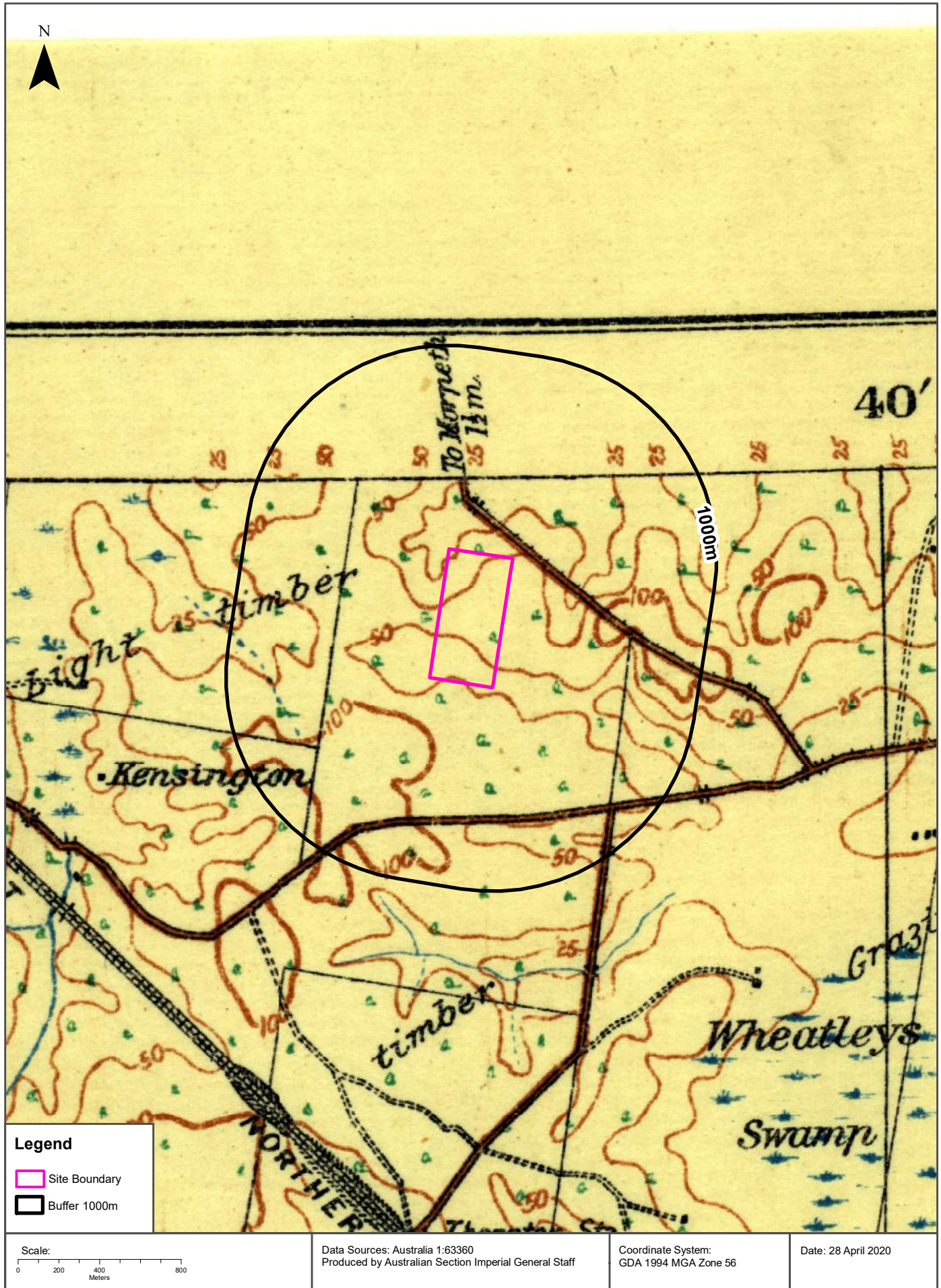
Historical Map c.1941

173 McFarlanes Road, Chisholm, NSW 2322



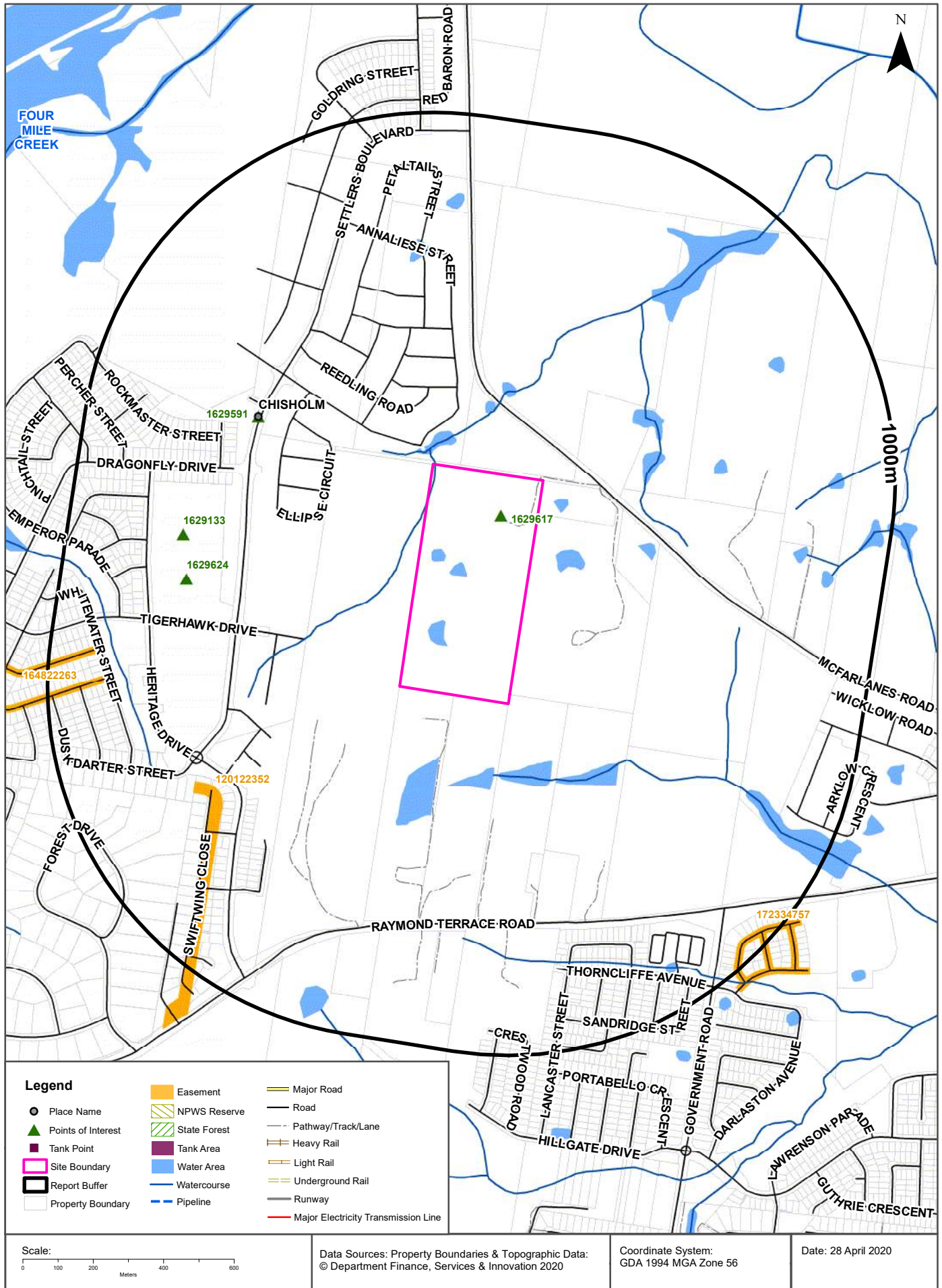
Historical Map c.1913

173 McFarlanes Road, Chisholm, NSW 2322



Topographic Features

173 McFarlanes Road, Chisholm, NSW 2322



Topographic Features

173 McFarlanes Road, Chisholm, NSW 2322

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
1629617	Homestead	BUNDALEER	0m	Onsite
1629591	Suburb	CHISHOLM	514m	North West
1629624	Primary School	ST ALOYSIUS CATHOLIC PRIMARY SCHOOL	643m	West
1629133	High School	ST BEDE'S CATHOLIC COLLEGE	672m	West

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

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Topographic Features

173 McFarlanes 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					

Tanks Data Source: © Land and Property Information (2015)

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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		595m	South West
164822263	Primary	Right of way		829m	West
172334757	Primary	Right of way	17m & Variable	943m	South East

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

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Topographic Features

173 McFarlanes 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		

State Forest Data Source: © NSW Department of Finance, Services & Innovation (2018)
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

National Parks and Wildlife Service Reserves

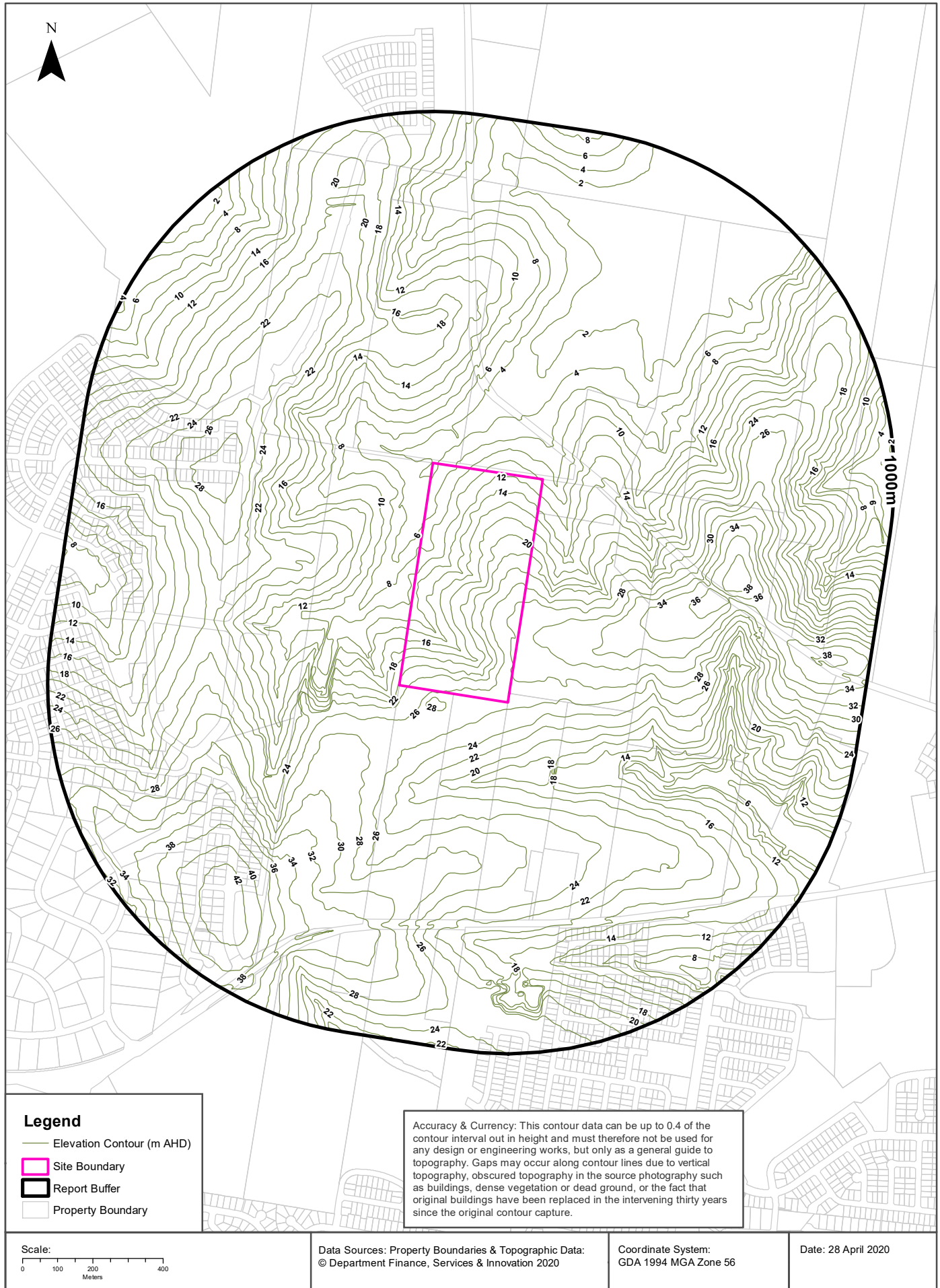
What NPWS Reserves exist within the dataset buffer?

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

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

173 McFarlanes Road, Chisholm, NSW 2322



Hydrogeology & Groundwater

173 McFarlanes Road, Chisholm, NSW 2322

Hydrogeology

Description of aquifers on-site:

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

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)
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Botany Groundwater Management Zones

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

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

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

Hydrogeology & Groundwater

173 McFarlanes 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														

Borehole Data Source : NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation for all bores prefixed with GW. All other bores © Commonwealth of Australia (Bureau of Meteorology) 2015. Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Hydrogeology & Groundwater

173 McFarlanes Road, Chisholm, NSW 2322

Driller's Logs

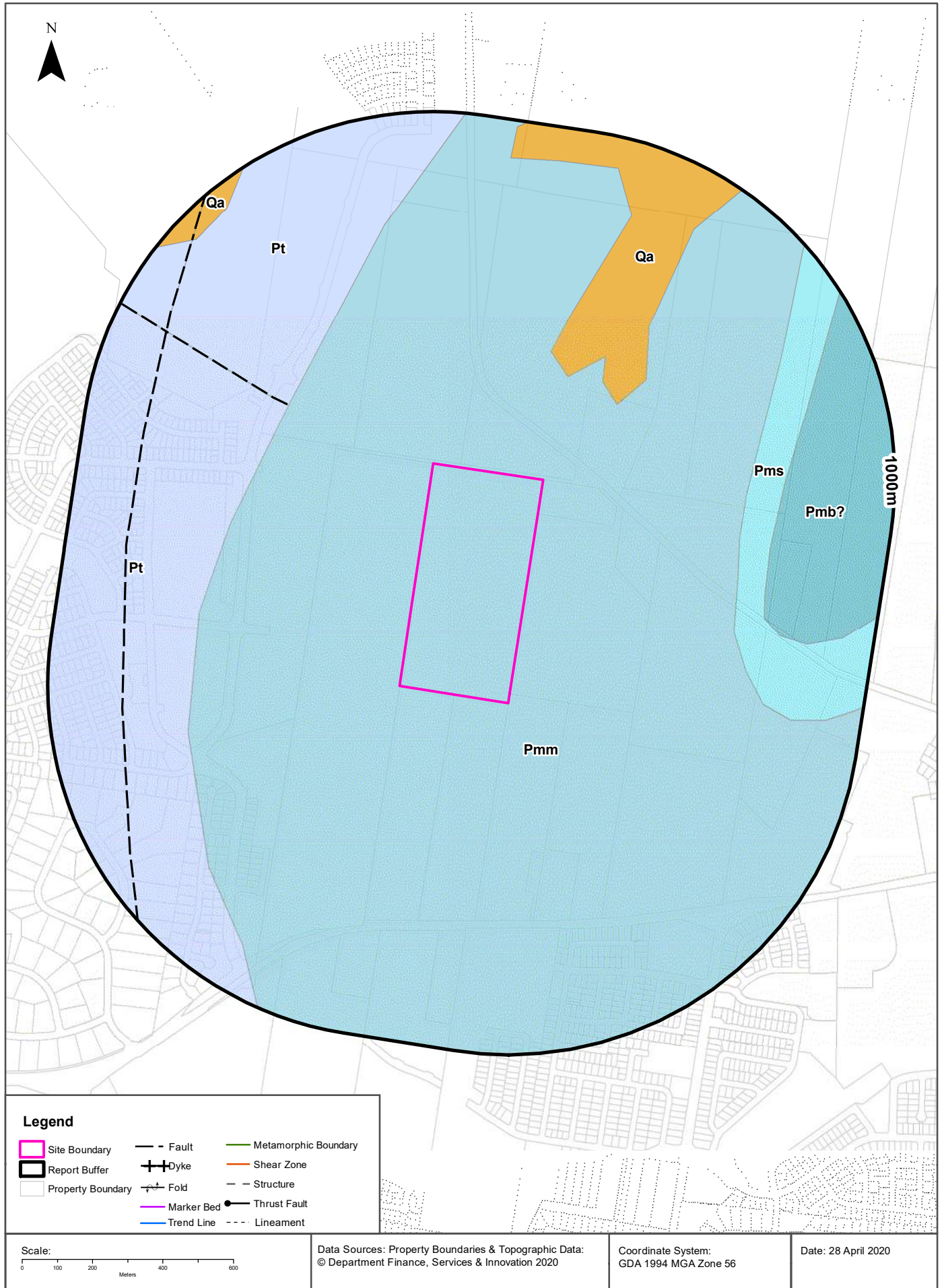
Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
No related drill log data			

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp
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Geology 1:250,000

173 McFarlanes Road, Chisholm, NSW 2322



Geology

173 McFarlanes 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
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Approximate	Bohena	1:250,000
Fault		Fault, Concealed	Bohena	1:250,000

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

© State of New South Wales through the NSW Department of Industry, Resources & Energy

Naturally Occurring Asbestos Potential

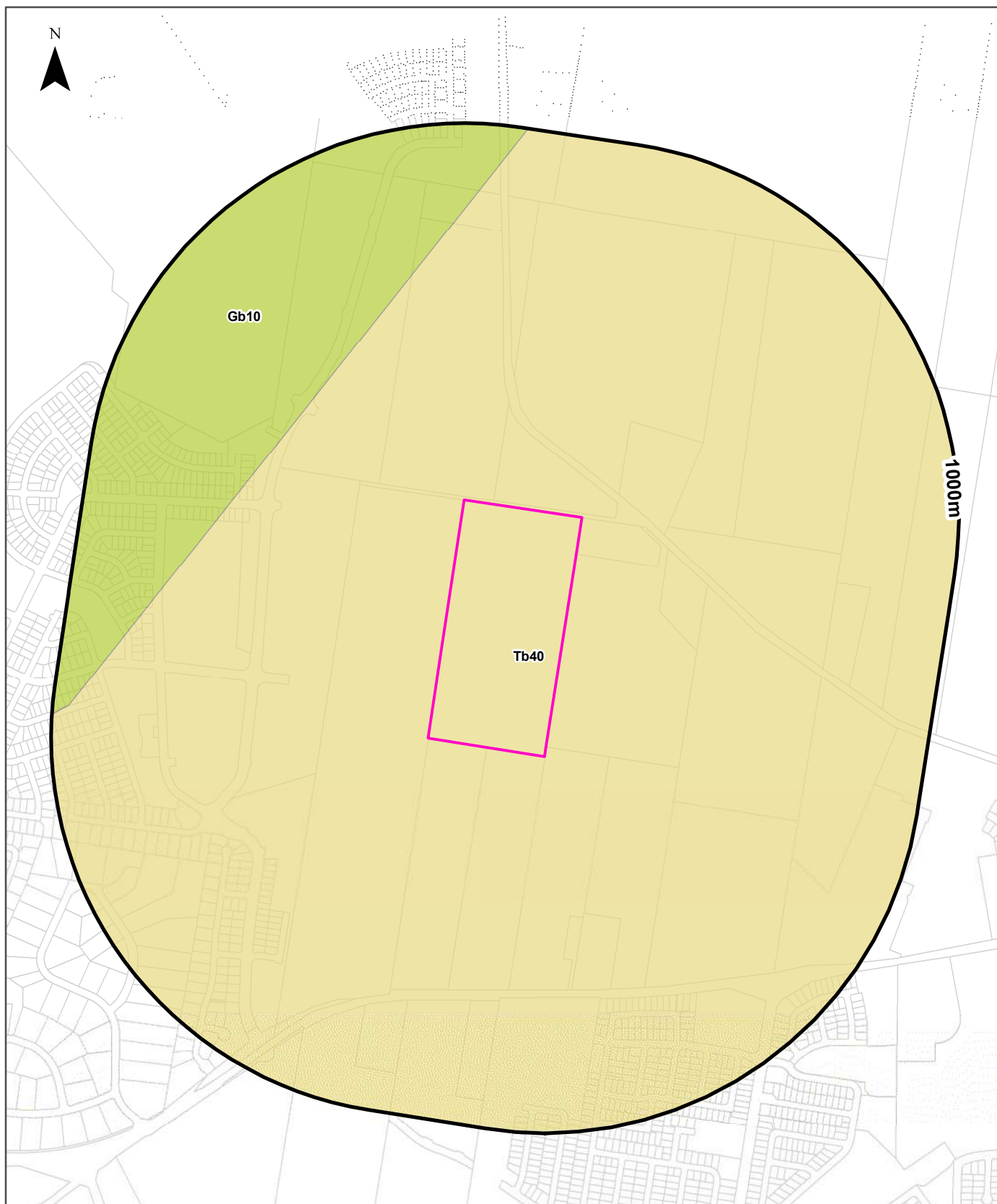
173 McFarlanes Road, Chisholm, NSW 2322

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												

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



Legend		Australian Soil Classification Orders					
Site Boundary	Anthroposol	Dermosol	Kandosol	Podosol	Tenosol	No Data	
Report Buffer	Calcarosol	Ferrosol	Kurosol	Rudosol	Vertosol		
Property Boundary	Chromosol	Hydrosol	Organosol	Sodosol	Lake		

<p>Scale:</p>	<p>Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2020</p>	<p>Coordinate System: GDA 1994 MGA Zone 56</p>	<p>Date: 28 April 2020</p>
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Soils

173 McFarlanes Road, Chisholm, NSW 2322

Atlas of Australian Soils

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

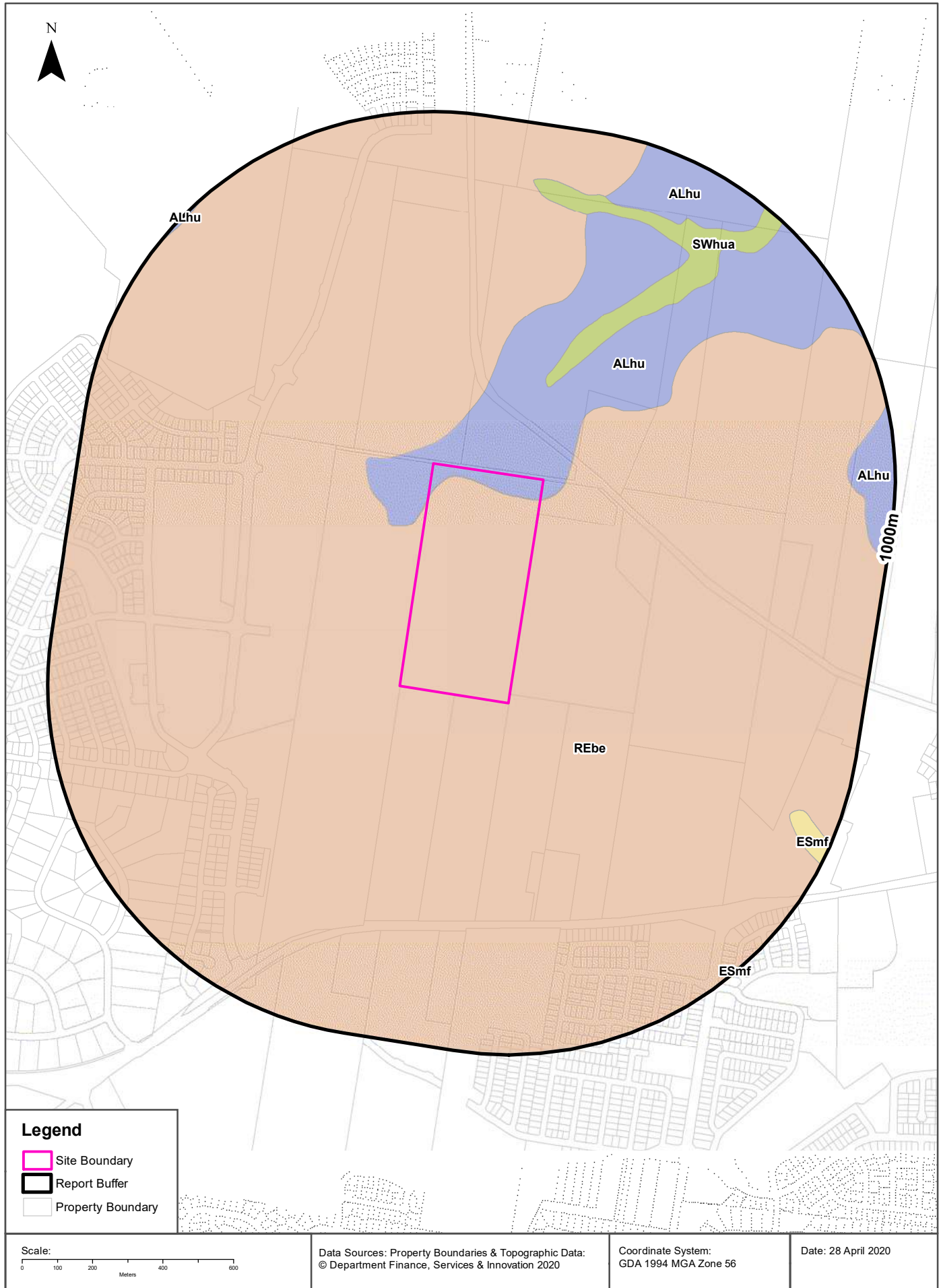
Map Unit Code	Soil Order	Map Unit Description	Distance
Tb40	Kurosol	Undulating to hilly areas with some steep slopes and cliffs, rock outcrops, and narrow terraced valleys: chief soils are hard acidic yellow mottled soils (Dy3.41) with some shallow soils such as (Um4.1) and (Uc4.1) on the steeper slopes. 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.	482m

Atlas of Australian Soils Data Source: CSIRO

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Soil Landscapes

173 McFarlanes Road, Chisholm, NSW 2322



Soils

173 McFarlanes Road, Chisholm, NSW 2322

Soil Landscapes

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
ALhu	HUNTER		ALLUVIAL	Newcastle	1:100,000
REbe	BERESFIELD		RESIDUAL	Newcastle	1:100,000

What are the Soil Landscapes within the dataset buffer?

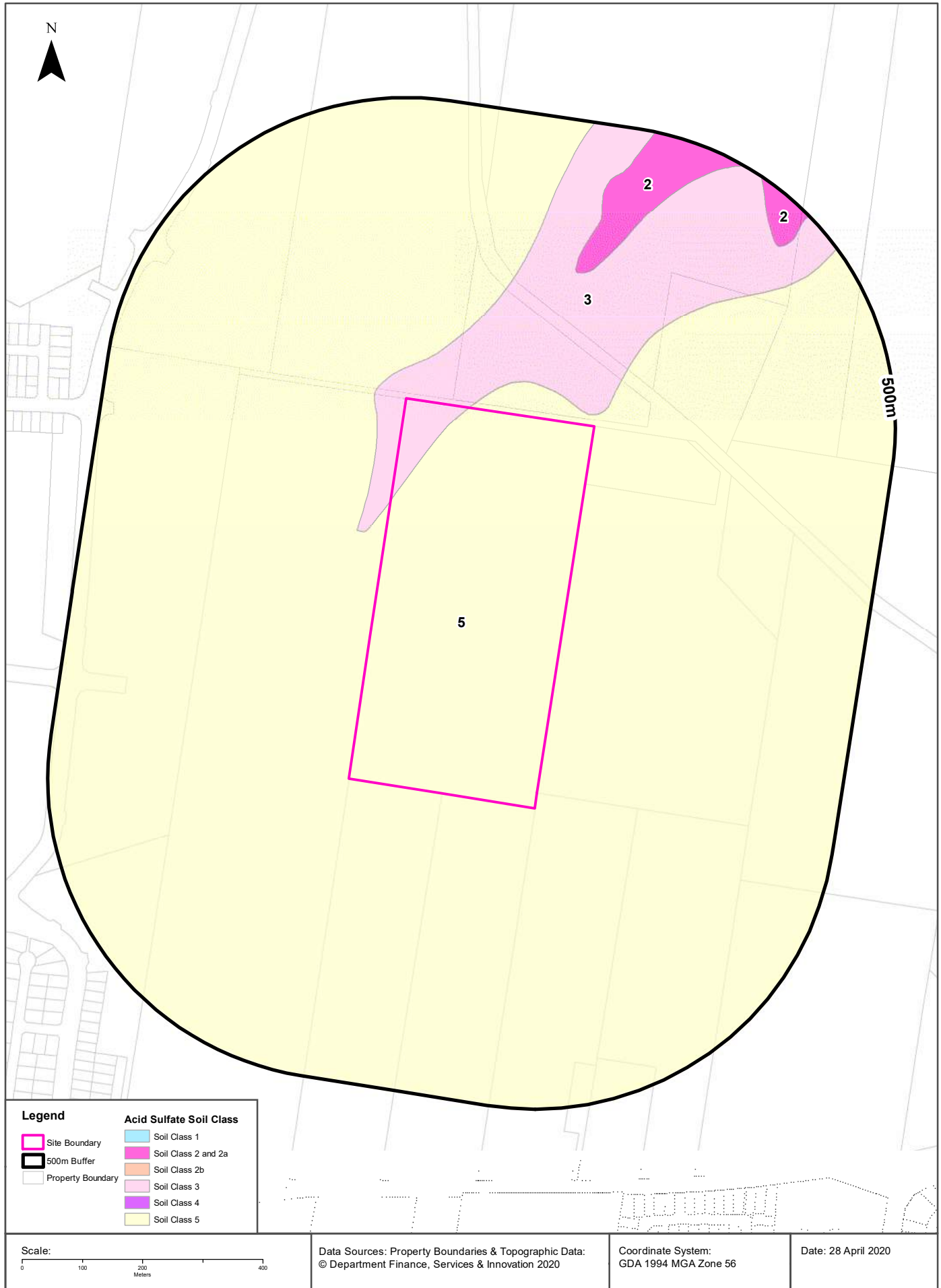
Soil Code	Name	Group	Process	Map Sheet	Scale
ALhu	HUNTER		ALLUVIAL	Newcastle	1:100,000
ESmf	MILLERS FOREST		ESTUARINE	Newcastle	1:100,000
REbe	BERESFIELD		RESIDUAL	Newcastle	1:100,000
SWhua	HUNTER variant a		SWAMP	Newcastle	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage

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Acid Sulfate Soils

173 McFarlanes Road, Chisholm, NSW 2322



Acid Sulfate Soils

173 McFarlanes 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
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

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

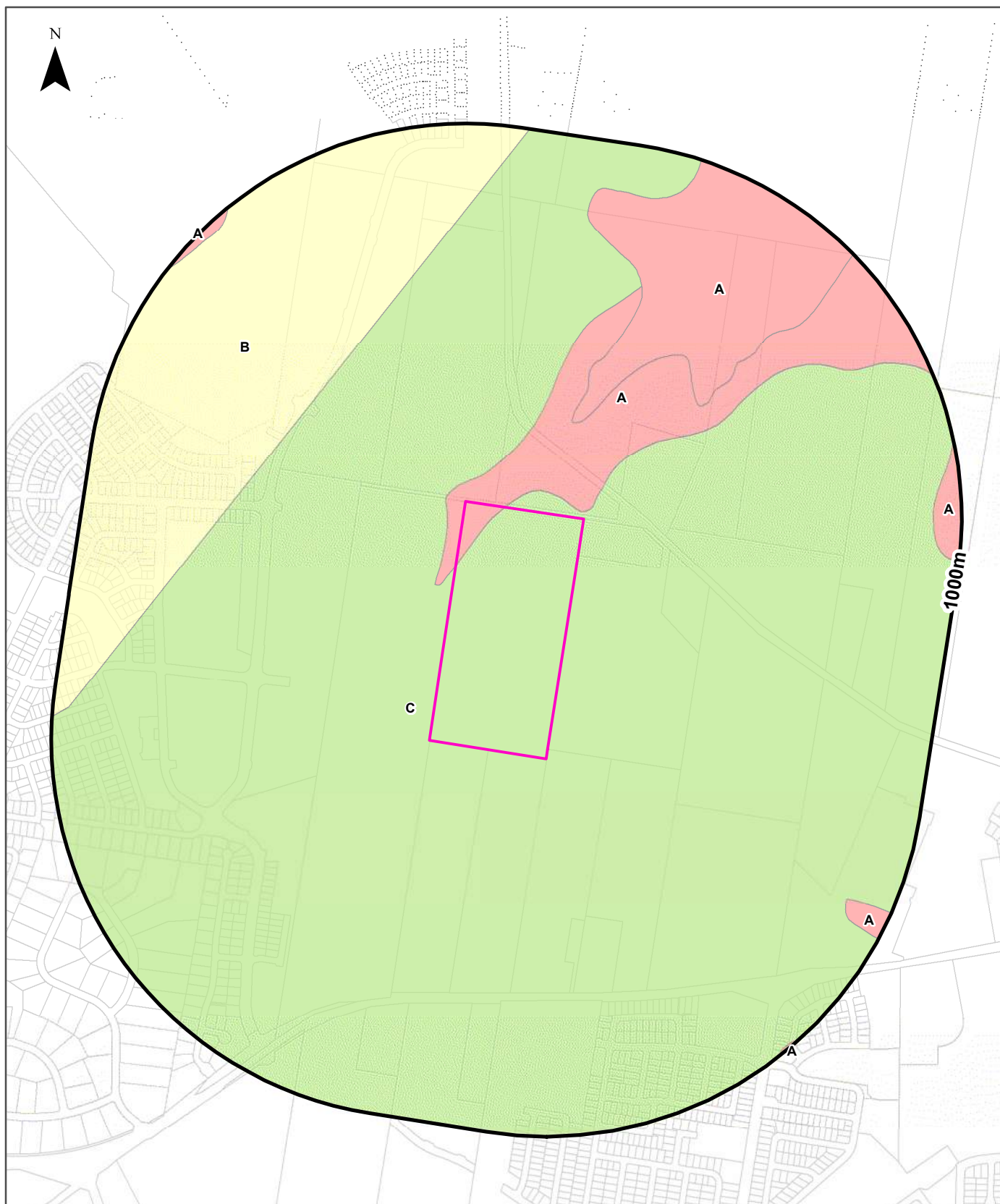
Soil Class	Description	EPI Name	Distance	Direction
N/A				

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Atlas of Australian Acid Sulfate Soils

173 McFarlanes Road, Chisholm, NSW 2322



Legend			
Site Boundary	Probability of occurrence of Acid Sulfate Soils		
Report Buffer	A. High (>70%)	C. Extremely Low (1-5%)	No Data
Property Boundary	B. Low (6-70%)	D. No Chance (0%)	

Scale: 	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2020	Coordinate System: GDA 1994 MGA Zone 56	Date: 28April 2020
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Acid Sulfate Soils

173 McFarlanes Road, Chisholm, NSW 2322

Atlas of Australian Acid Sulfate Soils

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

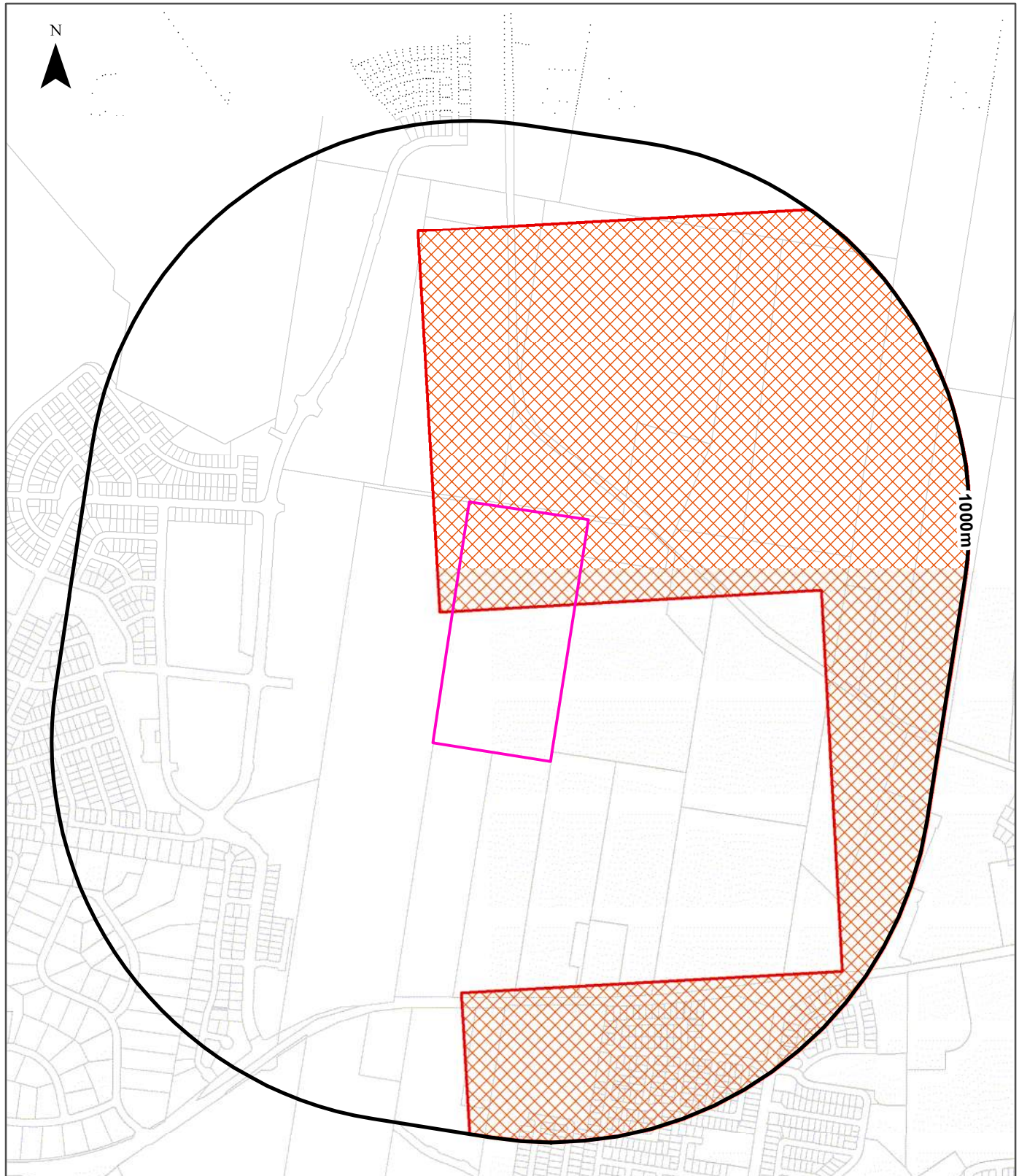
Class	Description	Distance
A	High Probability of occurrence. >70% chance of occurrence.	0m
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m
B	Low Probability of occurrence. 6-70% chance of occurrence.	482m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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Dryland Salinity

173 McFarlanes Road, Chisholm, NSW 2322



Legend	Dryland Salinity - National Assessment	Salinity Potential of Western Sydney
Site Boundary	Delineated risk area but no high hazard or risk rating for either 2000, 2020, 2050	Area of Known Salinity
Report Buffer	High hazard or risk in 2050 only	Area of High Salinity Potential
Property Boundary	High hazard or risk defined for 2050, but no assessment made for 2000 or 2020	Area of Moderate Salinity Potential
	High hazard or risk in 2020 and 2050. 2020 not defined as high hazard	Area of Very Low Salinity Potential
	High hazard or risk defined for all years: 2000, 2020, 2050	Area of Water

Scale: 0 100 200 400 600 Meters	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2020	Coordinate System: GDA 1994 MGA Zone 56	Date: 28 April 2020
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Dryland Salinity

173 McFarlanes 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

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Mining Subsidence Districts

173 McFarlanes 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 Subsidence District Data Source: © Land and Property Information (2016)
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State Environmental Planning Policy

173 McFarlanes Road, Chisholm, NSW 2322

State Significant Precincts

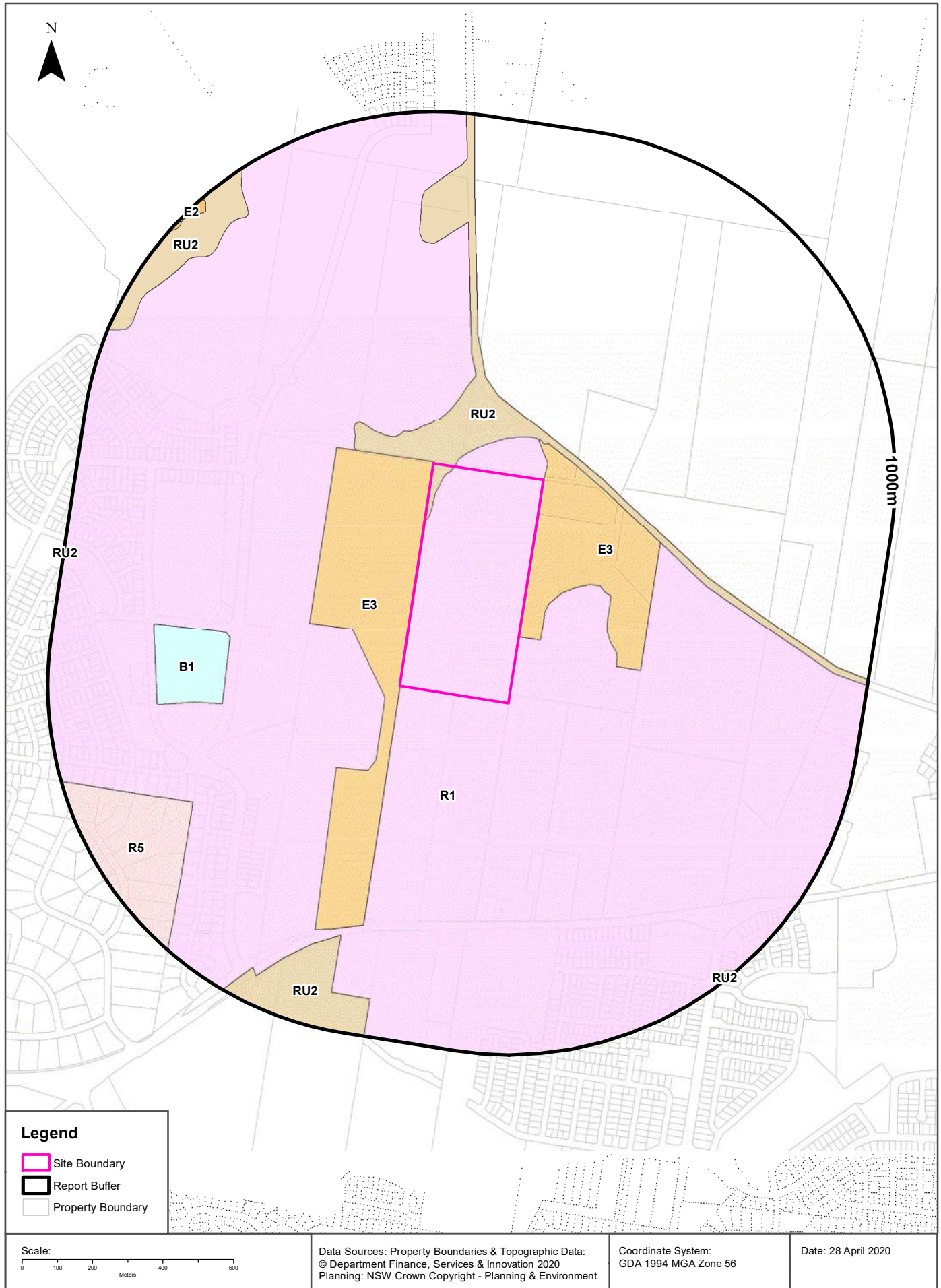
What SEPP State Significant Precincts exist within the dataset buffer?

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

State Environment Planning Policy Data Source: NSW Crown Copyright - Planning & Environment
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EPI Planning Zones

173 McFarlanes Road, Chisholm, NSW 2322



Environmental Planning Instrument

173 McFarlanes 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	12/10/2018		0m	Onsite
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	12/10/2018		0m	Onsite
E3	Environmental Management		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	12/10/2018		0m	East
B1	Neighbourhood Centre		Maitland Local Environmental Plan 2011	28/07/2017	28/07/2017	12/10/2018	Amendment No 22	496m	West
R5	Large Lot Residential		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	12/10/2018		675m	South West
E2	Environmental Conservation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	12/10/2018		967m	North West
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	12/10/2018		977m	South East

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

173 McFarlanes 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
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National Heritage List

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

Note. Please click on Place Id to activate a hyperlink to online website.

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

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
Creative Commons 3.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/3.0/au/deed.en>

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

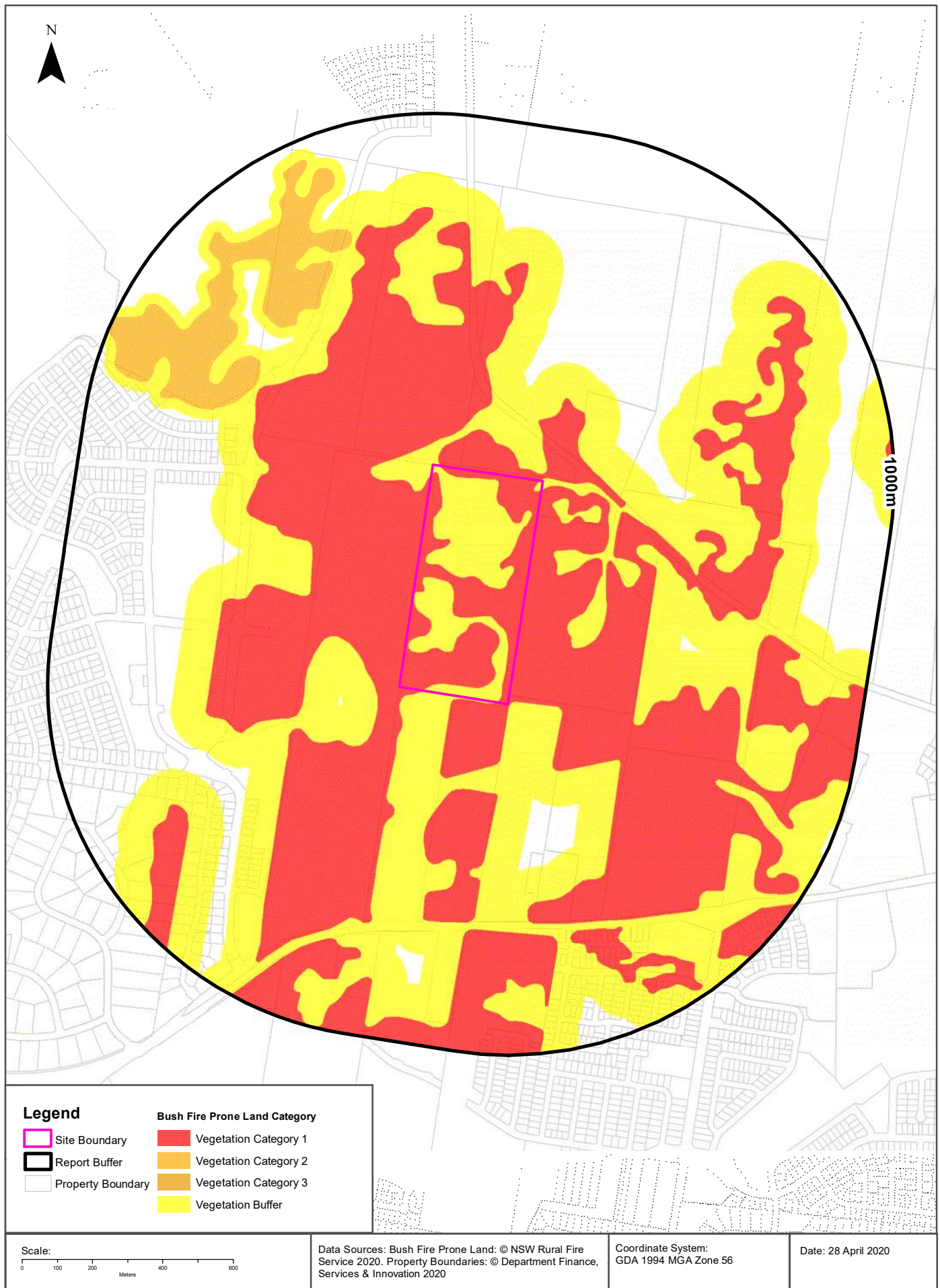
What are the EPI Heritage Items located within the dataset buffer?

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

173 McFarlanes Road, Chisholm, NSW 2322



Natural Hazards

173 McFarlanes 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
Vegetation Category 2	551m	North West

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

Ecological Constraints - Vegetation & Ramsar Wetlands

173 McFarlanes Road, Chisholm, NSW 2322



Ecological Constraints

173 McFarlanes 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	0m	Onsite
5	Alluvial Tall Moist Forest	OF	Mid Dense (Open Forest) 50-<100% cover	E. saligna / S. glomulifera / Glochidion ferdinandi	0m	Onsite
46	Freshwater Wetland Complex	W	Wetland	Ludwigia peploides subsp montevidensis / Paspalum distichum / Eleocharis sphacelata / Juncus usitatus	447m	North East
5	Alluvial Tall Moist Forest	W	Wetland	E. saligna / S. glomulifera / Glochidion ferdinandi	457m	North East
5	Alluvial Tall Moist Forest	WO	Sparse (Woodland) 20-<50% cover	E. saligna / S. glomulifera / Glochidion ferdinandi	792m	North East
17	Lower Hunter Spotted Gum - Ironbark Forest	W	Wetland	C. maculata / E. fibrosa / E. punctata	836m	North

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

Ramsar Wetlands

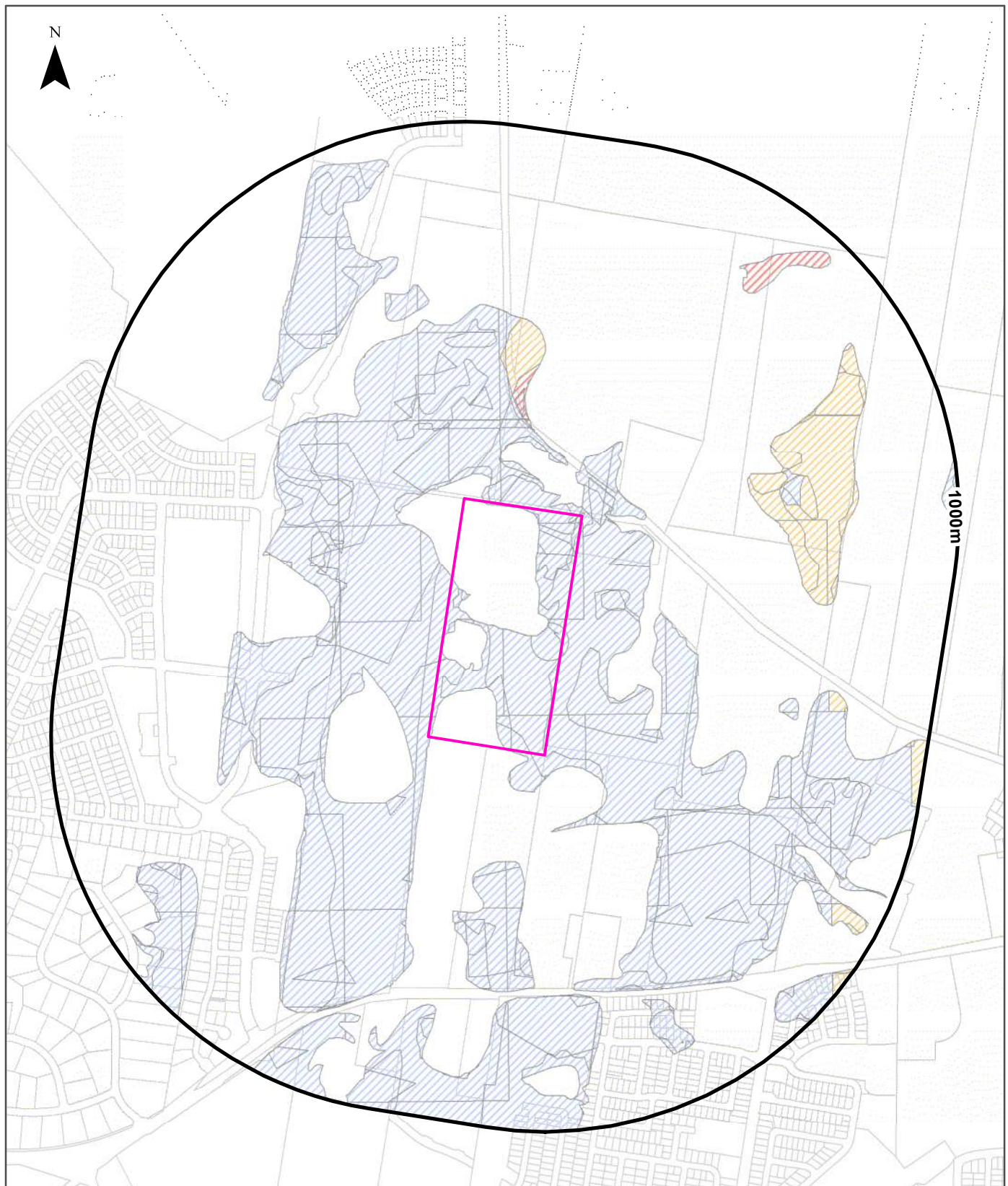
What Ramsar Wetland areas exist within the dataset buffer?

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

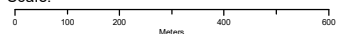
173 McFarlanes Road, Chisholm, NSW 2322



Legend

Site Boundary	High potential GDE - from national assessment	Low potential GDE - from national assessment
Report Buffer	High potential GDE - from regional studies	Low potential GDE - from regional studies
Property Boundaries	Moderate potential GDE - from national assessment	Moderate potential GDE - from regional studies
	Known GDE - from regional studies	Unclassified potential GDE - from national assessment
	Unclassified potential GDE - from regional studies	

Scale:



Data Sources: Property Boundaries & Topographic Data:
© Department Finance, Services & Innovation 2020

Coordinate System:
GDA 1994 MGA Zone 56

Date: 28 April 2020

Ecological Constraints

173 McFarlanes Road, Chisholm, NSW 2322

Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	Low potential GDE - from regional studies	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	Low potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	High potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		212m
Terrestrial	Moderate potential GDE - from regional studies	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		289m

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

173 McFarlanes Road, Chisholm, NSW 2322



Ecological Constraints

173 McFarlanes Road, Chisholm, NSW 2322

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	3	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	4	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	5	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	5	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	6	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	6	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	7	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	7	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	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	10	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		53m
Terrestrial	2	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		651m

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

173 McFarlanes 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	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ardea ibis	Cattle Egret	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Ardenna pacificus	Wedge-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ardenna tenuirostris	Short-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	ROKAMBA;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;CAMBA;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	CAMBA
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	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Lophochroa leadbeateri	Major Mitchell's Cockatoo	Vulnerable	Category 2	Not Listed	

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	Merops ornatus	Rainbow Bee-eater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	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	Phaethon lepturus	White-tailed Tropicbird	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Plegadis falcinellus	Glossy Ibis	Not Listed	Not Sensitive	Not Listed	CAMBA
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	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
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	

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

Data does not include NSW category 1 sensitive species.

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

Location Confidences

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

LC Code	Location Confidence
Premise match	Georeferenced to the site location / premise or part of site
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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 - (g) neither Lotsearch nor Third Party Content Suppliers warrants that all land uses or features whether past or current are identified in the Report;
 - (h) the Report does not include any information relating to the actual state or condition of the Property;
 - (i) the Report should not be used or taken to indicate or exclude actual fitness or unfitness of Land or Property for any particular purpose
 - (j) the Report should not be relied upon for determining saleability or value or making any other decisions in relation to the Property and in particular should not be taken to be a rating or assessment of the desirability or market value of the property or its features; and
 - (k) the End User should undertake its own inspections of the Land or Property to satisfy itself that there are no defects or failures
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 - (a) acknowledges that the Lotsearch (nor any of its officers, employees or agents), nor any

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- (b) waives any right it may have to claim against Third Party Content Supplier in connection with the Report, or the negotiation of, entry into, performance of, or termination of these Terms; and
 - (c) releases each Third Party Content Supplier from any claim it may have otherwise had in connection with the Report, or the negotiation of, entry into, performance of, or termination of these Terms.
5. The End User acknowledges that any Third Party Supplier shall be entitled to plead the benefits conferred on it under clause 4, despite not being a party to these terms.
 6. End User must not remove any copyright notices, trade marks, digital rights management information, other embedded information, disclaimers or limitations from the Report or authorise any person to do so.
 7. End User acknowledges and agrees that Lotsearch and Third Party Content Suppliers retain ownership of all copyright, patent, design right (registered or unregistered), trade marks (registered or unregistered), database right or other data right, moral right or know how or any other intellectual property right in any Report or any other item, information or data included in or provided as part of a Report.
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 - (b) any loss of profit, loss of revenue, loss of interest, loss of data, loss of goodwill or loss of business opportunities, business interruption arising directly or indirectly out of or in relation to the Report or these Terms,irrespective of how that liability arises including in contract or tort, liability under indemnity or for any other common law, equitable or statutory cause of action or otherwise.
 12. These Terms are subject to New South Wales law.

Appendix B

SITE PHOTOGRAPHS



Plate 1 – Brick residential dwelling located in the northern portion of the Site.
Date: 8/5/2020



Plate 2 – Machinery shed located adjacent to residential dwelling.
Date: 8/5/2020



Plate 3 – Cattle yard located in the northern portion of the Site.
Date: 8/5/2020



Plate 4 – Typical topography of the Site.
Date: 1/5/2020



Plate 5 – Large dam (Dam 01) located in the southern portion of the Site.

Date: 8/5/2020



Plate 6 – Dam 02 located in the central portion of the Site towards the western boundary.

Date: 8/5/2020



Plate 7 – Dam 03 located in the central portion of the
Date: 8/5/2020



Plate 8 – Disturbed natural ground in the north western portion of the Site.
Date: 8/5/2020



Plate 9 – Buried concrete and brick located between Dam 02 and Dam 03.

Date: 8/5/2020



Plate 10 – Natural ephemeral drainage line (gully) located in the southern portion of the Site, connecting to Dam 01.

Date: 8/5/2020



Plate 11 – Fill mound (TP15) located near gully in southern portion of Site.
Date: 8/5/2020



Plate 12 – Buried iron roofing sheets (TP12) located near Dam 01.
Date: 8/5/2020



Plate 13 – Stockpiles of cut concrete slab and brick (AM03 and AM04) located near Dam 01.
Date: 8/5/2020



Plate 14 – Typical sub surface conditions observed across the Site.
Date: 8/5/2020



Plate 15 – Typical sub surface conditions observed across the Site.
Date: 8/5/2020



Appendix C

HISTORICAL TITLE DEAD SEARCH



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

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

Summary of Owners Report

Address: - 173 McFarlanes Road, Chisholm

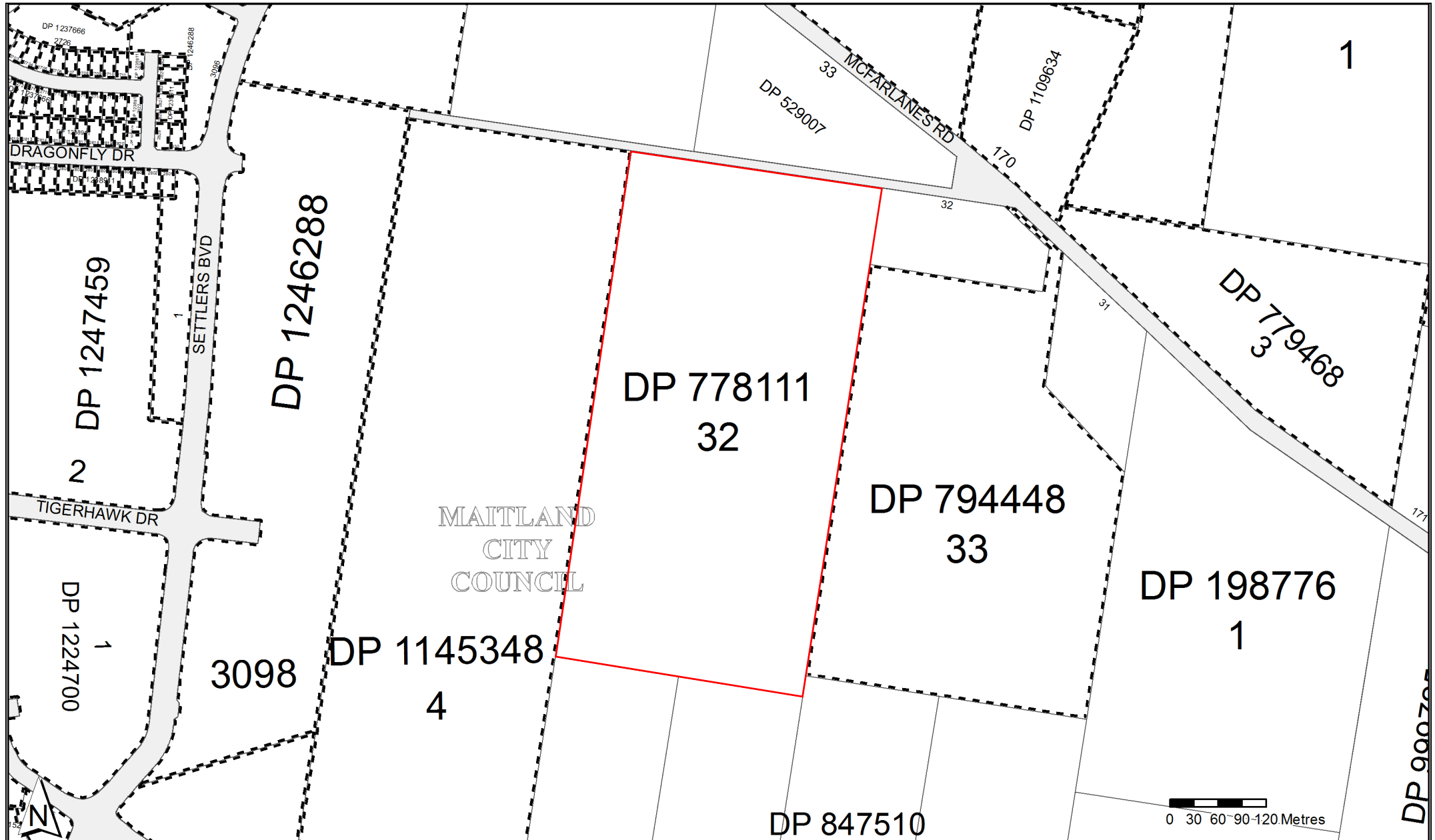
Description: - Lot 32 D.P. 778111

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
13.12.1928 (1928 to 1940)	John Francis (Joseph) O'Brien (Farmer) Christopher Patrick O'Brien (Farmer)	Book 1549 No. 480
24.12.1940 (1940 to 1987)	James Aloysius O'Brien (Farmer) (& His deceased estate)	Book 1889 No. 342
17.08.1983 (1983 to 1987)	Walter Anthony Gerard Enright (Re the Estate of James Aloysius O'Brien)	Vol 15096 Fol 182
11.08.1987 (1987 to 1987)	Patrick Thomas Wills Diane Faye Berry Stewart Allan Neely	Vol 15096 Fol 182
13.11.1987 (1987 to 1989)	Ronald Selwyn May Jennifer Ann May	Vol 15096 Fol 182 Now 32/778111
17.01.1989 (1989 to 1995)	Gregory William Fetterplace Kathryn Helen Fetterplace	32/778111
14.11.1995 (1995 to date)	# Stewart Russell Harris # Edna Lynette Rose Harris	32/778111

Denotes current registered proprietors

Leases & Easements: - NIL

Yours Sincerely
Mark Groll
1 May 2020



PLAN FORM 2

SIGNATURE AND SEALS ONLY.

AS Mortgagee under Mortgage No. 4206480 Westpac Banking Corporation hereby consents to the within Plan of Subdivision:

Signed, Sealed and delivered
WESTPAC BANKING CORPORATION
by Ulrika Marie Mitchell Secretary
who is personally known to me.

Ulrika Marie Mitchell

WESTPAC BANKING CORPORATION
who hereby states that at the time of executing this instrument no notice of execution has been registered at the office of the Registrar General No. 274 Book 3733 under the authority of which this instrument has been executed.

Ulrika Marie Mitchell

NEWCASTLE REGIONAL SECURITIES CENTRE.
Officer in Charge Regional Securities

Crown Lands Office Approval

PLAN APPROVED Authorised Officer

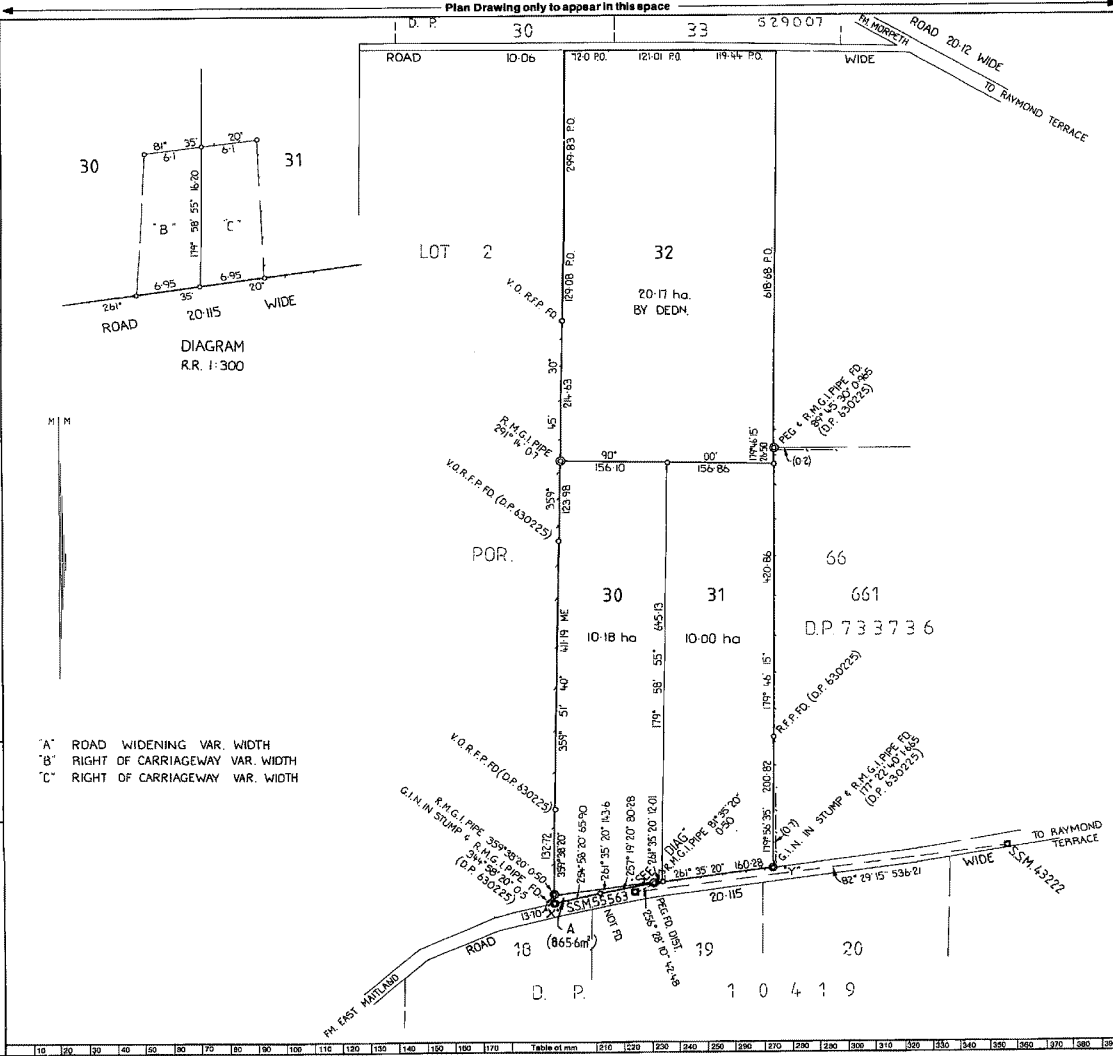
Land Diagram
 Paper No.
 Field Book pages

Council Clerk's Certificate

I hereby certify that—
 (a) the requirements of the Local Government Act, 1993 (other than the requirements of the registration of plans), and
 (b) the requirements of section 246 of the Metropolitan Water, Sewerage and Drainage Act, 1998, as amended
 have been complied with by the applicant in relation to the proposed Subdivision.

Proposed "new road", "subdivision" or "consolidated lot" set out herein:
 Subdivision No. ... 57092
 Date ... 15.8.88
 (Signature) *Ulrika Marie Mitchell*
 Council File No. ... 133/5/87/Q82

*This part of certificate to be deleted where the application is only for a consolidation or the spacing of a new road or where the road to be subdivided is wholly outside the areas of operation of the Metropolitan Water, Sewerage and Drainage Board and the Hunter District Water Board.
 †Delete if inapplicable.



OFFICE USE ONLY

DP778111

Registered: *DP 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

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)

ANDREW CLARK
 SCOTT CROSS
 of ...
 a surveyor registered under the Surveyors Act, 1929, as amended, hereby certifies that the survey represented on this plan AS REGARDS LOTS 30 & 31 ONLY, is accurate and has been made in accordance with the Survey Practice Regulations, 1923 and any subsequent requirements of the Department of Lands, and was completed on 27.10.1988

Signature: *Andrew Clark*
 Surveyor registered under Surveyors Act, 1929, as amended.
 (Delete Line of Signature, "X" = "Y" latest date of survey)

Plans used in preparation of survey/compilation:
 D.P. 630225
 D.P. 133736

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

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919-24 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

- A' ROAD WIDENING VAR. WIDTH
- B' RIGHT OF CARRIAGEWAY VAR. WIDTH
- C' RIGHT OF CARRIAGEWAY VAR. WIDTH

Table of mm 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

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

10 20 30 40 50 60 70 Table of mm 110 120 130 140

CERTIFICATE OF TITLE

PROPERTY ACT, 1900



15096182

NEW SOUTH WALES
First Title Old System

Prior Title P.A. 57186

Vol. 15096 Fol. 182
EDITION ISSUED 17 8 1983



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

CANCELLED

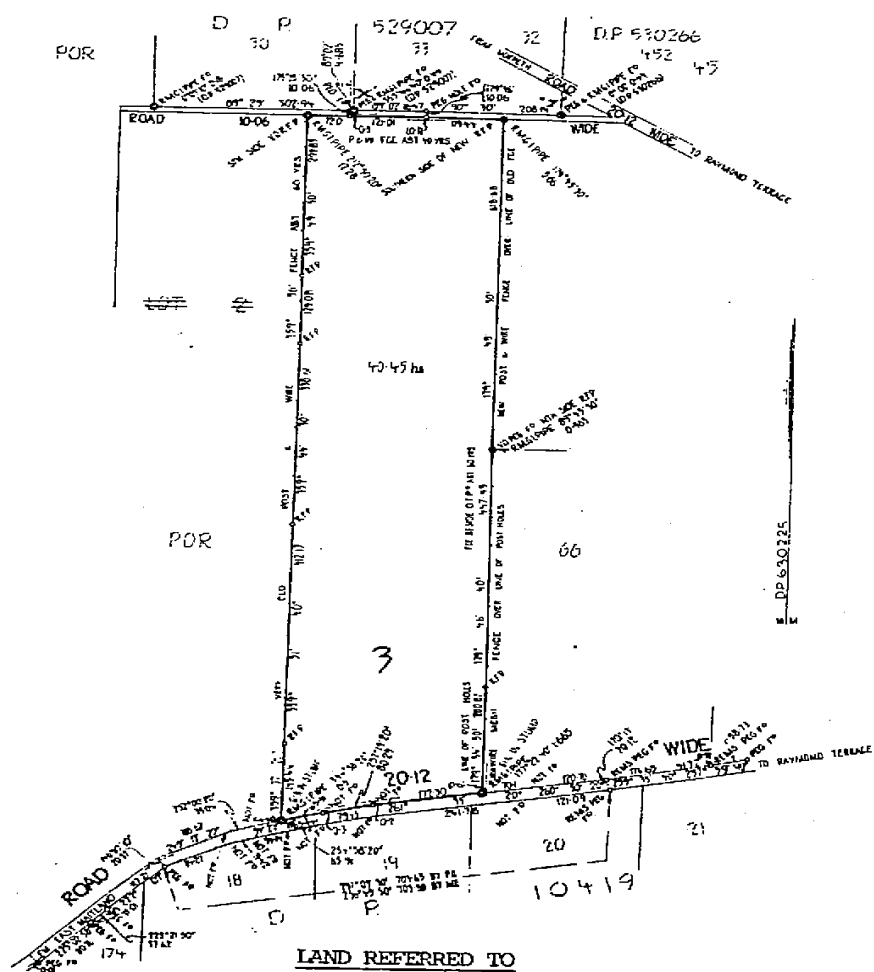
SEE AUTO FOLIO

[Signature]
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 FAIRCLIFFE.~~

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

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
X200479
804K



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

1/5/2020 4:05PM

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 ***



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

1/5/2020 4:04PM

FOLIO: 32/778111

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
17/1/1989	Y105897	DISCHARGE OF MORTGAGE	
17/1/1989	Y105898	TRANSFER	
17/1/1989	Y105899	MORTGAGE	EDITION 2
18/3/1991	Z559517	DISCHARGE OF MORTGAGE	
18/3/1991	Z559518	MORTGAGE	EDITION 3
14/11/1995	O685832	DISCHARGE OF MORTGAGE	
14/11/1995	O685833	TRANSFER	EDITION 4
12/6/1996	2223558	MORTGAGE	EDITION 5
12/2/2002	8350653	DISCHARGE OF MORTGAGE	EDITION 6

*** END OF SEARCH ***

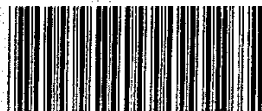
RP 13



OFFICE OF STAMP REVENUE
 (N.S.W. TREASURY)
 1999/89 N7
 \$1.00
 CHIEF COMMISSIONER



PLACES



Y105898

Beresfield 251

TRANSFER
 REAL PROPERTY ACT, 1900

T 3 2 3 of 3
 \$ 47/

DESCRIPTION OF LAND Note (a)

Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
Certificate of Title Folio Identifier 32/778111	WHOLE	Thornton City of Maitland

TRANSFEROR Note (b)

RONALD SELWYN MAY and JENNIFER ANN MAY of Thornton

ESTATE Note (c)

(the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of \$ FORTY FIVE THOUSAND DOLLARS (\$45,000.00) and transfers an estate in fee simple in the land above described to the TRANSFEEE

TRANSFEEE Note (d)

GREGORY WILLIAM FETERPLACE and KATHRYN HELEN FETERPLACE
 30 Redbill Drive, Woodberry

OFFICE USE ONLY
 JT2

TENANCY Note (e)

as joint tenants ~~tenants in common~~

PRIOR ENCUMBRANCES Note (f)

subject to the following PRIOR ENCUMBRANCES 1.
 2.
 3.

DATE 21ST DECEMBER 1988

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

EXECUTION Note (g)

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

Ralph K Ward
 Signature of Witness
RALPH K WARD
 Name of Witness (BLOCK LETTERS)
Maitland Solicitor
 Address and occupation of Witness

Jennifer Ann May
 Signature of Transferor

Note (g)

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

.....
 Signature of Witness

 Name of Witness (BLOCK LETTERS)

 Address and occupation of Witness

Rodney Williams (RODNEY WILLIAMS)
 Signature of Transferee's SOLICITOR

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

LODGED BY	LOCATION OF DOCUMENTS				
	CT	OTHER			
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Herewith.		
		In L.T.O. with			
		Produced by			
Delivery Box Number	Checked	Passed	REGISTERED -19	Secondary Directions	
	Signed	Extra Fee	17 JAN 1989	Delivery Directions	



FOLIO: 32/778111

SEARCH DATE	TIME	EDITION NO	DATE
1/5/2020	4:01 PM	6	12/2/2002

LAND

LOT 32 IN DEPOSITED PLAN 778111
AT THORNTON
LOCAL GOVERNMENT AREA MAITLAND
PARISH OF ALNWICK COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP778111

FIRST SCHEDULE

STEWART RUSSELL HARRIS
EDNA LYNETTE ROSE HARRIS
AS JOINT TENANTS

(T 0685833)

SECOND SCHEDULE (2 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 DP778111 RESTRICTION(S) ON THE USE OF LAND

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***






Appendix D

TEST PIT LOGS





PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 373060.75
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375308.08
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 13
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.5	CHECKED BY JY

COMMENTS Driveway

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TB01_0.1		FILL: silty sandy CLAY with some gravel, medium plasticity, fine to medium grained, orange brown.	D-M	V Stiff	
7				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown mottled grey, trace small rounded gravel.			
9							
8	0.5						
8							
11				sandy CLAY: medium plasticity, fine to medium grained, orange-brown/red.		Hard	
Ref							
1							
1.5				EOI at 1.5 m BGL			



PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 373014.31
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375206.01
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 19
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.5	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TB01_0.1		FILL: sandy SILT, non plastic, fine to medium grained, pale brown, small to medium angular gravel.	D-M		
0.5	10			sandy CLAY: medium plasticity, fine to medium grained, red-brown mottled light grey, trace small to medium sub angular gravel.		V Stiff	
1	Ref					Hard	
				As above. Pale grey-white.			
1.5				EOI at 1.5 m BGL			





PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372941.03
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375289,38
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 17
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.5	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP03_0.1 ASS01		TOPSOIL: sandy SILT with some clay, non plastic, fine to medium grained, pale brown.	D		
13				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown mottled grey, trace small rounded gravel.	D-M	V Stiff	
0.5		ASS02					
12							
7							
8							
1	Ref			As above. Grey-brown.		Hard	
		ASS03					
1.5				EOI at 1.5 m BGL			




PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372935.39
PROJECT NAME Preliminary Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375341.96
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 13
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.3	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations	
		TP04_0.1 ASS04		TOPSOIL: sandy SILT, non plastic, fine to medium grained, dark brown.	D			
8				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown mottled grey.	D-M	V Stiff		
7		TP04_0.5 ASS05						
0.5								
12								
21						Hard		
Ref								
1		ASS06		sandy CLAY: medium plasticity, fine to medium grained, pale brown.				
				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D			
1.5				EOI at 1.3 m BGL				



PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372889.03
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375318.00
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 11
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP05_0.1 ASS07		TOPSOIL: sandy SILT, non plastic, fine to medium grained, dark brown.	D		
1				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown mottled grey.	D-M	Soft	
5		Firm					
0.5		ASS08				V Stiff	
7							
12				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D	Hard	
Ref							
1				EOI at 1 m BGL			
1.5							



PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372806.67
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375289.90
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 7
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 2.5	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
0.5		TP06_0.1		TOPSOIL: sandy SILT, non plastic, fine to medium grained, brown.	D		
1	12	TP06_1.0 ASS09		sandy silty CLAY: medium plasticity, fine to medium grained, red-brown mottled dark grey, trace small rounded gravel.	D-M	V Stiff	
1.5	4	ASS10				Stiff	
2	5	ASS11		sandy silty CLAY (slope wash): medium to high plasticity, fine to medium grained, grey mottled red-brown and orange.			
2.5				EOI at 2.5 m BGL			




PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372777.62
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375318.03
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 7
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 2.2	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP07_0.1 ASS12		TOPSOIL: sandy SILT some clay, non plastic, fine to medium grained, brown.	D		
11				sandy silty CLAY (slope wash): medium to high plasticity, fine to medium grained, grey mottled red-brown and orange.	D-M	V Stiff	
0.5		ASS13				Stiff	
6							
4							
5							
1		ASS14					
4							
1.5							
4							
6							
5							
2		ASS15					
				EOI at 2.2 m BGL			
2.5							



PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372856.84
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375204.81
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 13
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.2	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP08_0.1 ASS16		TOPSOIL: sandy SILT, non plastic, fine to medium grained, pale brown.	D		
10				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown mottled grey, trace small rounded gravel.	D-M	V Stiff	
7						Stiff	
5		ASS17 CBR Shrink Swell					
0.5						Hard	
6							
14							
17				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
1		Ref					
				EOI at 1.2 m BGL			





PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372806.93
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375125.01
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 12
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 2	CHECKED BY JY

COMMENTS Fill area approximately 10m x 8m

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
0.5		TP09_0.5 ACM01 ACM01_ID		FILL: sandy SILT, non plastic, fine to medium grained, brown.	D		Building waste (metal, brick, concrete, steel)
1.5		TP09_1.5		sandy silty CLAY: medium plasticity, fine to medium grained, red-brown mottled grey, trace small rounded gravel.	D-M		
2				EOI at 2 m BGL			




PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372856.84
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375204.81
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 13
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP10_0.05 ASS18		TOPSOIL: sandy SILT, non plastic, fine to medium grained, pale brown.	D		
3				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown mottled grey, trace small rounded gravel.	D-M	Stiff	
4							
5		ASS19		sandy CLAY: medium plasticity, fine to medium grained, orange-brown mottled light grey.		Hard	
19							
Ref							
				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
1				EOI at 1 m BGL			

PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372915.36
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375045.01
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 21
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP11_0.1		TOPSOIL: sandy SILT, non plastic, fine to medium grained, pale grey.	D		
				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown, trace small rounded gravel.	D-M		
0.5				As above. Pale grey mottle red.			
				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
1				EOI at 1 m BGL			
1.5							

PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372753.51
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6374977.05
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 14
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.8	CHECKED BY JY

COMMENTS Fill area approximately 10 m x 12 m

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
				FILL: sandy SILT, non plastic, fine to medium grained, pale brown, small to medium angular gravel.	D		Corrugated iron sheets
		TP12_0.2					
0.5	12	TP12_0.5		sandy silty CLAY: medium plasticity, fine to medium grained, brown mottled grey, trace small rounded gravel.	D-M	V Stiff	
	12			As above. Red-brown.			
	9						
	8						
1	8						
	9						
	12						
1.5	14					Hard	
	16						
				EOI at 1.8 m BGL			

PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372757.85
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6374876.23
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 18
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.6	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
				FILL: sandy SILT, non plastic, fine to medium grained, pale brown, small to medium angular gravel.	D		Some ash. Area possibly used for fire.
		TP13_0.2					
16				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown, trace small rounded gravel.	D-M	V Stiff	
0.5	7						
	9						
	6						
1	5						
	9						
	12			As above. Pale grey mottle red.			
	Ref					Hard	
1.5				XW SANDSTONE: fine to medium grained, light grey mottled orange.			
				EOI at 1.6 m BGL			




PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372839.66
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6374872.87
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 16
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.6	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
				FILL: sandy SILT, non plastic, fine to medium grained, pale grey-orange, small to medium angular gravel.	D		Some ash. Area possibly used for fire.
0.5		TP14_0.2					
0.5	9	TP14_0.6		sandy silty CLAY: medium plasticity, fine to medium grained, red-brown, trace small rounded gravel.	D-M	V Stiff	
6							
8							
8							
1							
9							
12				As above. Pale grey mottle red.			
16						Hard	
1.5							
	Ref			XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
				EOI at 1.6 m BGL			



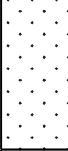
PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372907.61
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6374834.99
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 22
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.6	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
0.5		TP15_0.2		FILL: sandy SILT, non plastic, fine to medium grained, pale brown, small to medium angular gravel.	D		Some ash. Area possibly used for fire.
1				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown, trace small rounded gravel.	D-M		
1.5				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
				EOI at 1.6 m BGL			




PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.2	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP16_0.1		FILL: sandy SILT, non plastic, fine to medium grained, pale brown, small to medium angular gravel.	D		Some ash. Area possibly used for fire.
0.5	7	TP16_0.5		sandy silty CLAY: medium plasticity, fine to medium grained, red-brown, trace small rounded gravel.	D-M	V Stiff	
	7					Hard	
	10						
	16						
1	Ref			XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
				EOI at 1.2 m BGL			
1.5							




PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372966.79
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6374953.09
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 29
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.2	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP17_0.1		TOPSOIL: sandy SILT, non plastic, fine to medium grained, dark brown.	D		
6				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown, trace small rounded gravel.	D-M	V Stiff	
8							
12	0.5	CBR Shrink Swell				Hard	
18							
Ref							
1				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
1.5				EOI at 1.2 m BGL			




PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372946.21
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6374747.41
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 25
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.7	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP18_0.1		TOPSOIL: sandy SILT with some clay, non plastic, fine to medium grained, dark brown.	D		
5				sandy CLAY: medium plasticity, fine to medium grained, red-brown mottled light grey, trace small to medium sub angular gravel.	D-M	Stiff	
0.5	5	CBR Shrink Swell					
	3						
	3						
	4						
1							
	6					V Stiff	
	6			As above. Pale grey mottle red.			
	8						
1.5							
	9						
	12			XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
				EOI at 1.7 m BGL			




PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372802.59
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375025.72
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 16
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.8	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP19_0.1		TOPSOIL: sandy SILT, non plastic, fine to medium grained, pale brown.	D		
4				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown, trace small rounded gravel.	D-M	Stiff	
4							
6		CBR					
0.5							
5							
7				As above. Pale grey mottle red.			
8							
1							
10							
12							
16						Hard	
1.5		Ref					
				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
				EOI at 1.8 m BGL			



PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372914.13
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6374912.17
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 25
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP20_0.1		TOPSOIL: sandy SILT with some clay, non plastic, fine to medium grained, pale brown.	D		
2				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown, trace small rounded gravel.	D-M	Firm	
3							
4							
0.5							
12						Hard	
Ref							
				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
1				EOI at 1 m BGL			
1.5							





PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 373014.31
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6375206.01
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 19
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1	CHECKED BY JY

COMMENTS Cattle yard

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TB21_0.05		TOPSOIL: sandy SILT, non plastic, fine to medium grained, pale brown.	D		
0.5				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown mottled grey, trace small rounded gravel.	D-M		
1				EOI at 1 m BGL			
1.5							

PROJECT NUMBER EP1655	DRILLING DATE 8/5/2020	EASTING 372718.21
PROJECT NAME PSI and Geotech	DRILLING COMPANY ARSK Civil	NORTHING 6374786.28
CLIENT Allam Homes	DRILLER -	SURFACE ELEVATION 24
ADDRESS 173 McFarlanes Road, Chisholm, NSW	DRILLING METHOD 5 T Excavator	LOGGED BY SL
	TOTAL DEPTH 1.3	CHECKED BY JY

COMMENTS

Depth (m)	DCP (blows per 150)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	Consistency	Additional Observations
		TP22_0.05		TOPSOIL: sandy SILT, non plastic, fine to medium grained, pale brown.	D		
12				sandy silty CLAY: medium plasticity, fine to medium grained, red-brown, trace small rounded gravel.	D-M	Hard	
12							
0.5							
12		CBR					
20							
1		Ref		sandy CLAY: medium plasticity, fine to medium grained, light grey mottled red brown, trace small to medium sub angular gravel.			
				XW SANDSTONE: fine to medium grained, light grey mottled orange.	D		
1.5				EOI at 1.3 m BGL			



Preliminary Site Investigation
173 McFarlanes Road, Chisholm, NSW
Allam Homes c/- ADW Johnson Pty Ltd
Appendices

Appendix E

NATA ACCREDITED LABORATORY REPORTS

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



NATA Accredited
 Accreditation Number 1261
 Site Number 1254 & 14271

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: **Stuart Lord**

Report **717075-S**
 Project name **HARRIS PROPERTY PSI**
 Project ID **EP1655**
 Received Date **May 01, 2020**

Client Sample ID			^{M01} SED_01	SED_02	SED_03	QS01
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My02130	M20-My02131	M20-My02132	M20-My02133
Date Sampled			May 01, 2020	May 01, 2020	May 01, 2020	May 01, 2020
Test/Reference	LOR	Unit				
Pathogens						
E.coli	1	MPN/g	< 10	20	< 10	< 10
Thermotolerant Coliforms	1	MPN/g	^{M10} < 10	^{M10} 63	^{M10} < 10	^{M10} 63
% Moisture	1	%	28	42	35	42

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
E.coli - Method: LTM-MIC-6621 E.Coli and Total Coliforms by the MPN	Melbourne	May 05, 2020	72 Hour
Thermotolerant Coliforms - Method: Inhouse: Thermotolerant Coliforms in Soil by MPN*	Melbourne	May 05, 2020	72 Hour
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	May 04, 2020	14 Days

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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

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

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

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)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Order No.:
Report #: 717075
Phone: 02 99225021
Fax:

Received: May 1, 2020 3:20 PM
Due: May 8, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						E.coli	Thermotolerant Coliforms	Moisture Set	Eurofins mg/L Suite B10 (filtered metals)	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
External Laboratory											
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	WATER_01	May 01, 2020		Water	M20-My02126	X	X		X		X
2	WATER_02	May 01, 2020		Water	M20-My02127	X	X		X		X
3	WATER_03	May 01, 2020		Water	M20-My02128	X	X		X		X
4	QW01	May 01, 2020		Water	M20-My02129	X	X		X		X
5	SED_01	May 01, 2020		Soil	M20-My02130	X	X	X			
6	SED_02	May 01, 2020		Soil	M20-My02131	X	X	X			
7	SED_03	May 01, 2020		Soil	M20-My02132	X	X	X			
8	QS01	May 01, 2020		Soil	M20-My02133	X	X	X			
9	TB	May 01, 2020		Water	M20-My02134					X	
10	TS	May 01, 2020		Water	M20-My02135					X	

Australia

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Phone : +61 3 8564 5000
NATA # 1261
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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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)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Order No.:
Report #: 717075
Phone: 02 99225021
Fax:

Received: May 1, 2020 3:20 PM
Due: May 8, 2020
Priority: 5 Day
Contact Name: Stuart Lord

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Sample Detail	E.coli	Thermotolerant Coliforms	Moisture Set	Eurofins mg/L Suite B10 (filtered metals)	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Test Counts	8	8	4	4	2	4

Internal Quality Control Review and Glossary

General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M20-My02031	NCP	%	1.3	1.1	13	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
M01	Microbiological Testing performed outside the recommended holding time
M10	NATA accreditation does not cover the performance of this service in soil matrices

Authorised By

Alena Bounkeua	Analytical Services Manager
Nandhini Uthayakumaran	Senior Analyst-Microbiology (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](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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



NATA Accredited
Accreditation Number 1261
Site Number 1254 & 14271

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The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: **Stuart Lord**

Report **717075-W**
Project name **HARRIS PROPERTY PSI**
Project ID **EP1655**
Received Date **May 01, 2020**

Client Sample ID			M01 WATER_01	M01 WATER_02	M01 WATER_03	M01 QW01
Sample Matrix	LOR	Unit	Water	Water	Water	Water
Eurofins Sample No.			M20-My02126	M20-My02127	M20-My02128	M20-My02129
Date Sampled			May 01, 2020	May 01, 2020	May 01, 2020	May 01, 2020
Test/Reference						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2) ^{N01}	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	98	101	101	99
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			M01 WATER_01	M01 WATER_02	M01 WATER_03	M01 QW01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M20-My02126	M20-My02127	M20-My02128	M20-My02129
Date Sampled			May 01, 2020	May 01, 2020	May 01, 2020	May 01, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	53	74	76	76
p-Terphenyl-d14 (surr.)	1	%	67	92	89	84
Organochlorine Pesticides						
Chlordanes - Total	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Toxaphene	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibutylchloroendate (surr.)	1	%	51	57	56	72
Tetrachloro-m-xylene (surr.)	1	%	86	91	104	118
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorpyrifos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-S	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002

Client Sample ID			M01 WATER_01	M01 WATER_02	M01 WATER_03	M01 QW01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M20-My02126	M20-My02127	M20-My02128	M20-My02129
Date Sampled			May 01, 2020	May 01, 2020	May 01, 2020	May 01, 2020
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Omethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	96	71	72	78
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g,h,i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a,h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1,2,3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	53	74	76	76
p-Terphenyl-d14 (surr.)	1	%	67	92	89	84
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	0.002	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	0.015	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	0.002	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Client Sample ID			M01 WATER_01	M01 WATER_02	M01 WATER_03	M01 QW01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M20-My02126	M20-My02127	M20-My02128	M20-My02129
Date Sampled			May 01, 2020	May 01, 2020	May 01, 2020	May 01, 2020
Test/Reference	LOR	Unit				
Heavy Metals						
Nickel (filtered)	0.001	mg/L	< 0.001	< 0.001	0.003	< 0.001
Zinc (filtered)	0.005	mg/L	0.006	< 0.005	0.026	< 0.005
Pathogens						
E.coli	1	MPN/100mL	21	24	7.0	20
Thermotolerant Coliforms	1	MPN/100mL	83	150	7.0	57

Client Sample ID			TB	R20 TS
Sample Matrix			Water	Water
Eurofins Sample No.			M20-My02134	M20-My02135
Date Sampled			May 01, 2020	May 01, 2020
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene ^{N02}	0.01	mg/L	< 0.01	98
TRH C6-C10	0.02	mg/L	< 0.02	70
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	70
BTEX				
Benzene	0.001	mg/L	< 0.001	94
Toluene	0.001	mg/L	< 0.001	91
Ethylbenzene	0.001	mg/L	< 0.001	88
m&p-Xylenes	0.002	mg/L	< 0.002	81
o-Xylene	0.001	mg/L	< 0.001	92
Xylenes - Total*	0.003	mg/L	< 0.003	85
4-Bromofluorobenzene (surr.)	1	%	93	101

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 - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 04, 2020	7 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 04, 2020	7 Days
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 04, 2020	7 Days
BTEX - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 04, 2020	14 Days
Eurofins mgt Suite B10 (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 04, 2020	
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	May 04, 2020	7 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)	Melbourne	May 04, 2020	7 Days
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081)	Melbourne	May 04, 2020	7 Days
Metals M8 filtered - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	May 04, 2020	28 Days
Polycyclic Aromatic Hydrocarbons (Trace level) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)	Melbourne	May 04, 2020	7 Days
E.coli - Method: LTM-MIC-6621 E.Coli and Total Coliforms by the MPN	Melbourne	May 05, 2020	24 Hour
Thermotolerant Coliforms - Method: Inhouse LTM-MIC-6623: Thermotolerant Coliforms by MPN	Melbourne	May 05, 2020	24 Hour

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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

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

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

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

Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Order No.:
Report #: 717075
Phone: 02 99225021
Fax:

Received: May 1, 2020 3:20 PM
Due: May 8, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						E.coli	Thermotolerant Coliforms	Moisture Set	Eurofins mg/L Suite B10 (filtered metals)	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
External Laboratory											
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	WATER_01	May 01, 2020		Water	M20-My02126	X	X		X		X
2	WATER_02	May 01, 2020		Water	M20-My02127	X	X		X		X
3	WATER_03	May 01, 2020		Water	M20-My02128	X	X		X		X
4	QW01	May 01, 2020		Water	M20-My02129	X	X		X		X
5	SED_01	May 01, 2020		Soil	M20-My02130	X	X	X			
6	SED_02	May 01, 2020		Soil	M20-My02131	X	X	X			
7	SED_03	May 01, 2020		Soil	M20-My02132	X	X	X			
8	QS01	May 01, 2020		Soil	M20-My02133	X	X	X			
9	TB	May 01, 2020		Water	M20-My02134					X	
10	TS	May 01, 2020		Water	M20-My02135					X	

Australia

Melbourne
 6 Monterey Road
 Dandenong South VIC 3175
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 Site # 1254 & 14271

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 Lane Cove West NSW 2066
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 Phone : +61 7 3902 4600
 NATA # 1261 Site # 20794

Perth
 2/91 Leach Highway
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 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)
Address: 109/283 Alfred Street
 North Sydney
 NSW 2060
Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Order No.:
Report #: 717075
Phone: 02 99225021
Fax:

Received: May 1, 2020 3:20 PM
Due: May 8, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail	E.coli	Thermotolerant Coliforms	Moisture Set	Eurofins mg/L Suite B10 (filtered metals)	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Test Counts	8	8	4	4	2	4

Internal Quality Control Review and Glossary

General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
- 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 - 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							
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							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g,h,i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a,h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1,2,3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4,4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4,4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4,4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	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	
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&i)fluoranthene	mg/L	< 0.00001			0.00001	Pass	

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
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	
Method Blank						
Heavy Metals						
Arsenic (filtered)	mg/L	< 0.001		0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002		0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001		0.001	Pass	
Copper (filtered)	mg/L	< 0.001		0.001	Pass	
Lead (filtered)	mg/L	< 0.001		0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001		0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001		0.001	Pass	
Zinc (filtered)	mg/L	< 0.005		0.005	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene	%	96		70-130	Pass	
TRH C6-C10	%	78		70-130	Pass	
TRH >C10-C16	%	102		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	%	82		70-130	Pass	
TRH C10-C14	%	109		70-130	Pass	
LCS - % Recovery						
BTEX						
Benzene	%	82		70-130	Pass	
Toluene	%	78		70-130	Pass	
Ethylbenzene	%	78		70-130	Pass	
m&p-Xylenes	%	74		70-130	Pass	
Xylenes - Total*	%	77		70-130	Pass	
LCS - % Recovery						
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	%	104		70-130	Pass	
Acenaphthylene	%	102		70-130	Pass	
Anthracene	%	82		70-130	Pass	
Benz(a)anthracene	%	76		70-130	Pass	
Benzo(a)pyrene	%	102		70-130	Pass	
Benzo(b&j)fluoranthene	%	124		70-130	Pass	
Benzo(g,h,i)perylene	%	119		70-130	Pass	
Benzo(k)fluoranthene	%	114		70-130	Pass	
Chrysene	%	124		70-130	Pass	
Dibenz(a,h)anthracene	%	122		70-130	Pass	
Fluoranthene	%	108		70-130	Pass	
Fluorene	%	110		70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	124		70-130	Pass	
Naphthalene	%	106		70-130	Pass	
Phenanthrene	%	111		70-130	Pass	
Pyrene	%	108		70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Organochlorine Pesticides								
4.4'-DDD	%	73			70-130	Pass		
4.4'-DDE	%	94			70-130	Pass		
4.4'-DDT	%	87			70-130	Pass		
a-BHC	%	79			70-130	Pass		
Aldrin	%	80			70-130	Pass		
b-BHC	%	90			70-130	Pass		
d-BHC	%	103			70-130	Pass		
Dieldrin	%	95			70-130	Pass		
Endosulfan I	%	93			70-130	Pass		
Endosulfan II	%	120			70-130	Pass		
Endosulfan sulphate	%	73			70-130	Pass		
Endrin	%	105			70-130	Pass		
Endrin aldehyde	%	83			70-130	Pass		
Endrin ketone	%	79			70-130	Pass		
g-BHC (Lindane)	%	108			70-130	Pass		
Heptachlor	%	98			70-130	Pass		
Heptachlor epoxide	%	100			70-130	Pass		
Hexachlorobenzene	%	94			70-130	Pass		
Methoxychlor	%	85			70-130	Pass		
LCS - % Recovery								
Organophosphorus Pesticides								
Diazinon	%	104			70-130	Pass		
Dimethoate	%	80			70-130	Pass		
Ethion	%	75			70-130	Pass		
Fenitrothion	%	102			70-130	Pass		
Methyl parathion	%	105			70-130	Pass		
Mevinphos	%	93			70-130	Pass		
LCS - % Recovery								
Polycyclic Aromatic Hydrocarbons (Trace level)								
Acenaphthene	%	104			70-130	Pass		
Acenaphthylene	%	102			70-130	Pass		
Anthracene	%	82			70-130	Pass		
Benz(a)anthracene	%	76			70-130	Pass		
Benzo(a)pyrene	%	102			70-130	Pass		
Benzo(b&j)fluoranthene	%	124			70-130	Pass		
Benzo(g,h,i)perylene	%	119			70-130	Pass		
Benzo(k)fluoranthene	%	114			70-130	Pass		
Chrysene	%	124			70-130	Pass		
Dibenz(a,h)anthracene	%	122			70-130	Pass		
Fluoranthene	%	108			70-130	Pass		
Fluorene	%	110			70-130	Pass		
Indeno(1,2,3-cd)pyrene	%	124			70-130	Pass		
Naphthalene	%	106			70-130	Pass		
Phenanthrene	%	111			70-130	Pass		
Pyrene	%	108			70-130	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
Naphthalene	M20-My03634	NCP	%	88		70-130	Pass	
TRH C6-C10	M20-My03634	NCP	%	89		70-130	Pass	
TRH >C10-C16	B20-Ap44836	NCP	%	95		70-130	Pass	
Spike - % Recovery								

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M20-My03634	NCP	%	94			70-130	Pass	
TRH C10-C14	B20-Ap44836	NCP	%	98			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M20-My03634	NCP	%	90			70-130	Pass	
Toluene	M20-My03634	NCP	%	83			70-130	Pass	
Ethylbenzene	M20-My03634	NCP	%	91			70-130	Pass	
m&p-Xylenes	M20-My03634	NCP	%	84			70-130	Pass	
o-Xylene	M20-My03634	NCP	%	91			70-130	Pass	
Xylenes - Total*	M20-My03634	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	P20-My00936	NCP	%	91			70-130	Pass	
Acenaphthylene	P20-My00936	NCP	%	80			70-130	Pass	
Anthracene	P20-My00936	NCP	%	115			70-130	Pass	
Benz(a)anthracene	P20-My00936	NCP	%	87			70-130	Pass	
Benzo(a)pyrene	P20-My00936	NCP	%	83			70-130	Pass	
Benzo(b&j)fluoranthene	P20-My00936	NCP	%	108			70-130	Pass	
Benzo(g,h,i)perylene	P20-My00936	NCP	%	92			70-130	Pass	
Benzo(k)fluoranthene	P20-My00936	NCP	%	99			70-130	Pass	
Chrysene	P20-My00936	NCP	%	97			70-130	Pass	
Dibenz(a,h)anthracene	P20-My00936	NCP	%	81			70-130	Pass	
Fluoranthene	P20-My00936	NCP	%	93			70-130	Pass	
Fluorene	P20-My00936	NCP	%	90			70-130	Pass	
Indeno(1,2,3-cd)pyrene	P20-My00936	NCP	%	90			70-130	Pass	
Naphthalene	P20-My00936	NCP	%	88			70-130	Pass	
Phenanthrene	P20-My00936	NCP	%	77			70-130	Pass	
Pyrene	P20-My00936	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S20-My01042	NCP	%	98			70-130	Pass	
Cadmium (filtered)	S20-My01042	NCP	%	103			70-130	Pass	
Chromium (filtered)	S20-My01042	NCP	%	98			70-130	Pass	
Copper (filtered)	S20-My01042	NCP	%	95			70-130	Pass	
Lead (filtered)	S20-My01042	NCP	%	103			70-130	Pass	
Mercury (filtered)	S20-My01042	NCP	%	101			70-130	Pass	
Nickel (filtered)	S20-My01042	NCP	%	98			70-130	Pass	
Zinc (filtered)	S20-My01042	NCP	%	96			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M20-My03633	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M20-My03633	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	B20-Ap44835	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M20-My03633	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	B20-Ap44835	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	B20-Ap44835	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	B20-Ap44835	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	M20-My03633	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Toluene	M20-My03633	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Ethylbenzene	M20-My03633	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
m&p-Xylenes	M20-My03633	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
o-Xylene	M20-My03633	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Xylenes - Total*	M20-My03633	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Acenaphthylene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Anthracene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benz(a)anthracene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(a)pyrene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(b&j)fluoranthene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(g,h,i)perylene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(k)fluoranthene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chrysene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibenz(a,h)anthracene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Pyrene	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	P20-My00935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
4,4'-DDD	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
4,4'-DDE	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
4,4'-DDT	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
a-BHC	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Aldrin	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
b-BHC	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
d-BHC	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Dieldrin	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endosulfan I	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endosulfan II	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endosulfan sulphate	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endrin	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endrin aldehyde	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endrin ketone	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
g-BHC (Lindane)	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Heptachlor	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Heptachlor epoxide	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Hexachlorobenzene	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Methoxychlor	P20-My00935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Bolstar	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Chlorfenvinphos	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Chlorpyrifos	P20-My00935	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Chlorpyrifos-methyl	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Coumaphos	P20-My00935	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Demeton-S	P20-My00935	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Demeton-O	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Diazinon	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Dichlorvos	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Dimethoate	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Disulfoton	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
EPN	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ethion	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ethoprop	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ethyl parathion	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Fenitrothion	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Fensulfothion	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Fenthion	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Malathion	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Merphos	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Methyl parathion	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Mevinphos	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Monocrotophos	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Naled	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Omethoate	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Phorate	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Pirimiphos-methyl	P20-My00935	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Pyrazophos	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ronnel	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Terbufos	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Tetrachlorvinphos	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Tokuthion	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Trichloronate	P20-My00935	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic (filtered)	M20-My03122	NCP	mg/L	0.003	0.003	1.0	30%	Pass
Cadmium (filtered)	M20-My03122	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium (filtered)	M20-My03122	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper (filtered)	M20-My03122	NCP	mg/L	0.008	0.007	4.0	30%	Pass
Lead (filtered)	M20-My03122	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury (filtered)	M20-My03122	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel (filtered)	M20-My03122	NCP	mg/L	0.010	0.010	1.0	30%	Pass
Zinc (filtered)	M20-My00720	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
M01	Microbiological Testing performed outside the recommended holding time
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
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised By

Alena Bounkeua	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Nandhini Uthayakumaran	Senior Analyst-Microbiology (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](#).

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IANZ # 1290

Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Order No.:
Report #: 717075
Phone: 02 99225021
Fax:

Received: May 1, 2020 3:20 PM
Due: May 8, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						E.coli	Thermotolerant Coliforms	Moisture Set	Eurofins mg/L Suite B10 (filtered metals)	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
External Laboratory											
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	WATER_01	May 01, 2020		Water	M20-My02126	X	X		X		X
2	WATER_02	May 01, 2020		Water	M20-My02127	X	X		X		X
3	WATER_03	May 01, 2020		Water	M20-My02128	X	X		X		X
4	QW01	May 01, 2020		Water	M20-My02129	X	X		X		X
5	SED_01	May 01, 2020		Soil	M20-My02130	X	X	X			
6	SED_02	May 01, 2020		Soil	M20-My02131	X	X	X			
7	SED_03	May 01, 2020		Soil	M20-My02132	X	X	X			
8	QS01	May 01, 2020		Soil	M20-My02133	X	X	X			
9	TB	May 01, 2020		Water	M20-My02134					X	
10	TS	May 01, 2020		Water	M20-My02135					X	



Environment Testing

Australia

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 NATA # 1261 Site # 20794

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

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

ABN – 50 005 085 521

web : www.eurofins.com.au

e.mail : EnviroSales@eurofins.com

Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
 North Sydney
 NSW 2060

Order No.:
Report #: 717075
Phone: 02 99225021
Fax:

Received: May 1, 2020 3:20 PM
Due: May 8, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail	E.coli	Thermotolerant Coliforms	Moisture Set	Eurofins mgt Suite B10 (filtered metals)	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Test Counts	8	8	4	4	2	4

Melbourne

6 Monterey Road
Dandenong South Vic 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney

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

Brisbane

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

Perth

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

Sample Receipt Advice

Company name: **EP Risk Management (NSW)**
Contact name: **Stuart Lord**
Project name: **HARRIS PROPERTY PSI**
Project ID: **EP1655**
COC number: **Not provided**
Turn around time: **5 Day**
Date/Time received: **May 1, 2020 3:20 PM**
Eurofins reference: **717075**

Sample information

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

Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Stuart Lord - Stuart.Lord@eprisk.com.au.

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

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



NATA Accredited
Accreditation Number 1261
Site Number 1254 & 14271

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: **Stuart Lord**

Report **718860-S**
Project name **HARRIS PROPERTY PSI**
Project ID **EP1655**
Received Date **May 11, 2020**

Client Sample ID			TB01_0.1	TB02_0.1	TP03_0.1	TP04_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16054	M20-My16055	M20-My16056	M20-My16057
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	-	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77	70	-	62
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5

Client Sample ID			TB01_0.1	TB02_0.1	TP03_0.1	TP04_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16054	M20-My16055	M20-My16056	M20-My16057
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	77	60	-	66
p-Terphenyl-d14 (surr.)	1	%	87	58	-	59
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	103	87	98	76
Tetrachloro-m-xylene (surr.)	1	%	67	67	76	88
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchloroendate (surr.)	1	%	-	-	98	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	76	-

Client Sample ID			TP01_0.1	TP02_0.1	TP03_0.1	TP04_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16054	M20-My16055	M20-My16056	M20-My16057
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	14	12	12	14
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	25	19	30	26
Copper	5	mg/kg	8.2	9.5	6.0	9.4
Lead	5	mg/kg	17	18	15	27
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	6.3
Zinc	5	mg/kg	20	30	15	51
% Moisture	1	%	15	9.1	6.2	19

Client Sample ID			TP04_0.5	TP05_0.1	TP06_0.1	TP06_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16058	M20-My16059	M20-My16060	M20-My16061
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
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	-
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	-	75	< 50	-
TRH C29-C36	50	mg/kg	-	54	< 50	-
TRH C10-C36 (Total)	50	mg/kg	-	129	< 50	-
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	-	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	-	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	-	89	80	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	1.2	-
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	-

Client Sample ID			TP04_0.5	TP05_0.1	TP06_0.1	TP06_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16058	M20-My16059	M20-My16060	M20-My16061
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzo(g,h,i)perylene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibenz(a,h)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Total PAH*	0.5	mg/kg	-	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	67	74	-
p-Terphenyl-d14 (surr.)	1	%	-	65	68	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	77	94	102	112
Tetrachloro-m-xylene (surr.)	1	%	68	80	82	116
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1

Client Sample ID			TP04_0.5	TP05_0.1	TP06_0.1	TP06_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16058	M20-My16059	M20-My16060	M20-My16061
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchloroendate (surr.)	1	%	77	-	-	112
Tetrachloro-m-xylene (surr.)	1	%	68	-	-	116
Heavy Metals						
Arsenic	2	mg/kg	13	11	5.8	9.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	26	25	16	30
Copper	5	mg/kg	5.5	5.0	8.1	< 5
Lead	5	mg/kg	16	15	21	17
Mercury	0.1	mg/kg	-	< 0.1	< 0.1	-
Nickel	5	mg/kg	< 5	< 5	27	7.8
Zinc	5	mg/kg	8.4	14	37	24
% Moisture	1	%	19	15	12	16

Client Sample ID			TP07_0.1	TP08_0.1	TP09_0.5	TP09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16062	M20-My16063	M20-My16064	M20-My16065
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	-	-	< 0.5	-
TRH C6-C10	20	mg/kg	-	-	< 20	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	-	< 20	-
TRH >C10-C16	50	mg/kg	-	-	< 50	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	-	-	< 50	-
TRH >C16-C34	100	mg/kg	-	-	< 100	-
TRH >C34-C40	100	mg/kg	-	-	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	-	-	< 100	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	-	< 20	-
TRH C10-C14	20	mg/kg	-	-	< 20	-
TRH C15-C28	50	mg/kg	-	-	< 50	-
TRH C29-C36	50	mg/kg	-	-	< 50	-
TRH C10-C36 (Total)	50	mg/kg	-	-	< 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	%	-	-	82	-

Client Sample ID			TP07_0.1	TP08_0.1	TP09_0.5	TP09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16062	M20-My16063	M20-My16064	M20-My16065
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
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	-
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	%	-	-	79	-
p-Terphenyl-d14 (surr.)	1	%	-	-	72	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	106	130	118	81
Tetrachloro-m-xylene (surr.)	1	%	109	113	115	85

Client Sample ID			TP07_0.1	TP08_0.1	TP09_0.5	TP09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16062	M20-My16063	M20-My16064	M20-My16065
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Dibutylchloroendate (surr.)	1	%	106	130	-	81
Tetrachloro-m-xylene (surr.)	1	%	109	113	-	85
Heavy Metals						
Arsenic	2	mg/kg	3.6	4.5	21	14
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	12	30	25
Copper	5	mg/kg	< 5	< 5	8.7	12
Lead	5	mg/kg	9.4	14	21	21
Mercury	0.1	mg/kg	-	-	< 0.1	-
Nickel	5	mg/kg	6.1	< 5	5.0	< 5
Zinc	5	mg/kg	13	15	260	26
% Moisture	1	%	14	8.3	12	16

Client Sample ID			TP10_0.05	TP11_0.1	TP12_0.2	TP12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16066	M20-My16067	M20-My16068	M20-My16069
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	-	-	< 0.5	-
TRH C6-C10	20	mg/kg	-	-	< 20	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	-	< 20	-
TRH >C10-C16	50	mg/kg	-	-	< 50	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	-	-	< 50	-
TRH >C16-C34	100	mg/kg	-	-	< 100	-
TRH >C34-C40	100	mg/kg	-	-	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	-	-	< 100	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	-	< 20	-
TRH C10-C14	20	mg/kg	-	-	< 20	-
TRH C15-C28	50	mg/kg	-	-	< 50	-
TRH C29-C36	50	mg/kg	-	-	< 50	-
TRH C10-C36 (Total)	50	mg/kg	-	-	< 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	-

Client Sample ID			TP10_0.05	TP11_0.1	TP12_0.2	TP12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16066	M20-My16067	M20-My16068	M20-My16069
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total*	0.3	mg/kg	-	-	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	-	-	67	-
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	-
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	%	-	-	98	-
p-Terphenyl-d14 (surr.)	1	%	-	-	94	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			TP10_0.05	TP11_0.1	TP12_0.2	TP12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16066	M20-My16067	M20-My16068	M20-My16069
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	81	74	83	75
Tetrachloro-m-xylene (surr.)	1	%	85	81	81	95
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	81	74	-	75
Tetrachloro-m-xylene (surr.)	1	%	85	81	-	95
Heavy Metals						
Arsenic	2	mg/kg	9.4	6.8	7.3	6.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	16	18	23
Copper	5	mg/kg	< 5	< 5	9.9	7.9
Lead	5	mg/kg	14	12	18	15
Mercury	0.1	mg/kg	-	-	< 0.1	-
Nickel	5	mg/kg	< 5	< 5	21	10
Zinc	5	mg/kg	10	14	390	28
% Moisture	1	%	12	9.4	4.9	9.8

Client Sample ID			TP13_0.2	TP14_0.2	TP14_0.6	TP15_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16070	M20-My16071	M20-My16072	M20-My16073
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	-	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	< 50

Client Sample ID			TP13_0.2	TP14_0.2	TP14_0.6	TP15_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16070	M20-My16071	M20-My16072	M20-My16073
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	82	86	-	71
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	57	62	-	73
p-Terphenyl-d14 (surr.)	1	%	54	63	-	77
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			TP13_0.2	TP14_0.2	TP14_0.6	TP15_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16070	M20-My16071	M20-My16072	M20-My16073
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	85	66	85	104
Tetrachloro-m-xylene (surr.)	1	%	92	61	68	76
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchloroendate (surr.)	1	%	-	-	85	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	68	-
Heavy Metals						
Arsenic	2	mg/kg	11	6.2	11	12
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	21	17	28	15
Copper	5	mg/kg	6.2	< 5	6.2	8.1
Lead	5	mg/kg	22	23	21	25
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Nickel	5	mg/kg	5.9	5.4	< 5	6.8
Zinc	5	mg/kg	24	42	19	41
% Moisture	1	%	10	7.8	21	9.4

Client Sample ID			TP16_0.1	TP16_0.5	TP17_0.1	TP18_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16074	M20-My16075	M20-My16076	M20-My16077
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	-	-	-
TRH C6-C10	20	mg/kg	< 20	-	-	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	-	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	-	-	-
TRH >C16-C34	100	mg/kg	< 100	-	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	-	-

Client Sample ID			TP16_0.1	TP16_0.5	TP17_0.1	TP18_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16074	M20-My16075	M20-My16076	M20-My16077
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	-	-
TRH C10-C14	20	mg/kg	< 20	-	-	-
TRH C15-C28	50	mg/kg	< 50	-	-	-
TRH C29-C36	50	mg/kg	< 50	-	-	-
TRH C10-C36 (Total)	50	mg/kg	< 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	%	65	-	-	-
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	-	-	-
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	%	70	-	-	-
p-Terphenyl-d14 (surr.)	1	%	73	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			TP16_0.1	TP16_0.5	TP17_0.1	TP18_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16074	M20-My16075	M20-My16076	M20-My16077
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloredate (surr.)	1	%	92	102	94	122
Tetrachloro-m-xylene (surr.)	1	%	72	70	65	73
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchloredate (surr.)	1	%	-	102	94	122
Tetrachloro-m-xylene (surr.)	1	%	-	70	65	73
Heavy Metals						
Arsenic	2	mg/kg	4.7	8.4	26	11
Cadmium	0.4	mg/kg	0.9	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	13	22	36	26
Copper	5	mg/kg	11	< 5	5.1	6.5
Lead	5	mg/kg	25	18	24	8.8
Mercury	0.1	mg/kg	< 0.1	-	-	-
Nickel	5	mg/kg	9.1	< 5	< 5	< 5
Zinc	5	mg/kg	300	10	18	32
% Moisture	1	%	9.1	18	7.0	27

Client Sample ID			TP19_0.1	TP20_0.1	TB21_0.05	QA01
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16078	M20-My16079	M20-My16080	M20-My16081
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
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
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	-	-	59	< 50
TRH C10-C36 (Total)	50	mg/kg	-	-	59	< 50
BTEX						
Benzene	0.1	mg/kg	-	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	-	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	-	-	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	-	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	86	75
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	1.2
Acenaphthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Chrysene	0.5	mg/kg	-	-	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluorene	0.5	mg/kg	-	-	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	65	64
p-Terphenyl-d14 (surr.)	1	%	-	-	70	69

Client Sample ID			TP19_0.1	TP20_0.1	TB21_0.05	QA01
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16078	M20-My16079	M20-My16080	M20-My16081
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	85	78	97	91
Tetrachloro-m-xylene (surr.)	1	%	64	61	62	60
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchloroendate (surr.)	1	%	85	78	-	-
Tetrachloro-m-xylene (surr.)	1	%	64	61	-	-
Heavy Metals						
Arsenic	2	mg/kg	4.8	7.2	12	9.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	15	11	23	17
Copper	5	mg/kg	5.7	6.0	7.9	5.1
Lead	5	mg/kg	12	13	19	7.9
Mercury	0.1	mg/kg	-	-	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	5.9	< 5
Zinc	5	mg/kg	22	19	36	15
% Moisture	1	%	15	23	8.6	30

Client Sample ID			QA03	M01TP10_MICR	M01TP18_MICR	M01TP19_MICR
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16082	M20-My16083	M20-My16084	M20-My16085
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	-	-	-
TRH C6-C10	20	mg/kg	< 20	-	-	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	-	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	-	-	-
TRH >C16-C34	100	mg/kg	< 100	-	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	-	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	-	-
TRH C10-C14	20	mg/kg	< 20	-	-	-
TRH C15-C28	50	mg/kg	< 50	-	-	-
TRH C29-C36	50	mg/kg	< 50	-	-	-
TRH C10-C36 (Total)	50	mg/kg	< 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	%	85	-	-	-
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	-	-	-
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	%	72	-	-	-
p-Terphenyl-d14 (surr.)	1	%	77	-	-	-

Client Sample ID			QA03	M01 TP10_MICR	M01 TP18_MICR	M01 TP19_MICR
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16082	M20-My16083	M20-My16084	M20-My16085
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
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	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	1	mg/kg	< 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	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	117	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	61	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	8.8	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	-
Chromium	5	mg/kg	18	-	-	-
Copper	5	mg/kg	23	-	-	-
Lead	5	mg/kg	24	-	-	-
Mercury	0.1	mg/kg	< 0.1	-	-	-
Nickel	5	mg/kg	6.4	-	-	-
Zinc	5	mg/kg	380	-	-	-
Pathogens						
E.coli	1	MPN/g	-	M15 < 10	41	M15 < 10
Thermotolerant Coliforms	1	MPN/g	-	M10 < 10	M10 160	M10 < 10
% Moisture						
% Moisture	1	%	9.5	15	33	14

Client Sample ID			M01 TP20_MICR O Soil M20-My16086 May 08, 2020	SED_01 Soil M20-My16087 May 08, 2020	SED_02 Soil M20-My16088 May 08, 2020	SED_03 Soil M20-My16089 May 08, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	-	86	56	71
Tetrachloro-m-xylene (surr.)	1	%	-	50	52	80
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Anthracene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Benzo(a)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Benzo(a)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Benzo(g,h,i)perylene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Chrysene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Dibenz(a,h)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Fluorene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Indeno(1,2,3-cd)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Naphthalene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Phenanthrene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Pyrene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Total PAH*	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
2-Fluorobiphenyl (surr.)	1	%	-	69	84	64
p-Terphenyl-d14 (surr.)	1	%	-	74	98	68
Organochlorine Pesticides (Trace level)						
4,4'-DDD	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
4,4'-DDE	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
4,4'-DDT	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
a-BHC	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Aldrin	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
b-BHC	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Chlordanes - Total	0.01	mg/kg	-	< 0.01	< 0.01	< 0.01
d-BHC	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Dieldrin	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Endosulfan I	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Endosulfan II	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Endosulfan sulphate	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Endrin	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Endrin aldehyde	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Endrin ketone	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
g-BHC (Lindane)	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Heptachlor	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Heptachlor epoxide	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005

Client Sample ID			^{M01} TP20_MICR O	SED_01	SED_02	SED_03
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16086	M20-My16087	M20-My16088	M20-My16089
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides (Trace level)						
Hexachlorobenzene	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Methoxychlor	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Toxaphene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
DDT + DDE + DDD (Total)*	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Aldrin and Dieldrin (Total)*	0.005	mg/kg	-	< 0.005	< 0.005	< 0.005
Vic EPA IWRG 621 OCP (Total)*	0.01	mg/kg	-	< 0.01	< 0.01	< 0.01
Vic EPA IWRG 621 Other OCP (Total)*	0.01	mg/kg	-	< 0.01	< 0.01	< 0.01
Heavy Metals (1M HCl Extract)						
Arsenic (1M HCl extract)	2	mg/kg	-	< 2	< 2	< 2
Cadmium (1M HCl extract)	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
Chromium (1M HCl extract)	5	mg/kg	-	< 5	< 5	< 5
Copper (1M HCl extract)	5	mg/kg	-	< 5	< 5	< 5
Lead (1M HCl extract)	5	mg/kg	-	6.0	13	< 5
Mercury (1M HCl extract)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Nickel (1M HCl extract)	5	mg/kg	-	< 5	< 5	< 5
Zinc (1M HCl extract)	5	mg/kg	-	< 5	28	< 5
Pathogens						
E.coli	1	MPN/g	^{M15} < 10	-	-	-
Thermotolerant Coliforms	1	MPN/g	^{M10} 31	-	-	-
% Moisture						
	1	%	11	43	50	34

Client Sample ID			TB	^{R20} TS	SQ01	SQ02
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16090	M20-My16091	M20-My16101	M20-My16102
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	120	-	-
TRH C6-C10	20	mg/kg	< 20	110	-	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	-	-	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	100	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	99	-	-
Toluene	0.1	mg/kg	< 0.1	100	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	110	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	110	-	-
o-Xylene	0.1	mg/kg	< 0.1	120	-	-
Xylenes - Total*	0.3	mg/kg	< 0.3	110	-	-
4-Bromofluorobenzene (surr.)	1	%	63	61	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	< 0.1

Client Sample ID			TB	R20 ^{TS}	SQ01	SQ02
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16090	M20-My16091	M20-My16101	M20-My16102
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	-	-	65	70
Tetrachloro-m-xylene (surr.)	1	%	-	-	78	54
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	-	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	-	-	< 0.005	< 0.005
Anthracene	0.005	mg/kg	-	-	< 0.005	< 0.005
Benz(a)anthracene	0.005	mg/kg	-	-	< 0.005	< 0.005
Benzo(a)pyrene	0.005	mg/kg	-	-	< 0.005	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	-	-	< 0.005	< 0.005
Benzo(g,h,i)perylene	0.005	mg/kg	-	-	< 0.005	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	-	-	< 0.005	< 0.005
Chrysene	0.005	mg/kg	-	-	< 0.005	< 0.005
Dibenz(a,h)anthracene	0.005	mg/kg	-	-	< 0.005	< 0.005
Fluoranthene	0.005	mg/kg	-	-	< 0.005	< 0.005
Fluorene	0.005	mg/kg	-	-	< 0.005	< 0.005
Indeno(1,2,3-cd)pyrene	0.005	mg/kg	-	-	< 0.005	< 0.005
Naphthalene	0.005	mg/kg	-	-	< 0.005	< 0.005
Phenanthrene	0.005	mg/kg	-	-	< 0.005	< 0.005
Pyrene	0.005	mg/kg	-	-	< 0.005	< 0.005
Total PAH*	0.005	mg/kg	-	-	< 0.005	< 0.005
2-Fluorobiphenyl (surr.)	1	%	-	-	88	63
p-Terphenyl-d14 (surr.)	1	%	-	-	57	67
Organochlorine Pesticides (Trace level)						
4,4'-DDD	0.005	mg/kg	-	-	< 0.005	< 0.005
4,4'-DDE	0.005	mg/kg	-	-	< 0.005	< 0.005
4,4'-DDT	0.005	mg/kg	-	-	< 0.005	< 0.005
a-BHC	0.005	mg/kg	-	-	< 0.005	< 0.005
Aldrin	0.005	mg/kg	-	-	< 0.005	< 0.005
b-BHC	0.005	mg/kg	-	-	< 0.005	< 0.005
Chlordanes - Total	0.01	mg/kg	-	-	< 0.01	< 0.01
d-BHC	0.005	mg/kg	-	-	< 0.005	< 0.005
Dieldrin	0.005	mg/kg	-	-	< 0.005	< 0.005
Endosulfan I	0.005	mg/kg	-	-	< 0.005	< 0.005
Endosulfan II	0.005	mg/kg	-	-	< 0.005	< 0.005
Endosulfan sulphate	0.005	mg/kg	-	-	< 0.005	< 0.005
Endrin	0.005	mg/kg	-	-	< 0.005	< 0.005
Endrin aldehyde	0.005	mg/kg	-	-	< 0.005	< 0.005
Endrin ketone	0.005	mg/kg	-	-	< 0.005	< 0.005
g-BHC (Lindane)	0.005	mg/kg	-	-	< 0.005	< 0.005
Heptachlor	0.005	mg/kg	-	-	< 0.005	< 0.005
Heptachlor epoxide	0.005	mg/kg	-	-	< 0.005	< 0.005
Hexachlorobenzene	0.005	mg/kg	-	-	< 0.005	< 0.005
Methoxychlor	0.005	mg/kg	-	-	< 0.005	< 0.005
Toxaphene	0.1	mg/kg	-	-	< 0.1	< 0.1
DDT + DDE + DDD (Total)*	0.005	mg/kg	-	-	< 0.005	< 0.005
Aldrin and Dieldrin (Total)*	0.005	mg/kg	-	-	< 0.005	< 0.005

Client Sample ID			TB	R20 ^{TS}	SQ01	SQ02
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16090	M20-My16091	M20-My16101	M20-My16102
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides (Trace level)						
Vic EPA IWRG 621 OCP (Total)*	0.01	mg/kg	-	-	< 0.01	< 0.01
Vic EPA IWRG 621 Other OCP (Total)*	0.01	mg/kg	-	-	< 0.01	< 0.01
Heavy Metals (1M HCl Extract)						
Arsenic (1M HCl extract)	2	mg/kg	-	-	< 2	< 2
Cadmium (1M HCl extract)	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium (1M HCl extract)	5	mg/kg	-	-	< 5	< 5
Copper (1M HCl extract)	5	mg/kg	-	-	< 5	< 5
Lead (1M HCl extract)	5	mg/kg	-	-	< 5	6.1
Mercury (1M HCl extract)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Nickel (1M HCl extract)	5	mg/kg	-	-	< 5	< 5
Zinc (1M HCl extract)	5	mg/kg	-	-	< 5	5.4
% Moisture	1	%	-	-	38	39

Client Sample ID			M01 ^{TP04_MICR}	ASS01	ASS02	ASS03
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16103	M20-My16109	M20-My16110	M20-My16111
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	5.3	5.2	5.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	3.8	4.3	4.4
Reaction Ratings* ^{S05}	-	comment	-	2.0	2.0	2.0
Pathogens						
E.coli	1	MPN/g	M15 < 10	-	-	-
Thermotolerant Coliforms	1	MPN/g	M10 ²⁰	-	-	-
% Moisture	1	%	11	-	-	-

Client Sample ID			ASS04	ASS05	ASS06	ASS07
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16112	M20-My16113	M20-My16114	M20-My16115
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	6.5	5.6	5.8	6.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	3.5	4.5	4.0	3.7
Reaction Ratings* ^{S05}	-	comment	3.0	2.0	1.0	2.0

Client Sample ID			ASS08	ASS09	ASS10	ASS11
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16116	M20-My16117	M20-My16118	M20-My16119
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	5.7	5.6	4.7	4.5
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.3	4.1	4.1	3.9
Reaction Ratings* ^{S05}	-	comment	2.0	2.0	1.0	1.0

Client Sample ID			ASS12	ASS13	ASS14	ASS15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16120	M20-My16121	M20-My16122	M20-My16123
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	5.9	4.7	4.7	4.7
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	3.1	4.2	4.0	4.0
Reaction Ratings* ^{S05}	-	comment	3.0	2.0	1.0	1.0

Client Sample ID			ASS16	ASS17	ASS18	ASS19
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-My16124	M20-My16125	M20-My16126	M20-My16127
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	5.8	5.1	5.9	5.5
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	2.7	4.5	2.7	3.9
Reaction Ratings* ^{S05}	-	comment	3.0	2.0	3.0	2.0

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 - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 13, 2020	14 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 13, 2020	14 Days
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 13, 2020	14 Days
BTEX - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 13, 2020	14 Days
Eurofins mgt Suite B9			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 13, 2020	
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	May 13, 2020	14 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)	Melbourne	May 13, 2020	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	May 13, 2020	180 Days
Eurofins mgt Suite B13			
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)	Melbourne	May 18, 2020	28 Days
Polycyclic Aromatic Hydrocarbons (Trace level) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)	Melbourne	May 13, 2020	0 Days
Organochlorine Pesticides (Trace level) - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)	Melbourne	May 13, 2020	0 Days
Metals M7 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	May 13, 2020	180 Days
Heavy Metals (1M HCl Extract) - Method: USEPA 6010/6020 Heavy Metals - 1M HCl Extract	Melbourne	May 13, 2020	180 Days
Acid Sulfate Soils Field pH Test - Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (PHFOX) tests	Brisbane	May 14, 2020	7 Days
E.coli - Method: LTM-MIC-6621 E.Coli and Total Coliforms by the MPN	Melbourne	May 14, 2020	72 Hour
Thermotolerant Coliforms - Method: Inhouse: Thermotolerant Coliforms in Soil by MPN*	Melbourne	May 14, 2020	72 Hour
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	May 13, 2020	14 Days

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Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
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NSW 2060

Order No.:
Report #: 718860
Phone: 02 99225021
Fax:

Received: May 11, 2020 8:00 AM
Due: May 18, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																			X								
Perth Laboratory - NATA Site # 23736																											
External Laboratory																											
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																						
1	TB01_0.1	May 08, 2020		Soil	M20-My16054																	X	X				
2	TB02_0.1	May 08, 2020		Soil	M20-My16055																	X	X				
3	TP03_0.1	May 08, 2020		Soil	M20-My16056															X	X						
4	TP04_0.1	May 08, 2020		Soil	M20-My16057																	X	X				
5	TP04_0.5	May 08, 2020		Soil	M20-My16058															X	X						
6	TP05_0.1	May 08, 2020		Soil	M20-My16059																	X	X				
7	TP06_0.1	May 08, 2020		Soil	M20-My16060																	X	X				
8	TP06_1.0	May 08, 2020		Soil	M20-My16061															X	X						
9	TP07_0.1	May 08, 2020		Soil	M20-My16062															X	X						
10	TP08_0.1	May 08, 2020		Soil	M20-My16063															X	X	X					

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
11	TP09_0.5	May 08, 2020		Soil	M20-My16064																	X	X				
12	TP09_1.5	May 08, 2020		Soil	M20-My16065																X	X	X				
13	TP10_0.05	May 08, 2020		Soil	M20-My16066																X	X	X				
14	TP11_0.1	May 08, 2020		Soil	M20-My16067																X	X	X				
15	TP12_0.2	May 08, 2020		Soil	M20-My16068																	X	X				
16	TP12_0.5	May 08, 2020		Soil	M20-My16069																X	X	X				
17	TP13_0.2	May 08, 2020		Soil	M20-My16070																	X	X				
18	TP14_0.2	May 08, 2020		Soil	M20-My16071																	X	X				
19	TP14_0.6	May 08, 2020		Soil	M20-My16072																X	X	X				
20	TP15_0.2	May 08, 2020		Soil	M20-My16073																	X	X				
21	TP16_0.1	May 08, 2020		Soil	M20-My16074																	X	X				
22	TP16_0.5	May 08, 2020		Soil	M20-My16075																X	X	X				
23	TP17_0.1	May 08, 2020		Soil	M20-My16076																X	X	X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
24	TP18_0.1	May 08, 2020		Soil	M20-My16077																X	X	X				
25	TP19_0.1	May 08, 2020		Soil	M20-My16078																X	X	X				
26	TP20_0.1	May 08, 2020		Soil	M20-My16079																X	X	X				
27	TB21_0.05	May 08, 2020		Soil	M20-My16080																		X	X			
28	QA01	May 08, 2020		Soil	M20-My16081																		X	X			
29	QA03	May 08, 2020		Soil	M20-My16082																		X	X			
30	TP10_MICRO	May 08, 2020		Soil	M20-My16083							X											X				
31	TP18_MICRO	May 08, 2020		Soil	M20-My16084							X											X				
32	TP19_MICRO	May 08, 2020		Soil	M20-My16085							X											X				
33	TP20_MICRO	May 08, 2020		Soil	M20-My16086							X											X				
34	SED_01	May 08, 2020		Soil	M20-My16087	X			X	X	X			X	X	X		X	X				X		X	X	
35	SED_02	May 08, 2020		Soil	M20-My16088	X			X	X	X			X	X	X		X	X				X		X	X	
36	SED_03	May 08, 2020		Soil	M20-My16089	X			X	X	X			X	X	X		X	X				X		X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
37	TB	May 08, 2020		Soil	M20-My16090																				X		
38	TS	May 08, 2020		Soil	M20-My16091																				X		
39	RW01	May 08, 2020		Water	M20-My16092																		X				
40	TB01_0.5	May 08, 2020		Soil	M20-My16093								X														
41	TB02_0.5	May 08, 2020		Soil	M20-My16094								X														
42	TP08_0.5	May 08, 2020		Soil	M20-My16095								X														
43	TP09_0.2	May 08, 2020		Soil	M20-My16096								X														
44	TP13_0.5	May 08, 2020		Soil	M20-My16097								X														
45	TP15_1.2	May 08, 2020		Soil	M20-My16098								X														
46	TB21_0.5	May 08, 2020		Soil	M20-My16099								X														
47	TP16_0.05	May 08, 2020		Soil	M20-My16100								X														
48	SQ01	May 08, 2020		Soil	M20-My16101	X			X	X	X			X	X	X		X	X			X			X	X	
49	SQ02	May 08, 2020		Soil	M20-My16102	X			X	X	X			X	X	X		X	X			X			X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
50	TP04_MICRO	May 08, 2020		Soil	M20-My16103							X					X						X				
51	ACM01	May 08, 2020		Soil	M20-My16104		X																				
52	ACM01_ID	May 08, 2020		Building Materials	M20-My16105			X																			
53	ACM02	May 08, 2020		Soil	M20-My16106		X																				
54	ACM03	May 08, 2020		Soil	M20-My16107		X																				
55	ACM04	May 08, 2020		Soil	M20-My16108		X																				
56	ASS01	May 08, 2020		Soil	M20-My16109															X							
57	ASS02	May 08, 2020		Soil	M20-My16110															X							
58	ASS03	May 08, 2020		Soil	M20-My16111															X							
59	ASS04	May 08, 2020		Soil	M20-My16112															X							
60	ASS05	May 08, 2020		Soil	M20-My16113															X							
61	ASS06	May 08, 2020		Soil	M20-My16114															X							

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
62	ASS07	May 08, 2020		Soil	M20-My16115															X							
63	ASS08	May 08, 2020		Soil	M20-My16116															X							
64	ASS09	May 08, 2020		Soil	M20-My16117															X							
65	ASS10	May 08, 2020		Soil	M20-My16118															X							
66	ASS11	May 08, 2020		Soil	M20-My16119															X							
67	ASS12	May 08, 2020		Soil	M20-My16120															X							
68	ASS13	May 08, 2020		Soil	M20-My16121															X							
69	ASS14	May 08, 2020		Soil	M20-My16122															X							
70	ASS15	May 08, 2020		Soil	M20-My16123															X							
71	ASS16	May 08, 2020		Soil	M20-My16124															X							
72	ASS17	May 08, 2020		Soil	M20-My16125															X							
73	ASS18	May 08, 2020		Soil	M20-My16126															X							
74	ASS19	May 08, 2020		Soil	M20-My16127															X							

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Melbourne Laboratory - NATA Site # 1254 & 14271	X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217		X	X																			
Brisbane Laboratory - NATA Site # 20794															X							
Perth Laboratory - NATA Site # 23736																						
Test Counts	5	4	1	5	5	5	5	8	5	5	5	5	5	5	19	15	15	39	15	2	5	5

Internal Quality Control Review and Glossary

General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
- 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 - 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							
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							
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			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	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	
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	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	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Heavy Metals (1M HCl Extract)							
Arsenic (1M HCl extract)	mg/kg	< 2			2	Pass	
Cadmium (1M HCl extract)	mg/kg	< 0.4			0.4	Pass	
Chromium (1M HCl extract)	mg/kg	< 5			5	Pass	
Copper (1M HCl extract)	mg/kg	< 5			5	Pass	
Lead (1M HCl extract)	mg/kg	< 5			5	Pass	
Mercury (1M HCl extract)*	mg/kg	< 0.1			0.1	Pass	
Nickel (1M HCl extract)	mg/kg	< 5			5	Pass	
Zinc (1M HCl extract)	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	97			70-130	Pass	
Naphthalene	%	90			70-130	Pass	
TRH C6-C10	%	91			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
TRH >C10-C16	%	79			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	78			70-130	Pass	
TRH C10-C14	%	80			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	76			70-130	Pass	
Toluene	%	81			70-130	Pass	
Ethylbenzene	%	96			70-130	Pass	
m&p-Xylenes	%	97			70-130	Pass	
Xylenes - Total*	%	91			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	%	72		70-130	Pass	
Acenaphthylene	%	73		70-130	Pass	
Anthracene	%	74		70-130	Pass	
Benz(a)anthracene	%	74		70-130	Pass	
Benzo(a)pyrene	%	74		70-130	Pass	
Benzo(b&i)fluoranthene	%	100		70-130	Pass	
Benzo(g,h,i)perylene	%	74		70-130	Pass	
Benzo(k)fluoranthene	%	107		70-130	Pass	
Chrysene	%	74		70-130	Pass	
Dibenz(a,h)anthracene	%	74		70-130	Pass	
Fluoranthene	%	74		70-130	Pass	
Fluorene	%	74		70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	74		70-130	Pass	
Naphthalene	%	74		70-130	Pass	
Phenanthrene	%	74		70-130	Pass	
Pyrene	%	74		70-130	Pass	
LCS - % Recovery						
Organochlorine Pesticides						
Chlordanes - Total	%	99		70-130	Pass	
4,4'-DDD	%	102		70-130	Pass	
4,4'-DDE	%	104		70-130	Pass	
4,4'-DDT	%	84		70-130	Pass	
a-BHC	%	85		70-130	Pass	
Aldrin	%	100		70-130	Pass	
b-BHC	%	96		70-130	Pass	
d-BHC	%	88		70-130	Pass	
Dieldrin	%	90		70-130	Pass	
Endosulfan I	%	113		70-130	Pass	
Endosulfan II	%	88		70-130	Pass	
Endosulfan sulphate	%	76		70-130	Pass	
Endrin	%	86		70-130	Pass	
Endrin aldehyde	%	82		70-130	Pass	
Endrin ketone	%	93		70-130	Pass	
g-BHC (Lindane)	%	91		70-130	Pass	
Heptachlor	%	90		70-130	Pass	
Heptachlor epoxide	%	97		70-130	Pass	
Hexachlorobenzene	%	92		70-130	Pass	
Methoxychlor	%	74		70-130	Pass	
LCS - % Recovery						
Polychlorinated Biphenyls						
Aroclor-1260	%	82		70-130	Pass	
LCS - % Recovery						
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	%	86		70-130	Pass	
Acenaphthylene	%	85		70-130	Pass	
Anthracene	%	83		70-130	Pass	
Benz(a)anthracene	%	78		70-130	Pass	
Benzo(a)pyrene	%	76		70-130	Pass	
Benzo(b&i)fluoranthene	%	84		70-130	Pass	
Benzo(g,h,i)perylene	%	77		70-130	Pass	
Benzo(k)fluoranthene	%	87		70-130	Pass	
Chrysene	%	93		70-130	Pass	
Dibenz(a,h)anthracene	%	73		70-130	Pass	
Fluoranthene	%	84		70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluorene	%	84			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	74			70-130	Pass	
Naphthalene	%	85			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	88			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides (Trace level)							
4.4'-DDD	%	72			70-130	Pass	
4.4'-DDE	%	71			70-130	Pass	
4.4'-DDT	%	71			70-130	Pass	
a-BHC	%	87			70-130	Pass	
Aldrin	%	94			70-130	Pass	
b-BHC	%	100			70-130	Pass	
Chlordanes - Total	%	82			70-130	Pass	
d-BHC	%	98			70-130	Pass	
Dieldrin	%	84			70-130	Pass	
Endosulfan I	%	75			70-130	Pass	
Endosulfan II	%	98			70-130	Pass	
Endosulfan sulphate	%	91			70-130	Pass	
Endrin	%	72			70-130	Pass	
Endrin aldehyde	%	80			70-130	Pass	
Endrin ketone	%	76			70-130	Pass	
g-BHC (Lindane)	%	81			70-130	Pass	
Heptachlor	%	90			70-130	Pass	
Heptachlor epoxide	%	80			70-130	Pass	
Hexachlorobenzene	%	82			70-130	Pass	
Methoxychlor	%	87			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Arsenic	%	103			80-120	Pass	
Cadmium	%	98			80-120	Pass	
Cadmium	%	102			80-120	Pass	
Chromium	%	114			80-120	Pass	
Chromium	%	110			80-120	Pass	
Copper	%	115			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	115			80-120	Pass	
Lead	%	113			80-120	Pass	
Mercury	%	112			75-125	Pass	
Nickel	%	112			80-120	Pass	
Nickel	%	106			80-120	Pass	
Zinc	%	109			80-120	Pass	
Zinc	%	104			80-120	Pass	
LCS - % Recovery							
Heavy Metals (1M HCl Extract)							
Arsenic (1M HCl extract)	%	89			70-130	Pass	
Cadmium (1M HCl extract)	%	110			70-130	Pass	
Chromium (1M HCl extract)	%	91			70-130	Pass	
Copper (1M HCl extract)	%	89			70-130	Pass	
Lead (1M HCl extract)	%	93			70-130	Pass	
Mercury (1M HCl extract)*	%	119			70-130	Pass	
Nickel (1M HCl extract)	%	87			70-130	Pass	
Zinc (1M HCl extract)	%	86			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
TRH >C10-C16	M20-My15474	NCP	%	72		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1				
TRH C10-C14	M20-My15474	NCP	%	73		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
Naphthalene	M20-My16055	CP	%	126		70-130	Pass	
TRH C6-C10	M20-My16055	CP	%	94		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1				
TRH C6-C9	M20-My16055	CP	%	104		70-130	Pass	
Spike - % Recovery								
BTEX				Result 1				
Benzene	M20-My16055	CP	%	125		70-130	Pass	
Toluene	M20-My16055	CP	%	120		70-130	Pass	
Ethylbenzene	M20-My16055	CP	%	116		70-130	Pass	
m&p-Xylenes	M20-My16055	CP	%	113		70-130	Pass	
o-Xylene	M20-My16055	CP	%	122		70-130	Pass	
Xylenes - Total*	M20-My16055	CP	%	116		70-130	Pass	
Spike - % Recovery								
Organochlorine Pesticides				Result 1				
Chlordanes - Total	M20-My16055	CP	%	80		70-130	Pass	
4,4'-DDD	M20-My16055	CP	%	101		70-130	Pass	
4,4'-DDE	M20-My16055	CP	%	105		70-130	Pass	
a-BHC	M20-My16055	CP	%	86		70-130	Pass	
Aldrin	M20-My16055	CP	%	111		70-130	Pass	
b-BHC	M20-My16055	CP	%	92		70-130	Pass	
d-BHC	M20-My16055	CP	%	98		70-130	Pass	
Dieldrin	M20-My16055	CP	%	71		70-130	Pass	
Endosulfan I	M20-My16055	CP	%	86		70-130	Pass	
Endosulfan II	M20-My16055	CP	%	99		70-130	Pass	
Endosulfan sulphate	M20-My16055	CP	%	74		70-130	Pass	
Endrin	M20-My16055	CP	%	78		70-130	Pass	
Endrin aldehyde	M20-My16055	CP	%	123		70-130	Pass	
Endrin ketone	M20-My16055	CP	%	94		70-130	Pass	
g-BHC (Lindane)	M20-My16055	CP	%	85		70-130	Pass	
Heptachlor	M20-My16055	CP	%	97		70-130	Pass	
Heptachlor epoxide	M20-My16055	CP	%	73		70-130	Pass	
Hexachlorobenzene	M20-My16055	CP	%	89		70-130	Pass	
Spike - % Recovery								
Heavy Metals				Result 1				
Arsenic	M20-My16055	CP	%	98		75-125	Pass	
Cadmium	M20-My16055	CP	%	106		75-125	Pass	
Chromium	M20-My16055	CP	%	118		75-125	Pass	
Copper	M20-My16055	CP	%	114		75-125	Pass	
Lead	M20-My16055	CP	%	118		75-125	Pass	
Mercury	M20-My16055	CP	%	108		70-130	Pass	
Nickel	M20-My16055	CP	%	112		75-125	Pass	
Zinc	M20-My16055	CP	%	102		75-125	Pass	
Spike - % Recovery								
Polychlorinated Biphenyls				Result 1				
Aroclor-1016	M20-My12966	NCP	%	78		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1260	M20-My12966	NCP	%	81		70-130	Pass	
Spike - % Recovery								
Organochlorine Pesticides				Result 1				
Chlordanes - Total	M20-My16065	CP	%	99		70-130	Pass	
4.4'-DDD	M20-My16065	CP	%	118		70-130	Pass	
4.4'-DDE	M20-My16065	CP	%	100		70-130	Pass	
4.4'-DDT	M20-My16065	CP	%	124		70-130	Pass	
a-BHC	M20-My16065	CP	%	121		70-130	Pass	
Aldrin	M20-My16065	CP	%	123		70-130	Pass	
b-BHC	M20-My16065	CP	%	104		70-130	Pass	
d-BHC	M20-My16065	CP	%	100		70-130	Pass	
Dieldrin	M20-My16065	CP	%	126		70-130	Pass	
Endosulfan I	M20-My16065	CP	%	108		70-130	Pass	
Endosulfan II	M20-My16065	CP	%	102		70-130	Pass	
Endosulfan sulphate	M20-My16065	CP	%	91		70-130	Pass	
Endrin	M20-My16065	CP	%	90		70-130	Pass	
Endrin aldehyde	M20-My16065	CP	%	111		70-130	Pass	
Endrin ketone	M20-My16065	CP	%	128		70-130	Pass	
g-BHC (Lindane)	M20-My16065	CP	%	130		70-130	Pass	
Heptachlor	M20-My16065	CP	%	91		70-130	Pass	
Heptachlor epoxide	M20-My16065	CP	%	96		70-130	Pass	
Hexachlorobenzene	M20-My16065	CP	%	124		70-130	Pass	
Methoxychlor	M20-My16065	CP	%	113		70-130	Pass	
Spike - % Recovery								
Heavy Metals				Result 1				
Arsenic	M20-My16065	CP	%	98		75-125	Pass	
Cadmium	M20-My16065	CP	%	99		75-125	Pass	
Chromium	M20-My16065	CP	%	108		75-125	Pass	
Copper	M20-My16065	CP	%	107		75-125	Pass	
Lead	M20-My16065	CP	%	119		75-125	Pass	
Mercury	M20-My16065	CP	%	107		70-130	Pass	
Nickel	M20-My16065	CP	%	106		75-125	Pass	
Zinc	M20-My16065	CP	%	104		75-125	Pass	
Spike - % Recovery								
Heavy Metals				Result 1				
Arsenic	M20-My16075	CP	%	100		75-125	Pass	
Cadmium	M20-My16075	CP	%	100		75-125	Pass	
Chromium	M20-My16075	CP	%	110		75-125	Pass	
Copper	M20-My16075	CP	%	106		75-125	Pass	
Lead	M20-My16075	CP	%	116		75-125	Pass	
Mercury	M20-My16075	CP	%	108		70-130	Pass	
Nickel	M20-My16075	CP	%	107		75-125	Pass	
Zinc	M20-My16075	CP	%	104		75-125	Pass	
Spike - % Recovery								
Organochlorine Pesticides				Result 1				
Chlordanes - Total	M20-My16076	CP	%	85		70-130	Pass	
4.4'-DDD	M20-My16076	CP	%	88		70-130	Pass	
4.4'-DDE	M20-My16076	CP	%	75		70-130	Pass	
a-BHC	M20-My16076	CP	%	77		70-130	Pass	
Aldrin	M20-My16076	CP	%	80		70-130	Pass	
b-BHC	M20-My16076	CP	%	72		70-130	Pass	
d-BHC	M20-My16076	CP	%	71		70-130	Pass	
Dieldrin	M20-My16076	CP	%	83		70-130	Pass	
Endosulfan I	M20-My16076	CP	%	72		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	M20-My16076	CP	%	87		70-130	Pass	
Endosulfan sulphate	M20-My16076	CP	%	71		70-130	Pass	
Endrin	M20-My16076	CP	%	83		70-130	Pass	
Endrin aldehyde	M20-My16076	CP	%	73		70-130	Pass	
Endrin ketone	M20-My16076	CP	%	72		70-130	Pass	
g-BHC (Lindane)	M20-My16076	CP	%	71		70-130	Pass	
Heptachlor epoxide	M20-My16076	CP	%	74		70-130	Pass	
Hexachlorobenzene	M20-My16076	CP	%	71		70-130	Pass	
Spike - % Recovery								
Heavy Metals				Result 1				
Arsenic	M20-My16085	CP	%	102		75-125	Pass	
Cadmium	M20-My16085	CP	%	96		75-125	Pass	
Chromium	M20-My16085	CP	%	116		75-125	Pass	
Copper	M20-My16085	CP	%	100		75-125	Pass	
Lead	M20-My16085	CP	%	107		75-125	Pass	
Mercury	M20-My16085	CP	%	99		70-130	Pass	
Nickel	M20-My16085	CP	%	100		75-125	Pass	
Zinc	M20-My16085	CP	%	97		75-125	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons				Result 1				
Acenaphthene	M20-My16088	CP	%	101		70-130	Pass	
Acenaphthylene	M20-My16088	CP	%	103		70-130	Pass	
Anthracene	M20-My16088	CP	%	105		70-130	Pass	
Benz(a)anthracene	M20-My16088	CP	%	89		70-130	Pass	
Benzo(a)pyrene	M20-My16088	CP	%	103		70-130	Pass	
Benzo(b&j)fluoranthene	M20-My16088	CP	%	95		70-130	Pass	
Benzo(g,h,i)perylene	M20-My16088	CP	%	88		70-130	Pass	
Benzo(k)fluoranthene	M20-My16088	CP	%	102		70-130	Pass	
Chrysene	M20-My16088	CP	%	81		70-130	Pass	
Dibenz(a,h)anthracene	M20-My16088	CP	%	92		70-130	Pass	
Fluoranthene	M20-My16088	CP	%	103		70-130	Pass	
Fluorene	M20-My16088	CP	%	97		70-130	Pass	
Indeno(1,2,3-cd)pyrene	M20-My16088	CP	%	86		70-130	Pass	
Naphthalene	M20-My16088	CP	%	97		70-130	Pass	
Phenanthrene	M20-My16088	CP	%	99		70-130	Pass	
Pyrene	M20-My16088	CP	%	103		70-130	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1				
Acenaphthene	M20-My16088	CP	%	101		70-130	Pass	
Acenaphthylene	M20-My16088	CP	%	103		70-130	Pass	
Anthracene	M20-My16088	CP	%	105		70-130	Pass	
Benz(a)anthracene	M20-My16088	CP	%	89		70-130	Pass	
Benzo(a)pyrene	M20-My16088	CP	%	103		70-130	Pass	
Benzo(b&j)fluoranthene	M20-My16088	CP	%	95		70-130	Pass	
Benzo(g,h,i)perylene	M20-My16088	CP	%	88		70-130	Pass	
Benzo(k)fluoranthene	M20-My16088	CP	%	102		70-130	Pass	
Chrysene	M20-My16088	CP	%	81		70-130	Pass	
Dibenz(a,h)anthracene	M20-My16088	CP	%	92		70-130	Pass	
Fluoranthene	M20-My16088	CP	%	103		70-130	Pass	
Fluorene	M20-My16088	CP	%	97		70-130	Pass	
Indeno(1,2,3-cd)pyrene	M20-My16088	CP	%	86		70-130	Pass	
Naphthalene	M20-My16088	CP	%	97		70-130	Pass	
Phenanthrene	M20-My16088	CP	%	99		70-130	Pass	
Pyrene	M20-My16088	CP	%	103		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M20-My16054	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M20-My16054	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M20-My16054	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M20-My16054	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M20-My16054	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M20-My16054	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M20-My16054	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M20-My16054	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M20-My16054	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M20-My16054	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M20-My16054	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M20-My16054	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M20-My16054	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M20-My16054	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M20-My16054	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M20-My16054	CP	mg/kg	14	14	1.0	30%	Pass	
Cadmium	M20-My16054	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M20-My16054	CP	mg/kg	25	26	1.0	30%	Pass	
Copper	M20-My16054	CP	mg/kg	8.2	8.2	1.0	30%	Pass	
Lead	M20-My16054	CP	mg/kg	17	18	3.0	30%	Pass	
Mercury	M20-My16054	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M20-My16054	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M20-My16054	CP	mg/kg	20	21	4.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M20-My16055	CP	mg/kg	12	12	1.0	30%	Pass	
Cadmium	M20-My16055	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M20-My16055	CP	mg/kg	19	19	1.0	30%	Pass	
Copper	M20-My16055	CP	mg/kg	9.5	9.6	1.0	30%	Pass	
Lead	M20-My16055	CP	mg/kg	18	19	1.0	30%	Pass	
Mercury	M20-My16055	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M20-My16055	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M20-My16055	CP	mg/kg	30	31	4.0	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	B20-My07252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	B20-My07252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	B20-My07252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	B20-My07252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	B20-My07252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	B20-My07252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	B20-My07252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	B20-My07252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M20-My16058	CP	%	19	19	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Toxaphene	M20-My21800	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	M20-My16064	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	M20-My16064	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-BHC	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	M20-My16064	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M20-My16064	CP	mg/kg	21	21	1.0	30%	Pass
Cadmium	M20-My16064	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M20-My16064	CP	mg/kg	30	31	1.0	30%	Pass
Copper	M20-My16064	CP	mg/kg	8.7	8.9	2.0	30%	Pass
Lead	M20-My16064	CP	mg/kg	21	21	1.0	30%	Pass
Mercury	M20-My16064	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	M20-My16064	CP	mg/kg	5.0	5.1	2.0	30%	Pass
Zinc	M20-My16064	CP	mg/kg	260	260	1.0	30%	Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M20-My16065	CP	mg/kg	14	14	1.0	30%	Pass
Cadmium	M20-My16065	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M20-My16065	CP	mg/kg	25	26	3.0	30%	Pass
Copper	M20-My16065	CP	mg/kg	12	12	2.0	30%	Pass
Lead	M20-My16065	CP	mg/kg	21	21	2.0	30%	Pass
Mercury	M20-My16065	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	M20-My16065	CP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	M20-My16065	CP	mg/kg	26	27	2.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	M20-My16068	CP	%	4.9	5.2	6.0	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	M20-My16073	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	M20-My16073	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	M20-My16073	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	M20-My16073	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	M20-My16073	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	M20-My16073	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	M20-My16073	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	M20-My16073	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	M20-My16073	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	M20-My16074	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	M20-My16074	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	M20-My16074	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C10-C14	M20-My16074	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	M20-My16074	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	M20-My16074	CP	mg/kg	< 50	< 50	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	M20-My16074	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	M20-My16074	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4.4'-DDD	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4.4'-DDE	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4.4'-DDT	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-BHC	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	M20-My16074	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M20-My16074	CP	mg/kg	4.7	4.7	<1	30%	Pass
Cadmium	M20-My16074	CP	mg/kg	0.9	0.9	2.0	30%	Pass
Chromium	M20-My16074	CP	mg/kg	13	13	<1	30%	Pass
Copper	M20-My16074	CP	mg/kg	11	11	<1	30%	Pass
Lead	M20-My16074	CP	mg/kg	25	24	1.0	30%	Pass
Mercury	M20-My16074	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	M20-My16074	CP	mg/kg	9.1	9.0	1.0	30%	Pass
Zinc	M20-My16074	CP	mg/kg	300	300	1.0	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M20-My16075	CP	mg/kg	8.4	8.6	2.0	30%	Pass
Cadmium	M20-My16075	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M20-My16075	CP	mg/kg	22	23	1.0	30%	Pass
Copper	M20-My16075	CP	mg/kg	< 5	< 5	<1	30%	Pass
Lead	M20-My16075	CP	mg/kg	18	18	1.0	30%	Pass
Mercury	M20-My16075	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	M20-My16075	CP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	M20-My16075	CP	mg/kg	10	11	6.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	M20-My16078	CP	%	15	15	3.0	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M20-My16084	CP	mg/kg	3.1	3.1	<1	30%	Pass
Cadmium	M20-My16084	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M20-My16084	CP	mg/kg	6.5	6.5	1.0	30%	Pass
Copper	M20-My16084	CP	mg/kg	8.0	8.0	<1	30%	Pass
Lead	M20-My16084	CP	mg/kg	5.8	5.9	1.0	30%	Pass
Mercury	M20-My16084	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	M20-My16084	CP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	M20-My16084	CP	mg/kg	58	59	2.0	30%	Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M20-My16085	CP	mg/kg	7.5	7.6	1.0	30%	Pass
Cadmium	M20-My16085	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M20-My16085	CP	mg/kg	18	18	2.0	30%	Pass
Copper	M20-My16085	CP	mg/kg	7.7	7.9	2.0	30%	Pass
Lead	M20-My16085	CP	mg/kg	14	14	1.0	30%	Pass
Mercury	M20-My16085	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	M20-My16085	CP	mg/kg	6.8	6.8	1.0	30%	Pass
Zinc	M20-My16085	CP	mg/kg	26	27	4.0	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)anthracene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	M20-My16087	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	M20-My16087	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-BHC	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	M20-My16087	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD		
Acenaphthene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Acenaphthylene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Anthracene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Benzo(a)anthracene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass

Duplicate								
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD		
Benzo(a)pyrene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Benzo(b&j)fluoranthene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Benzo(g,h,i)perylene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Benzo(k)fluoranthene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Chrysene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Dibenz(a,h)anthracene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Fluoranthene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Fluorene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Indeno(1.2.3-cd)pyrene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Naphthalene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Phenanthrene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Pyrene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Duplicate								
Organochlorine Pesticides (Trace level)				Result 1	Result 2	RPD		
4,4'-DDD	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
4,4'-DDE	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
4,4'-DDT	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
a-BHC	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Aldrin	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
b-BHC	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Chlordanes - Total	M20-My16087	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass
d-BHC	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Dieldrin	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Endosulfan I	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Endosulfan II	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Endosulfan sulphate	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Endrin	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Endrin aldehyde	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Endrin ketone	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
g-BHC (Lindane)	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Heptachlor	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Heptachlor epoxide	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Hexachlorobenzene	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Methoxychlor	M20-My16087	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass
Duplicate								
% Moisture	M20-My16088	CP	%	50	50	<1	30%	Pass
Duplicate								
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD		
pH-F (Field pH test)*	M20-My16109	CP	pH Units	5.3	5.3	pass	30%	Pass
Reaction Ratings*	M20-My16109	CP	comment	2.0	2.0	pass	30%	Pass
Duplicate								
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD		
pH-F (Field pH test)*	M20-My16119	CP	pH Units	4.5	4.5	pass	30%	Pass
Reaction Ratings*	M20-My16119	CP	comment	1.0	1.0	pass	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
M01	Microbiological Testing performed outside the recommended holding time
M10	NATA accreditation does not cover the performance of this service in soil matrices
M15	LOR raised due to physical properties of sample
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
R20	This sample is a Trip Spike and therefore all results are reported as a percentage
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised By

Alena Bounkeua	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Myles Clark	Senior Analyst-SPOCAS (QLD)
Nandhini Uthayakumaran	Senior Analyst-Microbiology (VIC)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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



NATA Accredited
Accreditation Number 1261
Site Number 1254 & 14271

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: **Stuart Lord**

Report **718860-W**
Project name **HARRIS PROPERTY PSI**
Project ID **EP1655**
Received Date **May 11, 2020**

Client Sample ID	LOR	Unit	RW01 Water M20-My16092 May 08, 2020
Sample Matrix			
Eurofins Sample No.			
Date Sampled			
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	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	103
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	< 0.05
TRH >C10-C16 less Naphthalene (F2) ^{N01}	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001

Client Sample ID			RW01
Sample Matrix			Water
Eurofins Sample No.			M20-My16092
Date Sampled			May 08, 2020
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH*	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	64
p-Terphenyl-d14 (surr.)	1	%	62
Organochlorine Pesticides			
Chlordanes - Total	0.001	mg/L	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001
Endrin	0.0001	mg/L	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001
Toxaphene	0.01	mg/L	< 0.01
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001
Dibutylchlorodate (surr.)	1	%	70
Tetrachloro-m-xylene (surr.)	1	%	81
Heavy Metals			
Arsenic	0.001	mg/L	< 0.001
Cadmium	0.0002	mg/L	< 0.0002
Chromium	0.001	mg/L	0.001
Copper	0.001	mg/L	< 0.001
Lead	0.001	mg/L	< 0.001
Mercury	0.0001	mg/L	< 0.0001
Nickel	0.001	mg/L	< 0.001
Zinc	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 - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 12, 2020	7 Days
BTEX - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 12, 2020	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 12, 2020	7 Days
Eurofins mgt Suite B9			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	May 12, 2020	
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	May 12, 2020	7 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)	Melbourne	May 12, 2020	7 Days
Metals M8 - Method:	Melbourne	May 12, 2020	180 Days

Australia

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NATA # 1261 Site # 20794

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

Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Order No.:
Report #: 718860
Phone: 02 99225021
Fax:

Received: May 11, 2020 8:00 AM
Due: May 18, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
External Laboratory																											
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																						
1	TB01_0.1	May 08, 2020		Soil	M20-My16054																	X	X				
2	TB02_0.1	May 08, 2020		Soil	M20-My16055																	X	X				
3	TP03_0.1	May 08, 2020		Soil	M20-My16056																X	X					
4	TP04_0.1	May 08, 2020		Soil	M20-My16057																	X	X				
5	TP04_0.5	May 08, 2020		Soil	M20-My16058																X	X					
6	TP05_0.1	May 08, 2020		Soil	M20-My16059																	X	X				
7	TP06_0.1	May 08, 2020		Soil	M20-My16060																	X	X				
8	TP06_1.0	May 08, 2020		Soil	M20-My16061																X	X					
9	TP07_0.1	May 08, 2020		Soil	M20-My16062																X	X					
10	TP08_0.1	May 08, 2020		Soil	M20-My16063																X	X	X				

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Company Name: EP Risk Management (NSW)
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Order No.:
Report #: 718860
Phone: 02 99225021
Fax:

Received: May 11, 2020 8:00 AM
Due: May 18, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
11	TP09_0.5	May 08, 2020		Soil	M20-My16064																	X	X				
12	TP09_1.5	May 08, 2020		Soil	M20-My16065																X	X					
13	TP10_0.05	May 08, 2020		Soil	M20-My16066																X	X					
14	TP11_0.1	May 08, 2020		Soil	M20-My16067																X	X					
15	TP12_0.2	May 08, 2020		Soil	M20-My16068																	X	X				
16	TP12_0.5	May 08, 2020		Soil	M20-My16069																X	X					
17	TP13_0.2	May 08, 2020		Soil	M20-My16070																	X	X				
18	TP14_0.2	May 08, 2020		Soil	M20-My16071																	X	X				
19	TP14_0.6	May 08, 2020		Soil	M20-My16072																X	X					
20	TP15_0.2	May 08, 2020		Soil	M20-My16073																	X	X				
21	TP16_0.1	May 08, 2020		Soil	M20-My16074																	X	X				
22	TP16_0.5	May 08, 2020		Soil	M20-My16075																X	X					
23	TP17_0.1	May 08, 2020		Soil	M20-My16076																X	X					

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Company Name:	EP Risk Management (NSW)	Order No.:		Received:	May 11, 2020 8:00 AM
Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	718860	Due:	May 18, 2020
Project Name:	HARRIS PROPERTY PSI	Phone:	02 99225021	Priority:	5 Day
Project ID:	EP1655	Fax:		Contact Name:	Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
24	TP18_0.1	May 08, 2020		Soil	M20-My16077																X	X	X				
25	TP19_0.1	May 08, 2020		Soil	M20-My16078																X	X	X				
26	TP20_0.1	May 08, 2020		Soil	M20-My16079																X	X	X				
27	TB21_0.05	May 08, 2020		Soil	M20-My16080																		X	X			
28	QA01	May 08, 2020		Soil	M20-My16081																	X	X				
29	QA03	May 08, 2020		Soil	M20-My16082																	X	X				
30	TP10_MICRO	May 08, 2020		Soil	M20-My16083							X					X					X					
31	TP18_MICRO	May 08, 2020		Soil	M20-My16084							X					X					X					
32	TP19_MICRO	May 08, 2020		Soil	M20-My16085							X					X					X					
33	TP20_MICRO	May 08, 2020		Soil	M20-My16086							X					X					X					
34	SED_01	May 08, 2020		Soil	M20-My16087	X			X	X	X			X	X	X		X	X			X			X	X	
35	SED_02	May 08, 2020		Soil	M20-My16088	X			X	X	X			X	X	X		X	X			X			X	X	
36	SED_03	May 08, 2020		Soil	M20-My16089	X			X	X	X			X	X	X		X	X			X			X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
37	TB	May 08, 2020		Soil	M20-My16090								X												X		
38	TS	May 08, 2020		Soil	M20-My16091								X											X			
39	RW01	May 08, 2020		Water	M20-My16092																		X				
40	TB01_0.5	May 08, 2020		Soil	M20-My16093								X														
41	TB02_0.5	May 08, 2020		Soil	M20-My16094								X														
42	TP08_0.5	May 08, 2020		Soil	M20-My16095								X														
43	TP09_0.2	May 08, 2020		Soil	M20-My16096								X														
44	TP13_0.5	May 08, 2020		Soil	M20-My16097								X														
45	TP15_1.2	May 08, 2020		Soil	M20-My16098								X														
46	TB21_0.5	May 08, 2020		Soil	M20-My16099								X														
47	TP16_0.05	May 08, 2020		Soil	M20-My16100								X														
48	SQ01	May 08, 2020		Soil	M20-My16101	X			X	X	X			X	X	X		X	X			X			X	X	
49	SQ02	May 08, 2020		Soil	M20-My16102	X			X	X	X			X	X	X		X	X			X			X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
50	TP04_MICRO	May 08, 2020		Soil	M20-My16103							X					X					X					
51	ACM01	May 08, 2020		Soil	M20-My16104		X																				
52	ACM01_ID	May 08, 2020		Building Materials	M20-My16105			X																			
53	ACM02	May 08, 2020		Soil	M20-My16106		X																				
54	ACM03	May 08, 2020		Soil	M20-My16107		X																				
55	ACM04	May 08, 2020		Soil	M20-My16108		X																				
56	ASS01	May 08, 2020		Soil	M20-My16109															X							
57	ASS02	May 08, 2020		Soil	M20-My16110															X							
58	ASS03	May 08, 2020		Soil	M20-My16111															X							
59	ASS04	May 08, 2020		Soil	M20-My16112															X							
60	ASS05	May 08, 2020		Soil	M20-My16113															X							
61	ASS06	May 08, 2020		Soil	M20-My16114															X							

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Phone: 02 99225021
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Received: May 11, 2020 8:00 AM
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Eurofins Analytical Services Manager : Alena Bounkeua

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
62	ASS07	May 08, 2020		Soil	M20-My16115															X							
63	ASS08	May 08, 2020		Soil	M20-My16116															X							
64	ASS09	May 08, 2020		Soil	M20-My16117															X							
65	ASS10	May 08, 2020		Soil	M20-My16118															X							
66	ASS11	May 08, 2020		Soil	M20-My16119															X							
67	ASS12	May 08, 2020		Soil	M20-My16120															X							
68	ASS13	May 08, 2020		Soil	M20-My16121															X							
69	ASS14	May 08, 2020		Soil	M20-My16122															X							
70	ASS15	May 08, 2020		Soil	M20-My16123															X							
71	ASS16	May 08, 2020		Soil	M20-My16124															X							
72	ASS17	May 08, 2020		Soil	M20-My16125															X							
73	ASS18	May 08, 2020		Soil	M20-My16126															X							
74	ASS19	May 08, 2020		Soil	M20-My16127															X							

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Melbourne Laboratory - NATA Site # 1254 & 14271	X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217		X	X																				
Brisbane Laboratory - NATA Site # 20794															X								
Perth Laboratory - NATA Site # 23736																							
Test Counts	5	4	1	5	5	5	5	8	5	5	5	5	5	5	19	15	15	39	15	2	5	5	

Internal Quality Control Review and Glossary

General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
- 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							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	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							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g,h,i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a,h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1,2,3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4,4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4,4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4,4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	111			70-130	Pass	
TRH C10-C14	%	88			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	108			70-130	Pass	
Toluene	%	110			70-130	Pass	
Ethylbenzene	%	106			70-130	Pass	
m&p-Xylenes	%	106			70-130	Pass	
Xylenes - Total*	%	107			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	106			70-130	Pass	
TRH C6-C10	%	106			70-130	Pass	
TRH >C10-C16	%	83			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	87			70-130	Pass	
Acenaphthylene	%	83			70-130	Pass	
Anthracene	%	87			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	86			70-130	Pass	
Benzo(b&j)fluoranthene	%	81			70-130	Pass	
Benzo(g,h,i)perylene	%	85			70-130	Pass	
Benzo(k)fluoranthene	%	74			70-130	Pass	
Chrysene	%	78			70-130	Pass	
Dibenz(a,h)anthracene	%	85			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	88			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	83			70-130	Pass	
Naphthalene	%	81			70-130	Pass	
Phenanthrene	%	105			70-130	Pass	
Pyrene	%	97			70-130	Pass	

Test		Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery								
Organochlorine Pesticides								
4.4'-DDD		%	73			70-130	Pass	
4.4'-DDE		%	88			70-130	Pass	
4.4'-DDT		%	119			70-130	Pass	
a-BHC		%	76			70-130	Pass	
Aldrin		%	88			70-130	Pass	
b-BHC		%	104			70-130	Pass	
d-BHC		%	104			70-130	Pass	
Dieldrin		%	90			70-130	Pass	
Endosulfan I		%	99			70-130	Pass	
Endosulfan II		%	85			70-130	Pass	
Endosulfan sulphate		%	74			70-130	Pass	
Endrin		%	124			70-130	Pass	
Endrin aldehyde		%	71			70-130	Pass	
Endrin ketone		%	114			70-130	Pass	
g-BHC (Lindane)		%	95			70-130	Pass	
Heptachlor		%	70			70-130	Pass	
Heptachlor epoxide		%	72			70-130	Pass	
Hexachlorobenzene		%	72			70-130	Pass	
Methoxychlor		%	79			70-130	Pass	
LCS - % Recovery								
Heavy Metals								
Arsenic		%	97			80-120	Pass	
Cadmium		%	99			80-120	Pass	
Chromium		%	105			80-120	Pass	
Copper		%	98			80-120	Pass	
Lead		%	98			80-120	Pass	
Mercury		%	101			75-125	Pass	
Nickel		%	96			80-120	Pass	
Zinc		%	99			80-120	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	M20-My13052	NCP	%	102		70-130	Pass	
TRH C10-C14	B20-My20037	NCP	%	120		70-130	Pass	
Spike - % Recovery								
BTEX				Result 1				
Benzene	M20-My13052	NCP	%	101		70-130	Pass	
Toluene	M20-My13052	NCP	%	100		70-130	Pass	
Ethylbenzene	M20-My13052	NCP	%	102		70-130	Pass	
m&p-Xylenes	M20-My13052	NCP	%	99		70-130	Pass	
o-Xylene	M20-My13052	NCP	%	101		70-130	Pass	
Xylenes - Total*	M20-My13052	NCP	%	100		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
Naphthalene	M20-My13052	NCP	%	88		70-130	Pass	
TRH C6-C10	M20-My13052	NCP	%	126		70-130	Pass	
TRH >C10-C16	B20-My20037	NCP	%	109		70-130	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons				Result 1				
Acenaphthene	P20-My05024	NCP	%	108		70-130	Pass	
Acenaphthylene	P20-My05024	NCP	%	105		70-130	Pass	
Anthracene	P20-My05024	NCP	%	76		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benz(a)anthracene	P20-My05024	NCP	%	83			70-130	Pass	
Benzo(a)pyrene	P20-My05024	NCP	%	98			70-130	Pass	
Benzo(b&j)fluoranthene	P20-My05024	NCP	%	111			70-130	Pass	
Benzo(g,h,i)perylene	P20-My05024	NCP	%	103			70-130	Pass	
Benzo(k)fluoranthene	P20-My05024	NCP	%	102			70-130	Pass	
Chrysene	P20-My05024	NCP	%	123			70-130	Pass	
Dibenz(a,h)anthracene	P20-My05024	NCP	%	97			70-130	Pass	
Fluoranthene	P20-My05024	NCP	%	78			70-130	Pass	
Fluorene	P20-My05024	NCP	%	104			70-130	Pass	
Indeno(1,2,3-cd)pyrene	P20-My05024	NCP	%	100			70-130	Pass	
Naphthalene	P20-My05024	NCP	%	104			70-130	Pass	
Phenanthrene	P20-My05024	NCP	%	86			70-130	Pass	
Pyrene	P20-My05024	NCP	%	81			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-My14504	NCP	%	100			75-125	Pass	
Copper	S20-My14504	NCP	%	91			75-125	Pass	
Lead	S20-My14504	NCP	%	89			75-125	Pass	
Mercury	S20-My14504	NCP	%	100			70-130	Pass	
Nickel	S20-My14504	NCP	%	93			75-125	Pass	
Zinc	S20-My14504	NCP	%	48			75-125	Fail	Q08
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	M20-My13617	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M20-My14467	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M20-My14467	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M20-My14467	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M20-My13617	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M20-My13617	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M20-My13617	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M20-My13617	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M20-My13617	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M20-My13617	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M20-My13617	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M20-My13617	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M20-My14467	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M20-My14467	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M20-My14467	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g,h,i)perylene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Dibenz(a,h)anthracene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1.2.3-cd)pyrene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Pyrene	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	M20-My14467	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
4.4'-DDD	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
4.4'-DDE	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
4.4'-DDT	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
a-BHC	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Aldrin	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
b-BHC	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
d-BHC	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Dieldrin	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endosulfan I	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endosulfan II	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endosulfan sulphate	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endrin	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endrin aldehyde	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Endrin ketone	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
g-BHC (Lindane)	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Heptachlor	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Heptachlor epoxide	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Hexachlorobenzene	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Methoxychlor	M20-My14467	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S20-My14504	NCP	mg/L	0.003	0.003	1.0	30%	Pass
Copper	S20-My14504	NCP	mg/L	0.010	0.011	<1	30%	Pass
Lead	S20-My14504	NCP	mg/L	0.002	0.002	1.0	30%	Pass
Mercury	S20-My14504	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	S20-My14504	NCP	mg/L	0.003	0.003	2.0	30%	Pass
Zinc	S20-My14504	NCP	mg/L	0.48	0.48	<1	30%	Pass

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
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
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised By

Alena Bounkeua	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
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](#).

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NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: Stuart Lord
Report 718860-AID
Project Name HARRIS PROPERTY PSI
Project ID EP1655
Received Date May 11, 2020
Date Reported May 19, 2020

Methodology:
Asbestos Fibre Identification

Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques.

NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.
Unknown Mineral Fibres

Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity.

NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.
Subsampling Soil Samples

The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed.

NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.
Bonded asbestos-containing material (ACM)

The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 4964 - 2004.

NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.
Limit of Reporting

The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w).

The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk).

NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.

Project Name HARRIS PROPERTY PSI
Project ID EP1655
Date Sampled May 08, 2020
Report 718860-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
ACM01	20-My16104	May 08, 2020	Approximate Sample 510g Sample consisted of: Brown fine-grained soil, corroded metal, plaster-like material, coal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
ACM01_ID	20-My16105	May 08, 2020	Approximate Sample 29g / 80x30x5mm Sample consisted of: Grey fibre cement fragments	No asbestos detected. Organic fibre detected. No trace asbestos detected.
ACM02	20-My16106	May 08, 2020	Approximate Sample 536g Sample consisted of: Brown fine-grained soil, corroded metal, plaster-like material, coal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
ACM03	20-My16107	May 08, 2020	Approximate Sample 702g Sample consisted of: Brown coarse-grained soil, plaster, cement-like material, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
ACM04	20-My16108	May 08, 2020	Approximate Sample 371g Sample consisted of: Brown fine-grained soil, plaster-like material, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	May 18, 2020	Indefinite
Asbestos - LTM-ASB-8020	Sydney	May 18, 2020	Indefinite

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IANZ # 1290

Company Name:	EP Risk Management (NSW)	Order No.:		Received:	May 11, 2020 8:00 AM
Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	718860	Due:	May 18, 2020
Project Name:	HARRIS PROPERTY PSI	Phone:	02 99225021	Priority:	5 Day
Project ID:	EP1655	Fax:		Contact Name:	Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																			X								
Perth Laboratory - NATA Site # 23736																											
External Laboratory																											
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																						
1	TB01_0.1	May 08, 2020		Soil	M20-My16054																	X	X				
2	TB02_0.1	May 08, 2020		Soil	M20-My16055																	X	X				
3	TP03_0.1	May 08, 2020		Soil	M20-My16056																X	X					
4	TP04_0.1	May 08, 2020		Soil	M20-My16057																	X	X				
5	TP04_0.5	May 08, 2020		Soil	M20-My16058																X	X					
6	TP05_0.1	May 08, 2020		Soil	M20-My16059																	X	X				
7	TP06_0.1	May 08, 2020		Soil	M20-My16060																	X	X				
8	TP06_1.0	May 08, 2020		Soil	M20-My16061																X	X					
9	TP07_0.1	May 08, 2020		Soil	M20-My16062																X	X					
10	TP08_0.1	May 08, 2020		Soil	M20-My16063																X	X					

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Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Order No.:
Report #: 718860
Phone: 02 99225021
Fax:

Received: May 11, 2020 8:00 AM
Due: May 18, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
11	TP09_0.5	May 08, 2020		Soil	M20-My16064																	X	X				
12	TP09_1.5	May 08, 2020		Soil	M20-My16065																X	X					
13	TP10_0.05	May 08, 2020		Soil	M20-My16066																X	X					
14	TP11_0.1	May 08, 2020		Soil	M20-My16067																X	X					
15	TP12_0.2	May 08, 2020		Soil	M20-My16068																	X	X				
16	TP12_0.5	May 08, 2020		Soil	M20-My16069																X	X					
17	TP13_0.2	May 08, 2020		Soil	M20-My16070																	X	X				
18	TP14_0.2	May 08, 2020		Soil	M20-My16071																	X	X				
19	TP14_0.6	May 08, 2020		Soil	M20-My16072																X	X					
20	TP15_0.2	May 08, 2020		Soil	M20-My16073																	X	X				
21	TP16_0.1	May 08, 2020		Soil	M20-My16074																	X	X				
22	TP16_0.5	May 08, 2020		Soil	M20-My16075																X	X					
23	TP17_0.1	May 08, 2020		Soil	M20-My16076																X	X					

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Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	718860	Due:	May 18, 2020
Project Name:	HARRIS PROPERTY PSI	Phone:	02 99225021	Priority:	5 Day
Project ID:	EP1655	Fax:		Contact Name:	Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																			X								
Perth Laboratory - NATA Site # 23736																											
24	TP18_0.1	May 08, 2020		Soil	M20-My16077																X	X	X				
25	TP19_0.1	May 08, 2020		Soil	M20-My16078																X	X	X				
26	TP20_0.1	May 08, 2020		Soil	M20-My16079																X	X	X				
27	TB21_0.05	May 08, 2020		Soil	M20-My16080																		X	X			
28	QA01	May 08, 2020		Soil	M20-My16081																	X	X				
29	QA03	May 08, 2020		Soil	M20-My16082																	X	X				
30	TP10_MICRO	May 08, 2020		Soil	M20-My16083							X					X					X					
31	TP18_MICRO	May 08, 2020		Soil	M20-My16084							X					X					X					
32	TP19_MICRO	May 08, 2020		Soil	M20-My16085							X					X					X					
33	TP20_MICRO	May 08, 2020		Soil	M20-My16086							X					X					X					
34	SED_01	May 08, 2020		Soil	M20-My16087	X			X	X	X			X	X	X		X	X			X			X	X	
35	SED_02	May 08, 2020		Soil	M20-My16088	X			X	X	X			X	X	X		X	X			X			X	X	
36	SED_03	May 08, 2020		Soil	M20-My16089	X			X	X	X			X	X	X		X	X			X			X	X	

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Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
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NSW 2060

Order No.:
Report #: 718860
Phone: 02 99225021
Fax:

Received: May 11, 2020 8:00 AM
Due: May 18, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
37	TB	May 08, 2020		Soil	M20-My16090																				X		
38	TS	May 08, 2020		Soil	M20-My16091																				X		
39	RW01	May 08, 2020		Water	M20-My16092																		X				
40	TB01_0.5	May 08, 2020		Soil	M20-My16093								X														
41	TB02_0.5	May 08, 2020		Soil	M20-My16094								X														
42	TP08_0.5	May 08, 2020		Soil	M20-My16095								X														
43	TP09_0.2	May 08, 2020		Soil	M20-My16096								X														
44	TP13_0.5	May 08, 2020		Soil	M20-My16097								X														
45	TP15_1.2	May 08, 2020		Soil	M20-My16098								X														
46	TB21_0.5	May 08, 2020		Soil	M20-My16099								X														
47	TP16_0.05	May 08, 2020		Soil	M20-My16100								X														
48	SQ01	May 08, 2020		Soil	M20-My16101	X			X	X	X			X	X	X		X	X			X			X	X	
49	SQ02	May 08, 2020		Soil	M20-My16102	X			X	X	X			X	X	X		X	X			X			X	X	

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Received: May 11, 2020 8:00 AM
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Contact Name: Stuart Lord

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																			X								
Perth Laboratory - NATA Site # 23736																											
50	TP04_MICRO	May 08, 2020		Soil	M20-My16103							X					X					X					
51	ACM01	May 08, 2020		Soil	M20-My16104		X																				
52	ACM01_ID	May 08, 2020		Building Materials	M20-My16105			X																			
53	ACM02	May 08, 2020		Soil	M20-My16106		X																				
54	ACM03	May 08, 2020		Soil	M20-My16107		X																				
55	ACM04	May 08, 2020		Soil	M20-My16108		X																				
56	ASS01	May 08, 2020		Soil	M20-My16109														X								
57	ASS02	May 08, 2020		Soil	M20-My16110														X								
58	ASS03	May 08, 2020		Soil	M20-My16111														X								
59	ASS04	May 08, 2020		Soil	M20-My16112														X								
60	ASS05	May 08, 2020		Soil	M20-My16113														X								
61	ASS06	May 08, 2020		Soil	M20-My16114														X								

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Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	718860	Due:	May 18, 2020
Project Name:	HARRIS PROPERTY PSI	Phone:	02 99225021	Priority:	5 Day
Project ID:	EP1655	Fax:		Contact Name:	Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
62	ASS07	May 08, 2020		Soil	M20-My16115															X							
63	ASS08	May 08, 2020		Soil	M20-My16116															X							
64	ASS09	May 08, 2020		Soil	M20-My16117															X							
65	ASS10	May 08, 2020		Soil	M20-My16118															X							
66	ASS11	May 08, 2020		Soil	M20-My16119															X							
67	ASS12	May 08, 2020		Soil	M20-My16120															X							
68	ASS13	May 08, 2020		Soil	M20-My16121															X							
69	ASS14	May 08, 2020		Soil	M20-My16122															X							
70	ASS15	May 08, 2020		Soil	M20-My16123															X							
71	ASS16	May 08, 2020		Soil	M20-My16124															X							
72	ASS17	May 08, 2020		Soil	M20-My16125															X							
73	ASS18	May 08, 2020		Soil	M20-My16126															X							
74	ASS19	May 08, 2020		Soil	M20-My16127															X							

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Project ID: EP1655

Order No.:
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Fax:

Received: May 11, 2020 8:00 AM
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Priority: 5 Day
Contact Name: Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail	Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	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	X	X		X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217		X	X																				
Brisbane Laboratory - NATA Site # 20794															X								
Perth Laboratory - NATA Site # 23736																							
Test Counts	5	4	1	5	5	5	5	8	5	5	5	5	5	5	19	15	15	39	15	2	5	5	

Internal Quality Control Review and Glossary
General

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

Holding Times

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

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

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

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

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to "non-bonded / friable".
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
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NSW 2060

Order No.:
Report #: 718860
Phone: 02 99225021
Fax:

Received: May 11, 2020 8:00 AM
Due: May 18, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Arsenic (1M HCl extract)	Asbestos - WA guidelines	Asbestos Absence /Presence	Cadmium (1M HCl extract)	Chromium (1M HCl extract)	Copper (1M HCl extract)	E.coli	HOLD	Lead (1M HCl extract)	Mercury (1M HCl extract)*	Nickel (1M HCl extract)	Thermotolerant Coliforms	Zinc (1M HCl extract)	Polychlorinated Biphenyls	Acid Sulfate Soils Field pH Test	Metals M7	Eurofins mgt Suite B13	Moisture Set	Eurofins mgt Suite B9	BTEXN and Volatile TRH	Polyyclic Aromatic Hydrocarbons (Trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
External Laboratory																											
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																						
1	TB01_0.1	May 08, 2020		Soil	M20-My16054																	X	X				
2	TB02_0.1	May 08, 2020		Soil	M20-My16055																	X	X				
3	TP03_0.1	May 08, 2020		Soil	M20-My16056																X	X					
4	TP04_0.1	May 08, 2020		Soil	M20-My16057																	X	X				
5	TP04_0.5	May 08, 2020		Soil	M20-My16058																X	X					
6	TP05_0.1	May 08, 2020		Soil	M20-My16059																	X	X				
7	TP06_0.1	May 08, 2020		Soil	M20-My16060																	X	X				
8	TP06_1.0	May 08, 2020		Soil	M20-My16061																X	X					
9	TP07_0.1	May 08, 2020		Soil	M20-My16062																X	X					
10	TP08_0.1	May 08, 2020		Soil	M20-My16063																X	X					

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
11	TP09_0.5	May 08, 2020		Soil	M20-My16064																	X	X				
12	TP09_1.5	May 08, 2020		Soil	M20-My16065																X	X	X				
13	TP10_0.05	May 08, 2020		Soil	M20-My16066																X	X	X				
14	TP11_0.1	May 08, 2020		Soil	M20-My16067																X	X	X				
15	TP12_0.2	May 08, 2020		Soil	M20-My16068																	X	X				
16	TP12_0.5	May 08, 2020		Soil	M20-My16069																X	X	X				
17	TP13_0.2	May 08, 2020		Soil	M20-My16070																	X	X				
18	TP14_0.2	May 08, 2020		Soil	M20-My16071																	X	X				
19	TP14_0.6	May 08, 2020		Soil	M20-My16072																X	X	X				
20	TP15_0.2	May 08, 2020		Soil	M20-My16073																	X	X				
21	TP16_0.1	May 08, 2020		Soil	M20-My16074																	X	X				
22	TP16_0.5	May 08, 2020		Soil	M20-My16075																X	X	X				
23	TP17_0.1	May 08, 2020		Soil	M20-My16076																X	X	X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
24	TP18_0.1	May 08, 2020		Soil	M20-My16077																X	X	X				
25	TP19_0.1	May 08, 2020		Soil	M20-My16078																X	X	X				
26	TP20_0.1	May 08, 2020		Soil	M20-My16079																X	X	X				
27	TB21_0.05	May 08, 2020		Soil	M20-My16080																		X	X			
28	QA01	May 08, 2020		Soil	M20-My16081																		X	X			
29	QA03	May 08, 2020		Soil	M20-My16082																		X	X			
30	TP10_MICRO	May 08, 2020		Soil	M20-My16083							X											X				
31	TP18_MICRO	May 08, 2020		Soil	M20-My16084							X											X				
32	TP19_MICRO	May 08, 2020		Soil	M20-My16085							X											X				
33	TP20_MICRO	May 08, 2020		Soil	M20-My16086							X											X				
34	SED_01	May 08, 2020		Soil	M20-My16087	X			X	X	X			X	X	X		X	X				X		X	X	
35	SED_02	May 08, 2020		Soil	M20-My16088	X			X	X	X			X	X	X		X	X				X		X	X	
36	SED_03	May 08, 2020		Soil	M20-My16089	X			X	X	X			X	X	X		X	X				X		X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
37	TB	May 08, 2020		Soil	M20-My16090																				X		
38	TS	May 08, 2020		Soil	M20-My16091																			X			
39	RW01	May 08, 2020		Water	M20-My16092																		X				
40	TB01_0.5	May 08, 2020		Soil	M20-My16093								X														
41	TB02_0.5	May 08, 2020		Soil	M20-My16094								X														
42	TP08_0.5	May 08, 2020		Soil	M20-My16095								X														
43	TP09_0.2	May 08, 2020		Soil	M20-My16096								X														
44	TP13_0.5	May 08, 2020		Soil	M20-My16097								X														
45	TP15_1.2	May 08, 2020		Soil	M20-My16098								X														
46	TB21_0.5	May 08, 2020		Soil	M20-My16099								X														
47	TP16_0.05	May 08, 2020		Soil	M20-My16100								X														
48	SQ01	May 08, 2020		Soil	M20-My16101	X			X	X	X			X	X	X		X	X			X			X	X	
49	SQ02	May 08, 2020		Soil	M20-My16102	X			X	X	X			X	X	X		X	X			X			X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																			X								
Perth Laboratory - NATA Site # 23736																											
50	TP04_MICRO	May 08, 2020		Soil	M20-My16103						X						X					X					
51	ACM01	May 08, 2020		Soil	M20-My16104		X																				
52	ACM01_ID	May 08, 2020		Building Materials	M20-My16105			X																			
53	ACM02	May 08, 2020		Soil	M20-My16106		X																				
54	ACM03	May 08, 2020		Soil	M20-My16107		X																				
55	ACM04	May 08, 2020		Soil	M20-My16108		X																				
56	ASS01	May 08, 2020		Soil	M20-My16109														X								
57	ASS02	May 08, 2020		Soil	M20-My16110														X								
58	ASS03	May 08, 2020		Soil	M20-My16111														X								
59	ASS04	May 08, 2020		Soil	M20-My16112														X								
60	ASS05	May 08, 2020		Soil	M20-My16113														X								
61	ASS06	May 08, 2020		Soil	M20-My16114														X								

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Melbourne Laboratory - NATA Site # 1254 & 14271						X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X																			
Brisbane Laboratory - NATA Site # 20794																				X							
Perth Laboratory - NATA Site # 23736																											
62	ASS07	May 08, 2020		Soil	M20-My16115															X							
63	ASS08	May 08, 2020		Soil	M20-My16116															X							
64	ASS09	May 08, 2020		Soil	M20-My16117															X							
65	ASS10	May 08, 2020		Soil	M20-My16118															X							
66	ASS11	May 08, 2020		Soil	M20-My16119															X							
67	ASS12	May 08, 2020		Soil	M20-My16120															X							
68	ASS13	May 08, 2020		Soil	M20-My16121															X							
69	ASS14	May 08, 2020		Soil	M20-My16122															X							
70	ASS15	May 08, 2020		Soil	M20-My16123															X							
71	ASS16	May 08, 2020		Soil	M20-My16124															X							
72	ASS17	May 08, 2020		Soil	M20-My16125															X							
73	ASS18	May 08, 2020		Soil	M20-My16126															X							
74	ASS19	May 08, 2020		Soil	M20-My16127															X							



Environment Testing

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Melbourne Laboratory - NATA Site # 1254 & 14271	X			X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217		X	X																				
Brisbane Laboratory - NATA Site # 20794															X								
Perth Laboratory - NATA Site # 23736																							
Test Counts	5	4	1	5	5	5	5	8	5	5	5	5	5	5	19	15	15	39	15	2	5	5	

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Sample Receipt Advice

Company name: **EP Risk Management (NSW)**
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Project name: **HARRIS PROPERTY PSI**
Project ID: **EP1655**
COC number: **Not provided**
Turn around time: **5 Day**
Date/Time received: **May 11, 2020 8:00 AM**
Eurofins reference: **718860**

Sample information

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

Notes

Samples TP03_0.5, TP03_1.2, TP05_0.5, TP07_0.5, TP10_0.5, NEPM SCREEN not received. Samples TP16_0.05 received extra and placed on HOLD.

Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Stuart Lord - Stuart.Lord@eprisk.com.au.

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



CHAIN OF CUSTODY RECORD

Eurofins | Ingt ABN 50 005 085 521

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

Brisbane Laboratory
Unit 1 21 Smallwood Place Mirania QLD 4172
07 3902 4900 EnviroSampleQLD@eurofins.com

Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 5600 EnviroSampleWA@eurofins.com

Melbourne Laboratory
2 Kingston Town Chase Colleiagh VIC 3168
03 8564 5000 EnviroSampleVic@eurofins.com

Company	EP RISK	Project No	EP1655	Project Manager	SL	Samplet(s)	SL	
Address	3/19 Bolton Street Newcastle	Project Name	Harris Property PSI	EDD Format	ESBL, EDCS etc	Handed over by		
Contact Name	Stuart Lord	Analyses Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.					Email for Invoice	
Phone No	403768722	M7 and B13					Email for Results	
Special Directions		B9					Containers Change container type & size if necessary.	
Purchase Order		Hold					500mL Plastic	<input type="checkbox"/> Overnight (reporting by 9am) ♦ <input type="checkbox"/> Same day ♦ <input type="checkbox"/> 1 day ♦ <input type="checkbox"/> 2 days ♦ <input type="checkbox"/> 3 <input type="checkbox"/> 5 days (Standard) <input type="checkbox"/> Other ()
Quote ID No	181023EPR						250mL Plastic	

No	Client Sample ID	Sampled Date/Time <small>dd/mm/yyyy hh:mm</small>	Matrix <small>Soils (S) Water (W)</small>									
1	TB01_0.1	8/05/20	S		X							
2	TB01_0.5	8/05/20	S			X						
3	TB02_0.1	8/05/20	S		X							
4	TB02_0.5	8/05/20	S			X						
5	TP03_0.1	8/05/20	S	X								
6	TP03_0.5	8/05/20	S			X						
7	TP03_1.2	8/05/20	S				X					
8	TP04_0.1	8/05/20	S		X							
9	TP04_0.5	8/05/20	S	X								
10	TP05_0.1	8/05/20	S		X							
Total Counts				2	4	4	4					

Method of Shipment	<input type="checkbox"/> Courier (#)	<input checked="" type="checkbox"/> Hand Delivered	<input type="checkbox"/> Postal	Name		Signature		Date		Date		Time		Temperature		Report No	
Eurofins Ingt Laboratory Use Only	Received By	K Foley		Signature				Date	11/5/20	Time	8am	Temperature	7-	Report No	718860		
	Received By	C. Peters		Signature				Date		Time		Temperature		Report No			

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 Page 1 of 8 CS3109_B5 Modified by S. Kemp Approved by C. D. Priez Approved on 12 June 2018

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CHAIN OF CUSTODY RECORD

Eurofins | mgf | ABN 50 005 085 521

Sydney Laboratory
Unit F3 Bldg F-16 Bays Road Lane Cove West NSW 2086
02 9900 8400 Eurofinsmgf@eurofins.com

Brisbane Laboratory
Unit 1 21 Smallwood Place Marano QLD 4172
07 3902 4600 Eurofinsmgf@eurofins.com

Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9500 Eurofinsmgf@eurofins.com

Melbourne Laboratory
2 Kingston Town Close Oakleigh VIC 3165
03 9584 5000 Eurofinsmgf@eurofins.com

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Company	EP RISK	Project No	EP1655	Project Manager	SL	Sampler(s)	SL
Address	3/19 Bolton Street Newcastle	Project Name	Harris Property PSI	EDD Format	ESM, EOUS etc	Handed over by	
Contact Name	Stuart Lord	Analyses Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.					
Phone No	403768722	M7 and B13 B9 Hold					
Special Directions							
Purchase Order							
Quote ID No	181023EPR						

No	Client Sample ID	Sampled Date/Time <small>dd/mm/yyyy hh:mm</small>	Matrix Solid (S) Water (W)									
1	TP05_0.5	8/05/20	S									
2	TP06_0.1	8/05/20	S		X							
3	TP06_1.0	8/05/20	S		X							
4	TP07_0.1	8/05/20	S		X							
5	TP07_0.5	8/05/20	S			X						
6	TP08_0.1	8/05/20	S		X							
7	TP08_0.5	8/05/20	S			X						
8	TP09_0.2	8/05/20	S				X					
9	TP09_0.5	8/05/20	S		X							
10	TP09_1.5	8/05/20	S		X							
Total Counts					4	2	4					

Method of Shipment	<input type="checkbox"/> Courier (#)	<input checked="" type="checkbox"/> Hand Delivered	Signature		Date		Time	
Eurofins mgf Laboratory Use Only	Received By	Received By	Signature	Date	Time	Temperature	Report No	
	K. Foley	C. Ribeiro	R. Foley	11/5/20	8am	7-	718860	

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CHAIN OF CUSTODY RECORD

Eurofins | mgf | ADR 50 005 005 521

Sydney Laboratory
Unit F3 Bld F 18 Mars Road Lane Cove West NSW 2055
02 9900 9400 EurofinsSampleNSW@eurofins.com

Brisbane Laboratory
Unit 1 21 Smallwood Place Murarie QLD 4172
07 3992 4800 EurofinsSampleQLD@eurofins.com

Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9800 EurofinsSampleWA@eurofins.com

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

318

Company	EP RISK	Project No	EP1655	Project Manager	SL	Sampler(s)	SL
Address	3/19 Bolton Street Newcastle	Project Name	Harris Property PSI	EDD Format	ESHA, ECHS etc	Handed over by	
Contact Name	Stuart Lord	Analyses Where metals are requested, please specify "Total" or "Filtered", SUITE code must be used to attract SUITE pricing.					
Phone No	403788722	M7 and B13					
Special Directions		B9					
Purchase Order		Hold					
Quote ID No	181023EPR	R21					

No	Client Sample ID	Sampled Date/Time <i>(dd/mm/yyyy hh:mm)</i>	Matrix Solid (S) Water (W)	Method of Shipment					Signature	Date	Time
				<input type="checkbox"/> Courier (#	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Postal	Name				
1	TP10_0.05	8/05/20	S								
2	TP10_0.5	8/05/20	S								
3	TP11_0.1	8/05/20	S								
4	TP12_0.2	8/05/20	S								
5	TP12_0.5	8/05/20	S								
6	TP13_0.2	8/05/20	S								
7	NEM SCREEN	8/05/20	S								
8	TP13_0.5	8/05/20	S								
9	TP14_0.2	8/05/20	S								
10	TP14_0.6	8/05/20	S								
Total Counts				4	3	2	1				

Method of Shipment	<input type="checkbox"/> Courier (#	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Postal	Name			Signature	Date	Time
Eurofins mgf Laboratory Use Only	Received By	Received By	Signature	Signature	Date	Time	Temperature	Report No	
	Coltrens	Coltrens			11/5/20		7-	718960	

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Eurofins | mgf | ABN 50 005 065 571

Sydney Laboratory
Unit F3 Bld F 18 Mars Road Lane Cove NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

Brisbane Laboratory
Unit 1 21 Smallwood Place Maroon QLD 4172
07 3802 4600 EnviroSampleQLD@eurofins.com

Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9900 EnviroSampleWA@eurofins.com

Melbourne Laboratory
2 Kingsdon Town Close Okehampton VIC 3198
03 8564 5000 EnviroSampleVIC@eurofins.com

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Company	EP RISK	Project No	EP1655	Project Manager	SL	Sampler(s)	SL
Address	3/19 Bolton Street Newcastle	Project Name	Harris Property PSI	EDD Format	ESDA, ECalls etc	Handed over by	
Contact Name	Stuart Lord	Analyses Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.					
Phone No	403768722	M7 and B13					
Special Directions		B9 (TRH, BTEXN, PAH, OCP, 8 Metals)					
Purchase Order		Hold					
Quote ID No	181023EPR	Asbestos Identification in Soil - NEPM & WA Guidelines					
		Asbestos Identification in building materials					
		Faecal coliform and E.Coli.					

No	Client Sample ID	Sampled Date/Time dd/mm/yyyy hh:mm	Matrix Solid (S) Water (W)										
1	QA01	8/05/20	S										
2	QA02	8/05/20	S										
3	QA03	8/05/20	S										
4	QA04	8/05/20	S										
5	ACM01	8/05/20	S										
6	ACM01_ID	8/05/20	S										
7	ACM02	8/05/20	S										
8	ACM03	8/05/20	S										
9	ACM04	8/05/20	S										
10	TP10_micro	8/05/20	S										
Total Counts													

Method of Shipment	<input type="checkbox"/> Courier #	<input type="checkbox"/> Hand Delivered	Signature	Date	Time	Temperature
Eurofins mgf Laboratory Use Only	Received By	Received By	Signature	Date	Time	Report No
	Caltero			1.5.20	8am	718860



CHAIN OF CUSTODY RECORD

Eurofins | Inq: ASN 50 005 065 521

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

Brisbane Laboratory
Unit 1 21 Smallwood Place Kuramba QLD 4172
07 3902 4800 EnviroSampleQLD@eurofins.com

Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9800 EnviroSampleWA@eurofins.com

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

Company EP RISK **Project No** EP1655 **Project Name** Harris Property PSI **Project Manager** EDD Format Escal, EDDUS etc **SL**

Address 3/19 Bolton Street Newcastle **Analyses** Faecal coliform and E.Coli. HCl Extractable Metals Suite (As, Cd, Cr, Cu, Pb, Ni, Zn & Hg) TRH (F1)/BTEXN B9 Trace OC/PCB/PAH

Contact Name Stuart Lord **Phone No** 403768722 **Special Directions**

Purchase Order **Quote ID No** 181023EPR **Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.**

No	Client Sample ID	Sampled Date/Time (dd/mm/yyyy hh:mm)	Matrix (Solid (S) / Liquid (W))	1	2	3	4	5	6	7	8	9	10
1	TP18_micro	8/05/20	S	X									
2	TP19_micro	8/05/20	S	X									
3	TP20_micro	8/05/20	S		X								
4	SED_01	8/05/20	S			X							
5	SED_02	8/05/20	S			X							
6	SED_03	8/05/20	S			X							
7	TB	8/05/20	S			X							
8	TS	8/05/20	S			X							
9	RW01	8/05/20	W				X						
Total Counts				3	3	2	1	3					

Method of Shipment: Courier (#) Hand Delivered Postal **Name** **Signature** **Date** **Time**

Eurofins | Inq Laboratory Use Only **Received By** Caliano **Signature** **Date** 11/5/20 **Time** 8am **Temperature** 7- **Report No** 719860

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Sydney Laboratory
Unit F3 Bldg F 16 Mars Road Lane Cove West NSW 2096
02 9900 9400 EnviroSampleNSW@eurofins.com

Brisbane Laboratory
Unit 1 21 Smallwood Place Marano QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9500 EnviroSampleWA@eurofins.com

Melbourne Laboratory
2 Kingston Town Close Oakleigh VIC 3166
03 8568 5000 EnviroSampleVIC@eurofins.com

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Company	EP RISK	Project No	EP1655	Project Manager	EDD Format ES/AL E/CA/S etc	Sampler(s)	SL		
Address	3119 Bolton Street Newcastle	Project Name	Harris Property PSI			Handed over by			
Contact Name	Stuart Lord					Email for Invoice			
Phone No	403766722					Email for Results			
Special Directions	Please freeze and hold acid sulfate soil samples for possible future chromium suite analysis	Analyses	pH Field Screen					Required Turnaround Time (TAT)	<input type="checkbox"/> Overnight (reporting by 9am) <input type="checkbox"/> 1 day <input type="checkbox"/> Same day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days (Standard) <input type="checkbox"/> 5 days (Standard) <input type="checkbox"/> Other
Purchase Order						Containers	500mL Plastic 250mL Plastic 125mL Plastic 200mL Amber Glass 40mL VOA vial 500mL PFAS Bottle Jar (Glass or HDPE) Other (Asbestos AS4964, WA Guidelines)		
Quote ID No	181023EPR					Required Turnaround Time (TAT)	*Surcharge will apply Default will be 5 days if not listed:		

No	Client Sample ID	Sampled Date/Time (dd/mm/yyyy hh:mm)	Matrix (Solid (S) / Water (W))	Method of Shipment	Received By	Signature	Date	Time	Temperature
1	ASS11	8/05/20	S	<input type="checkbox"/> Courier # <input type="checkbox"/> Hand Delivered	Coltress		11/5/20	8am	7-
2	ASS12	8/05/20	S						
3	ASS13	8/05/20	S						
4	ASS14	8/05/20	S						
5	ASS15	8/05/20	S						
6	ASS16	8/05/20	S						
7	ASS17	8/05/20	S						
8	ASS18	8/05/20	S						
9	ASS19	8/05/20	S						
10									
Total Counts				9					

Method of Shipment: Courier # Hand Delivered

Received By: *Coltress*

Signature: *[Signature]*

Date: *11/5/20*

Time: *8am*

Temperature: *7-*

Report No: *718860*

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Page 8 of 8 QCS009_78 Modified By: S. Keena Approved By: C. D. Pinner Approved on: 12 June 2018

#AU_CAU001_EnviroSampleVic

From: Alena Bounkeua
Sent: Wednesday, 13 May 2020 12:13 PM
To: Catherine Wilson
Cc: #AU_CAU001_EnviroSampleVic
Subject: FW: Eurofins Sample Receipt Advice - Report 718860 : Site HARRIS PROPERTY PSI (EP1655)
Attachments: 718860_COc.pdf; 718860_sample_receipt_coc.pdf; 718860_summary.pdf
Follow Up Flag: Follow up
Flag Status: Completed

Hi guys,

Could you please make the amendments below and issue updated SRA?

Thanks!

Kind Regards,

Alena Bounkeua
Eurofins | Environment Testing
Phone: +61 2 9900 8414
Mobile: +61 429 365 410
Email: AlenaBounkeua@eurofins.com

718860
Catherine
EF

From: Stuart Lord [<mailto:Stuart.Lord@eprisk.com.au>]
Sent: Wednesday, 13 May 2020 11:43 AM
To: Alena Bounkeua
Subject: FW: Eurofins Sample Receipt Advice - Report 718860 : Site HARRIS PROPERTY PSI (EP1655)

EXTERNAL EMAIL*

Hey Alena,

Could I please get the following extra samples taken off hold and analysed for the following

SQ01 - HCl Extractable Metals Suite (As, Cd, Cr, Cu, Pb, Ni, Zn & Hg), Trace OC/PCB/PAH
SQ02 – sent to ALS for HCl Extractable Metals Suite (As, Cd, Cr, Cu, Pb, Ni, Zn & Hg), Trace OC/PCB/PAH
TP04_MICRO - Faecal coliform and E.Coli.

Kind Regards,

Stuart Lord

Environmental Scientist
Business Management Systems Manager
EP Risk Management Pty Ltd

m: 0403 768 722

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



NATA Accredited
Accreditation Number 1261
Site Number 20794

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: **Stuart Lord**

Report **720841-S**
Project name **HARRIS PROPERTY PSI**
Project ID **EP1655**
Received Date **May 20, 2020**

Client Sample ID			ASS01	ASS04	ASS05	ASS06
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B20-My30336	B20-My30337	B20-My30338	B20-My30339
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Chromium Suite						
pH-KCL	0.1	pH Units	4.2	5.5	4.0	4.3
Acid trail - Titratable Actual Acidity	2	mol H+/t	70	13	100	51
sulfidic - TAA equiv. S% pyrite	0.003	% pyrite S	0.11	0.020	0.16	0.081
Chromium Reducible Sulfur ^{S04}	0.005	% S	< 0.005	< 0.005	< 0.005	< 0.005
Chromium Reducible Sulfur -acidity units	3	mol H+/t	< 3	< 3	< 3	< 3
Sulfur - KCl Extractable	0.02	% S	< 0.02	n/a	< 0.02	< 0.02
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
HCl Extractable Sulfur	0.02	% S	0.05	n/a	0.04	< 0.02
Net Acid soluble sulfur	0.02	% S	0.04	n/a	0.03	< 0.02
Net Acid soluble sulfur - acidity units	10	mol H+/t	17	n/a	12	< 10
Net Acid soluble sulfur - equivalent S% pyrite ^{S02}	0.02	% S	0.03	n/a	< 0.02	< 0.02
Acid Neutralising Capacity (ANCbt)	0.01	% CaCO ₃	n/a	n/a	n/a	n/a
Acid Neutralising Capacity - acidity (a-ANCbt)	2	mol H+/t	n/a	n/a	n/a	n/a
Acid Neutralising Capacity - equivalent S% pyrite (s-ANCbt) ^{S03}	0.02	% S	n/a	n/a	n/a	n/a
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
CRS Suite - Net Acidity (Sulfur Units)	0.02	% S	0.14	0.02	0.16	0.08
CRS Suite - Net Acidity (Acidity Units)	10	mol H+/t	87	13	110	54
CRS Suite - Liming Rate ^{S01}	1	kg CaCO ₃ /t	6.5	< 1	8.5	4.0
Extraneous Material						
<2mm Fraction	0.005	g	41	39	41	39
>2mm Fraction	0.005	g	< 0.005	4.1	< 0.005	< 0.005
Analysed Material	0.1	%	100	91	100	100
Extraneous Material	0.1	%	< 0.1	9.5	< 0.1	< 0.1
% Moisture						
% Moisture	1	%	6.8	13	18	11

Client Sample ID			ASS07	ASS08	ASS09	ASS12
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B20-My30340	B20-My30341	B20-My30342	B20-My30343
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit				
Chromium Suite						
pH-KCL	0.1	pH Units	4.3	4.0	4.3	4.5
Acid trail - Titratable Actual Acidity	2	mol H+/t	69	100	97	48
sulfidic - TAA equiv. S% pyrite	0.003	% pyrite S	0.11	0.16	0.16	0.078
Chromium Reducible Sulfur ^{S04}	0.005	% S	< 0.005	< 0.005	< 0.005	< 0.005
Chromium Reducible Sulfur -acidity units	3	mol H+/t	< 3	< 3	< 3	< 3
Sulfur - KCl Extractable	0.02	% S	< 0.02	< 0.02	< 0.02	n/a
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
HCl Extractable Sulfur	0.02	% S	0.02	0.05	0.04	n/a
Net Acid soluble sulfur	0.02	% S	< 0.02	0.03	0.03	n/a
Net Acid soluble sulfur - acidity units	10	mol H+/t	< 10	14	12	n/a
Net Acid soluble sulfur - equivalent S% pyrite ^{S02}	0.02	% S	< 0.02	0.02	< 0.02	n/a
Acid Neutralising Capacity (ANCbt)	0.01	% CaCO3	n/a	n/a	n/a	n/a
Acid Neutralising Capacity - acidity (a-ANCbt)	2	mol H+/t	n/a	n/a	n/a	n/a
Acid Neutralising Capacity - equivalent S% pyrite (s-ANCbt) ^{S03}	0.02	% S	n/a	n/a	n/a	n/a
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
CRS Suite - Net Acidity (Sulfur Units)	0.02	% S	0.11	0.18	0.16	0.08
CRS Suite - Net Acidity (Acidity Units)	10	mol H+/t	76	110	110	48
CRS Suite - Liming Rate ^{S01}	1	kg CaCO3/t	5.7	8.5	8.2	3.6
Extraneous Material						
<2mm Fraction	0.005	g	32	28	29	41
>2mm Fraction	0.005	g	3.9	< 0.005	6.3	< 0.005
Analysed Material	0.1	%	89	100	82	100
Extraneous Material	0.1	%	11	< 0.1	18	< 0.1
% Moisture						
% Moisture	1	%	23	23	10	12

Client Sample ID			ASS16	ASS18	ASS19
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			B20-My30344	B20-My30345	B20-My30346
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit			
Chromium Suite					
pH-KCL	0.1	pH Units	4.5	4.4	4.0
Acid trail - Titratable Actual Acidity	2	mol H+/t	60	64	120
sulfidic - TAA equiv. S% pyrite	0.003	% pyrite S	0.096	0.10	0.19
Chromium Reducible Sulfur ^{S04}	0.005	% S	< 0.005	< 0.005	< 0.005
Chromium Reducible Sulfur -acidity units	3	mol H+/t	< 3	< 3	< 3
Sulfur - KCl Extractable	0.02	% S	n/a	< 0.02	< 0.02
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0
HCl Extractable Sulfur	0.02	% S	n/a	< 0.02	< 0.02
Net Acid soluble sulfur	0.02	% S	n/a	< 0.02	< 0.02
Net Acid soluble sulfur - acidity units	10	mol H+/t	n/a	< 10	< 10
Net Acid soluble sulfur - equivalent S% pyrite ^{S02}	0.02	% S	n/a	< 0.02	< 0.02
Acid Neutralising Capacity (ANCbt)	0.01	% CaCO3	n/a	n/a	n/a
Acid Neutralising Capacity - acidity (a-ANCbt)	2	mol H+/t	n/a	n/a	n/a
Acid Neutralising Capacity - equivalent S% pyrite (s-ANCbt) ^{S03}	0.02	% S	n/a	n/a	n/a

Client Sample ID			ASS16	ASS18	ASS19
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			B20-My30344	B20-My30345	B20-My30346
Date Sampled			May 08, 2020	May 08, 2020	May 08, 2020
Test/Reference	LOR	Unit			
Chromium Suite					
ANC Fineness Factor		factor	1.5	1.5	1.5
CRS Suite - Net Acidity (Sulfur Units)	0.02	% S	0.10	0.10	0.19
CRS Suite - Net Acidity (Acidity Units)	10	mol H+/t	60	66	120
CRS Suite - Liming Rate ^{SO1}	1	kg CaCO3/t	4.5	5.0	9.1
Extraneous Material					
<2mm Fraction	0.005	g	15	51	43
>2mm Fraction	0.005	g	< 0.005	0.57	< 0.005
Analysed Material	0.1	%	100	99	100
Extraneous Material	0.1	%	< 0.1	1.1	< 0.1
% Moisture					
	1	%	8.7	11	19

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
Chromium Reducible Sulfur Suite			
Chromium Suite	Brisbane	May 21, 2020	6 Week
- Method: LTM-GEN-7070 Chromium Reducible Sulfur Suite			
Extraneous Material	Brisbane	May 21, 2020	6 Week
- Method: LTM-GEN-7050/7070			
% Moisture	Brisbane	May 22, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			

Australia

Melbourne
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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Order No.:
Report #: 720841
Phone: 02 99225021
Fax:

Received: May 20, 2020 10:41 AM
Due: May 27, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Chromium Reducible Sulfur Suite	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794						X	X
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	ASS01	May 08, 2020		Soil	B20-My30336	X	X
2	ASS04	May 08, 2020		Soil	B20-My30337	X	X
3	ASS05	May 08, 2020		Soil	B20-My30338	X	X
4	ASS06	May 08, 2020		Soil	B20-My30339	X	X
5	ASS07	May 08, 2020		Soil	B20-My30340	X	X
6	ASS08	May 08, 2020		Soil	B20-My30341	X	X
7	ASS09	May 08, 2020		Soil	B20-My30342	X	X
8	ASS12	May 08, 2020		Soil	B20-My30343	X	X
9	ASS16	May 08, 2020		Soil	B20-My30344	X	X
10	ASS18	May 08, 2020		Soil	B20-My30345	X	X

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e.mail : EnviroSales@eurofins.com

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Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794						X	X
Perth Laboratory - NATA Site # 23736							
11	ASS19	May 08, 2020		Soil	B20-My30346	X	X
Test Counts						11	11

Internal Quality Control Review and Glossary

General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
- 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		
LCS - % Recovery									
Chromium Suite									
pH-KCL	%	99			80-120	Pass			
Acid trail - Titratable Actual Acidity	%	101			80-120	Pass			
Chromium Reducible Sulfur	%	96			80-120	Pass			
Acid Neutralising Capacity (ANCbt)	%	96			80-120	Pass			
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	B20-My30336	CP	%	6.8	6.7	1.0	30%	Pass	
Duplicate									
Chromium Suite				Result 1	Result 2	RPD			
pH-KCL	B20-My30345	CP	pH Units	4.4	4.4	<1	30%	Pass	
Acid trail - Titratable Actual Acidity	B20-My30345	CP	mol H+/t	64	63	1.1	30%	Pass	
sulfidic - TAA equiv. S% pyrite	B20-My30345	CP	% pyrite S	0.10	0.10	1.0	30%	Pass	
Chromium Reducible Sulfur	B20-My30345	CP	% S	< 0.005	< 0.005	<1	30%	Pass	
Chromium Reducible Sulfur -acidity units	B20-My30345	CP	mol H+/t	< 3	< 3	<1	30%	Pass	
Sulfur - KCl Extractable	B20-My30345	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
Net Acid soluble sulfur	B20-My30345	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
Net Acid soluble sulfur - acidity units	B20-My30345	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
Net Acid soluble sulfur - equivalent S% pyrite	B20-My30345	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
Acid Neutralising Capacity (ANCbt)	B20-My30345	CP	% CaCO3	n/a	n/a	n/a	30%	Pass	
Acid Neutralising Capacity - equivalent S% pyrite (s-ANCbt)	B20-My30345	CP	% S	n/a	n/a	n/a	30%	Pass	
ANC Fineness Factor	B20-My30345	CP	factor	1.5	1.5	<1	30%	Pass	
CRS Suite - Net Acidity (Sulfur Units)	B20-My30345	CP	% S	0.10	0.10	n/a	30%	Pass	
CRS Suite - Net Acidity (Acidity Units)	B20-My30345	CP	mol H+/t	66	66	n/a	30%	Pass	
CRS Suite - Liming Rate	B20-My30345	CP	kg CaCO3/t	5.0	4.9	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	B20-My30345	CP	%	11	12	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
S01	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'
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5
S03	Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5
S04	Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period

Authorised By

Alena Bounkeua	Analytical Services Manager
Myles Clark	Senior Analyst-SPOCAS (QLD)


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Australia

Melbourne
6 Monterey Road
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NATA # 1261
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Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
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NSW 2060

Project Name: HARRIS PROPERTY PSI
Project ID: EP1655

Order No.:
Report #: 720841
Phone: 02 99225021
Fax:

Received: May 20, 2020 10:41 AM
Due: May 27, 2020
Priority: 5 Day
Contact Name: Stuart Lord

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Chromium Reducible Sulfur Suite	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217							
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Perth Laboratory - NATA Site # 23736							
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No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	ASS01	May 08, 2020		Soil	B20-My30336	X	X
2	ASS04	May 08, 2020		Soil	B20-My30337	X	X
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4	ASS06	May 08, 2020		Soil	B20-My30339	X	X
5	ASS07	May 08, 2020		Soil	B20-My30340	X	X
6	ASS08	May 08, 2020		Soil	B20-My30341	X	X
7	ASS09	May 08, 2020		Soil	B20-My30342	X	X
8	ASS12	May 08, 2020		Soil	B20-My30343	X	X
9	ASS16	May 08, 2020		Soil	B20-My30344	X	X
10	ASS18	May 08, 2020		Soil	B20-My30345	X	X

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Perth Laboratory - NATA Site # 23736							
11	ASS19	May 08, 2020		Soil	B20-My30346	X	X
Test Counts						11	11

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Sample Receipt Advice

Company name: **EP Risk Management (NSW)**
Contact name: **Stuart Lord**
Project name: **HARRIS PROPERTY PSI**
Project ID: **EP1655**
COC number: **Not provided**
Turn around time: **5 Day**
Date/Time received: **May 20, 2020 10:41 AM**
Eurofins reference: **720841**

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

Contact notes

If you have any questions with respect to these samples please contact:

Alena Bounkeua on Phone : or by e.mail: AlenaBounkeua@eurofins.com

Results will be delivered electronically via e.mail to Stuart Lord - Stuart.Lord@eprisk.com.au.

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

#AU03_EnviroSampleBris

From: Alena Bounkeua
Sent: Wednesday, 20 May 2020 10:41 AM
To: #AU03_EnviroSampleBris
Subject: FW: Additional Chromium Suite analysis for Report 718860

Follow Up Flag: Follow up
Flag Status: Flagged

Additional analysis please – standard TAT

Thanks!

Kind Regards,

Alena Bounkeua
Eurofins | Environment Testing
Phone: +61 2 9900 8414
Mobile: +61 429 365 410
Email: AlenaBounkeua@eurofins.com

720841

From: Stuart Lord [<mailto:Stuart.Lord@eprisk.com.au>]
Sent: Wednesday, 20 May 2020 10:19 AM
To: Alena Bounkeua
Subject: Additional Chromium Suite analysis for Report 718860

EXTERNAL EMAIL*

Hi Alena,

Could we please get the following samples analysed for Chromium Reducible sulfur suite please?

- ASS01 My16109 ✓
- ASS04 My16112 ✓
- ASS05 My16113 ✓
- ASS06 My16114 ✓
- ASS07 My16115 ✓
- ASS08 My16116 ✓
- ASS09 My16117 ✓
- ASS12 My16120 ✓
- ASS16 My16124 ✓
- ASS18 My16126 ✓
- ASS19 My16127 ✓

BSMY 063,064

Kind Regards,

CERTIFICATE OF ANALYSIS

Work Order : ES2014947 Client : EP Risk Management Contact : MR STUART LORD Address : 109/283 Alfred St NORTH SYDNEY NSW 2060 Telephone : ---- Project : HARRIS PROPERTY PSI Order number : EP1655 C-O-C number : ---- Sampler : ---- Site : ---- Quote number : SY/531/19 No. of samples received : 2 No. of samples analysed : 2	Page : 1 of 9 Laboratory : Environmental Division Sydney Contact : Customer Services ES Address : 277-289 Woodpark Road Smithfield NSW Australia 2164 Telephone : +61-2-8784 8555 Date Samples Received : 01-May-2020 15:10 Date Analysis Commenced : 02-May-2020 Issue Date : 11-May-2020 21:44
--	---



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Tony DeSouza	Senior 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
- 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.
- 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.
- Membrane filtration results for MW006 are reported as an estimate (~) due to the presence of many non-target organism colonies that may have inhibited the growth of the target organisms on the filter membrane. It may be informative to record this fact.
- 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.
- MW006 is ALS's internal code and is equivalent to AS4276.7.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QS02	----	----	----	----
Client sampling date / time			01-May-2020 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2014947-002	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	40.8	----	----	----	----
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	29	----	----	----	----
Escherichia coli	----	2	MPN/g	29	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	QW02	----	----	----	----
Client sampling date / time				01-May-2020 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2014947-001	-----	-----	-----	-----	
				Result	----	----	----	----	
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----	
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----	
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----	
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----	
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----	
Nickel	7440-02-0	0.001	mg/L	<0.001	----	----	----	----	
Zinc	7440-66-6	0.005	mg/L	<0.005	----	----	----	----	
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L	<0.5	----	----	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	----	----	----	----	
beta-BHC	319-85-7	0.5	µg/L	<0.5	----	----	----	----	
gamma-BHC	58-89-9	0.5	µg/L	<0.5	----	----	----	----	
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----	
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----	
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----	
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----	
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----	
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----	
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----	
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----	
4,4'-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----	
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----	
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----	
4,4'-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----	
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----	
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----	
4,4'-DDT	50-29-3	2.0	µg/L	<2.0	----	----	----	----	
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----	
Methoxychlor	72-43-5	2.0	µg/L	<2.0	----	----	----	----	
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	----	----	----	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	QW02	----	----	----	----
Client sampling date / time				01-May-2020 00:00	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2014947-001	-----	-----	-----	-----	-----
				Result	----	----	----	----	----

EP068A: Organochlorine Pesticides (OC) - Continued

EP068B: Organophosphorus Pesticides (OP)

Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----

EP075(SIM)B: Polynuclear Aromatic Hydrocarbons

Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2	205-82-3	1.0	µg/L	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9		1.0	µg/L	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID			QW02	----	----	----	----
Client sampling date / time		01-May-2020 00:00			----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2014947-001	-----	-----	-----	-----	
				Result	----	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----	
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----	
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----	
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----	
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----	
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----	
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----	
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	----	----	----	----	
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----	
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----	
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----	
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	----	----	----	----	
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	----	----	----	----	
Toluene	108-88-3	2	µg/L	<2	----	----	----	----	
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----	
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----	
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----	
^ Total Xylenes	----	2	µg/L	<2	----	----	----	----	
^ Sum of BTEX	----	1	µg/L	<1	----	----	----	----	
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----	
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	----	----	----	----	
2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	----	----	----	----	
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	QW02	----	----	----	----
Client sampling date / time				01-May-2020 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2014947-001	-----	-----	-----	-----	
				Result	----	----	----	----	
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthene	83-32-9	0.1	µg/L	<0.1	----	----	----	----	
Acenaphthylene	208-96-8	0.1	µg/L	<0.1	----	----	----	----	
Anthracene	120-12-7	0.1	µg/L	<0.1	----	----	----	----	
Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	----	----	----	----	
Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	----	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	----	----	----	----	
Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	----	----	----	----	
Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	----	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	----	----	----	----	
Chrysene	218-01-9	0.1	µg/L	<0.1	----	----	----	----	
Coronene	191-07-1	0.1	µg/L	<0.1	----	----	----	----	
Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	----	----	----	----	
Fluoranthene	206-44-0	0.1	µg/L	<0.1	----	----	----	----	
Fluorene	86-73-7	0.1	µg/L	<0.1	----	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	----	----	----	----	
Naphthalene	91-20-3	0.1	µg/L	<0.1	----	----	----	----	
Perylene	198-55-0	0.1	µg/L	<0.1	----	----	----	----	
Phenanthrene	85-01-8	0.1	µg/L	<0.1	----	----	----	----	
Pyrene	129-00-0	0.1	µg/L	<0.1	----	----	----	----	
^ Sum of PAHs	----	0.05	µg/L	<0.05	----	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L	<0.05	----	----	----	----	
MW006: Faecal Coliforms & E.coli by MF									
Faecal Coliforms	----	1	CFU/100mL	~42	----	----	----	----	
Escherichia coli	----	1	CFU/100mL	~34	----	----	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%	90.0	----	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%	81.4	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%	27.5	----	----	----	----	
2-Chlorophenol-D4	93951-73-6	1.0	%	53.0	----	----	----	----	
2,4,6-Tribromophenol	118-79-6	1.0	%	63.8	----	----	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%	62.1	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID				
				QW02	----	----	----	----
Client sampling date / time				01-May-2020 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2014947-001	-----	-----	-----	-----
				Result	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	1.0	%	65.4	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	76.0	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	2	%	90.1	----	----	----	----
Toluene-D8	2037-26-5	2	%	107	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%	110	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	61.1	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	65.0	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	77.6	----	----	----	----



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
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

QUALITY CONTROL REPORT

Work Order	: ES2014947	Page	: 1 of 7
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: MR STUART LORD	Contact	: Customer Services ES
Address	: 109/283 Alfred St NORTH SYDNEY NSW 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: HARRIS PROPERTY PSI	Date Samples Received	: 01-May-2020
Order number	: EP1655	Date Analysis Commenced	: 02-May-2020
C-O-C number	: ----	Issue Date	: 11-May-2020
Sampler	: ----		
Site	: ----		
Quote number	: SY/531/19		
No. of samples received	: 2		
No. of samples analysed	: 2		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Tony DeSouza	Senior 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	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3007166)									
ES2014848-001	Anonymous	EA055: Moisture Content	----	0.1	%	1.8	2.0	10.1	0% - 20%
ES2015028-071	Anonymous	EA055: Moisture Content	----	0.1	%	19.2	21.8	12.4	0% - 20%

Sub-Matrix: WATER

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3006220)									
ES2015501-008	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	<0.001	<0.001	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
ES2015336-001	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	0.022	0.024	9.35	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.056	0.060	6.84	0% - 50%
EG035F: Dissolved Mercury by FIMS (QC Lot: 3006221)									
ES2015336-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2999887)									
ES2014976-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	110	120	9.11	No Limit
ES2014977-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2999887)									
ES2014976-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	100	110	0.00	No Limit
ES2014977-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
EP080: BTEXN (QC Lot: 2999887)									
ES2014976-001	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
		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
ES2014977-005	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
		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 Spike (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 Spike (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: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EG020F: Dissolved Metals by ICP-MS (QCLot: 3006220)									
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	93.6	85.0	114	
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	85.9	84.0	110	
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	92.8	85.0	111	
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	92.1	81.0	111	
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	87.7	83.0	111	
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	90.5	82.0	112	
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	90.0	81.0	117	
EG035F: Dissolved Mercury by FIMS (QCLot: 3006221)									
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	100	83.0	105	
EP068A: Organochlorine Pesticides (OC) (QCLot: 2998993)									
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	88.5	64.9	107	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	77.5	58.3	111	
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	85.5	69.0	117	
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	90.4	70.0	112	
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	96.7	68.9	110	
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	96.6	65.2	108	
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	90.6	65.8	109	
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	86.2	67.1	107	
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	78.5	64.1	110	
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	85.1	66.7	112	
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	75.3	63.2	111	
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	89.9	65.2	113	
EP068: 4,4'-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	90.1	66.0	112	
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	101	65.2	113	
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	97.9	67.3	114	
EP068: 4,4'-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	100	72.0	122	
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	81.6	66.9	109	
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	80.5	65.2	112	
EP068: 4,4'-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	81.3	65.2	112	
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	79.1	63.8	110	
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	89.1	61.1	114	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2998993)									
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	86.3	65.6	114	
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	100	63.7	113	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Recovery Limits (%)	
					Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2998993) - continued								
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	23.3	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	96.7	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	88.4	71.1	110
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	92.8	77.0	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	89.2	70.0	124
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	95.2	68.4	116
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	92.5	68.6	112
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	95.8	75.0	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	87.3	67.0	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	82.6	69.0	121
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	89.3	71.8	110
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	84.3	67.5	112
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	79.6	64.1	116
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	105	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	88.4	74.0	120
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	104	66.2	114
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	77.9	51.6	128
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2998994)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	68.5	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	69.1	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	67.8	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	67.4	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	80.0	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	74.5	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	67.9	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	68.9	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	67.1	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	67.5	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	66.3	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	68.9	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	65.2	59.9	118
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	69.6	61.2	117
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	69.9	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2998992)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	69.5	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	93.9	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	84.9	56.0	121



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2999887)									
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	86.0	75.0	127	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2998992)									
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	79.9	57.9	119	
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	94.0	62.5	110	
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	104	61.5	121	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2999887)									
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	90.0	75.0	127	
EP080: BTEXN (QCLot: 2999887)									
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	95.2	70.0	122	
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	100	69.0	123	
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	104	70.0	120	
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	99.5	69.0	121	
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	105	72.0	122	
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	107	70.0	120	
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2999410)									
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	71.4	60.0	120	
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	63.8	59.0	123	
EP132: 7,12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	73.5	36.0	144	
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	69.9	64.0	122	
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	67.9	64.0	126	
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	66.0	65.0	127	
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	69.4	64.0	130	
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	67.4	64.0	126	
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	67.3	62.0	126	
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	66.6	62.0	126	
EP132: Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	68.0	56.0	126	
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	# 66.6	68.0	130	
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	66.6	66.0	130	
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	69.9	35.0	133	
EP132: Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	68.5	58.0	128	
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	68.4	65.0	127	
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	73.7	64.0	124	
EP132: Indeno(1,2,3-cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	69.0	57.0	127	
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	59.9	54.0	128	
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	66.1	66.0	130	
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	65.6	65.0	129	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2999410) - continued								
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	67.6	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: WATER

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report				
				Spike Concentration	Spike Recovery (%) MS	Recovery Limits (%) Low High		
EG020F: Dissolved Metals by ICP-MS (QCLot: 3006220)								
ES2015336-002	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	89.8	70.0	130	
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	86.4	70.0	130	
		EG020A-F: Chromium	7440-47-3	1 mg/L	95.1	70.0	130	
		EG020A-F: Copper	7440-50-8	1 mg/L	93.6	70.0	130	
		EG020A-F: Lead	7439-92-1	1 mg/L	105	70.0	130	
		EG020A-F: Nickel	7440-02-0	1 mg/L	92.2	70.0	130	
		EG020A-F: Zinc	7440-66-6	1 mg/L	93.4	70.0	130	
EG035F: Dissolved Mercury by FIMS (QCLot: 3006221)								
ES2015336-002	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	75.9	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2999887)								
ES2014976-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	92.8	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2999887)								
ES2014976-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	92.9	70.0	130	
EP080: BTEXN (QCLot: 2999887)								
ES2014976-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	101	70.0	130	
		EP080: Toluene	108-88-3	25 µg/L	103	70.0	130	
		EP080: Ethylbenzene	100-41-4	25 µg/L	108	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	108	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	25 µg/L	112	70.0	130	
	EP080: Naphthalene	91-20-3	25 µg/L	90.6	70.0	130		

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2014947	Page	: 1 of 7
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: MR STUART LORD	Telephone	: +61-2-8784 8555
Project	: HARRIS PROPERTY PSI	Date Samples Received	: 01-May-2020
Site	: ----	Issue Date	: 11-May-2020
Sampler	: ----	No. of samples received	: 2
Order number	: EP1655	No. of samples analysed	: 2

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** Duplicate outliers occur.
- **NO** Matrix Spike outliers occur.
- Laboratory Control 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: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP132B: Polynuclear Aromatic Hydrocarbons	QC-2999410-002	----	Benzo(k)fluoranthene	207-08-9	66.6 %	68.0-130%	Recovery less than lower control limit

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	6	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	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	6	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.

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Sterile Plastic Jar (EA055) QS02	01-May-2020	----	----	----	07-May-2020	15-May-2020	✓
MM804: Faecal Coliforms & E.coli by MPN							
Sterile Plastic Jar (MM804) QS02	01-May-2020	----	----	----	05-May-2020	----	----

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



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) QW02	01-May-2020	----	----	----	07-May-2020	28-Oct-2020	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) QW02	01-May-2020	----	----	----	07-May-2020	29-May-2020	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) QW02	01-May-2020	04-May-2020	08-May-2020	✓	05-May-2020	13-Jun-2020	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068) QW02	01-May-2020	04-May-2020	08-May-2020	✓	05-May-2020	13-Jun-2020	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) QW02	01-May-2020	04-May-2020	08-May-2020	✓	05-May-2020	13-Jun-2020	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) QW02	01-May-2020	04-May-2020	08-May-2020	✓	05-May-2020	13-Jun-2020	✓
Amber VOC Vial - Sulfuric Acid (EP080) QW02	01-May-2020	06-May-2020	15-May-2020	✓	06-May-2020	15-May-2020	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) QW02	01-May-2020	04-May-2020	08-May-2020	✓	05-May-2020	13-Jun-2020	✓
Amber VOC Vial - Sulfuric Acid (EP080) QW02	01-May-2020	06-May-2020	15-May-2020	✓	06-May-2020	15-May-2020	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) QW02	01-May-2020	06-May-2020	15-May-2020	✓	06-May-2020	15-May-2020	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP132) QW02	01-May-2020	04-May-2020	08-May-2020	✓	04-May-2020	13-Jun-2020	✓
MW006: Faecal Coliforms & E.coli by MF							
Sterile Plastic Bottle - Sodium Thiosulfate (MW006) QW02	01-May-2020	----	----	----	02-May-2020	02-May-2020	✓



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	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	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	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	1	3	33.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	6	33.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	1	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	3	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	6	0.00	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	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	1	100.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	6	16.67	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	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	1	100.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	6	16.67	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	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	1	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	3	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	6	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	5	0.00	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	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
<i>Analytical Methods</i>							
Matrix Spikes (MS) - Continued							
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 6.1 and Table 1 (14 day holding time).
Thermotolerant Coliforms & E.coli by MPN	MM804	SOIL	In house: Referenced to AS 4276.6 - 2007 & AS 4276.23 : 2016
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.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂)(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 SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270E 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 (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015A 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 (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270E 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 (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260D 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 (2013) Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270E GCMS Capillary column, SIM mode. This method is compliant with NEPM (2013) Schedule B(3)
Thermotolerant Coliforms & E.coli by Membrane Filtration	MW006	WATER	AS 4276.7 2007
Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510B 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 (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
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 exchange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM (2013) 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 sparging.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EM2007997

Client	: EP Risk Management	Laboratory	: Environmental Division Melbourne
Contact	: MR STUART LORD	Contact	: Shirley LeCornu
Address	: 109/283 Alfred St NORTH SYDNEY NSW 2060	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: stuart.lord@eprisk.com.au	E-mail	: shirley.lecornu@Alsglobal.com
Telephone	: ----	Telephone	: +6138549 9630
Facsimile	: ----	Facsimile	: +61-3-8549 9626
Project	: EP1655	Page	: 1 of 2
Order number	: ----	Quote number	: EM2017EPRISK0004 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Harris Property PSI		
Sampler	: STUART LORD		

Dates

Date Samples Received	: 13-May-2020 08:48	Issue Date	: 14-May-2020
Client Requested Due Date	: 20-May-2020	Scheduled Reporting Date	: 20-May-2020

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: - 0.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

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
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **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 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.

Appendix F

PRO UCL OUTPUT

General UCL Statistics for Full Data Sets

User Selected Options

From File WorkSheet.wst

Full Precision ON

Confidence Coefficient 95%

Number of Bootstrap Operations 2000

Zinc (0-0.2)

General Statistics

Number of Valid Observations 20.000000 Number of Distinct Observations 18.000000

Raw Statistics

Log-transformed Statistics

Minimum	10.000000	Minimum of Log Data	2.3025851
Maximum	390.00000	Maximum of Log Data	5.9661467
Mean	57.150000	Mean of log Data	3.3887878
Geometric Mean	29.630012	SD of log Data	0.9531215
Median	23.000000		
SD	100.17578		
Std. Error of Mean	22.399985		
Coefficient of Variation	1.7528570		
Skewness	2.9312424		

Relevant UCL Statistics

Normal Distribution Test

Lognormal Distribution Test

Shapiro Wilk Test Statistic 0.4654141

Shapiro Wilk Test Statistic 0.8010749

Shapiro Wilk Critical Value 0.9050000

Shapiro Wilk Critical Value 0.9050000

Data not Normal at 5% Significance Level

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

Assuming Lognormal Distribution

95% Student's-t UCL 95.882550

95% H-UCL 81.792988

95% UCLs (Adjusted for Skewness)

95% Chebyshev (MVUE) UCL 91.907404

95% Adjusted-CLT UCL (Chen-1995) 109.68260

97.5% Chebyshev (MVUE) UCL 112.10307

95% Modified-t UCL (Johnson-1978) 98.329546

99% Chebyshev (MVUE) UCL 151.77354

Gamma Distribution Test

Data Distribution

k star (bias corrected) 0.7907430

Data do not follow a Discernable Distribution (0.05)

Theta Star 72.273799

MLE of Mean 57.150000

MLE of Standard Deviation 64.268558

nu star 31.629720

Approximate Chi Square Value (.05) 19.778628

Nonparametric Statistics

Adjusted Level of Significance 0.0380000

95% CLT UCL 93.994697

Adjusted Chi Square Value 19.038534

95% Jackknife UCL 95.882550

95% Standard Bootstrap UCL 92.376385

Anderson-Darling Test Statistic 2.7268457

95% Bootstrap-t UCL 348.90996

Anderson-Darling 5% Critical Value 0.7729813

95% Hall's Bootstrap UCL 320.73247

Kolmogorov-Smirnov Test Statistic 0.3149332

95% Percentile Bootstrap UCL 97.750000

Kolmogorov-Smirnov 5% Critical Value 0.2002258

95% BCA Bootstrap UCL 109.55000

Data not Gamma Distributed at 5% Significance Level

95% Chebyshev(Mean, Sd) UCL 154.78927

97.5% Chebyshev(Mean, Sd) UCL 197.03786

99% Chebyshev(Mean, Sd) UCL 280.02704

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40) 91.393521

95% Adjusted Gamma UCL (Use when n < 40) 94.946304

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL 154.78927

